POST-OCCUPANCY EVALUATION OF STATE-SUBSIDISED HOUSING UNITS IN KAYAMANDI, STELLENBOSCH

By

IRENE DARKWA

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Supervisor: Mrs MJ Botha
Co-supervisor: Prof AS van Wyk

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DECLARATION

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

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Date……………………………………
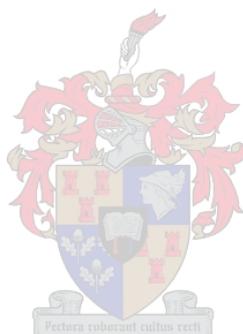
Summary

The South African government drafted a national housing policy in 1994. This policy is being implemented in terms of seven strategies. One of the housing strategies is to provide subsidy assistance to low-income groups to enable them to become home owners and improve their quality of life. The delivery of state-subsidised housing will help to reduce the housing backlog and to reach the goal of eradicating informal settlements by 2014. The purpose of this study was to determine the levels of housing satisfaction of residents in state-subsidised housing units.

A literature review was undertaken to give an in-depth report on the body of knowledge concerning the study. The South African housing context, the South African housing policy, sustainable human settlements and the housing subsidy scheme were discussed. Housing in general was reviewed. Special attention was given to the revision of literature on factors that influence housing satisfaction. The literature review was concluded with a discussion on post-occupancy evaluation.

The geographical area of the study was Kayamandi, Stellenbosch. A context analysis of Kayamandi and the state-subsidised housing development (Project 5a) was conducted to gain understanding of the housing situation in this area. To determine the levels of housing satisfaction among the residents of Project 5a, a post-occupancy evaluation was conducted, using the survey method. The survey was undertaken to determine occupants' levels of satisfaction as well as their expectations and experience with regard to the housing unit, the housing complex, the community and the housing process. A randomly selected sample of 50 respondents was selected to which a semi-structured interview questionnaire was administered. An observation checklist was used to evaluate the physical conditions of the housing unit, the housing complex and the community.

The data obtained from the semi-structured interview questionnaire were analysed and frequency tables were constructed. The observations were tabulated using frequency tables and a description of the conditions was documented. Analysis of the data from the semi-structured interview questionnaire revealed that respondents earned low income and had low levels of education. Households consisted of an average of 4.12 people that sleep in a one-bedroom unit. The results indicated that the respondents were satisfied with moving to these housing units and with the overall housing situation, because their living environment had improved. They were dissatisfied with certain elements of the housing unit, the housing complex, the community as well as the housing process, but were satisfied with life in general in Kayamandi.

The conclusions of the study indicate that the housing unit, the housing complex, the community and the housing process lacked certain elements, services and infrastructure which influenced the levels of satisfaction among residents. Their expectations differed from their housing experience. It can be argued that this is because the respondents were ill-informed, had not fully participated and that the correct procedure during the housing process had not been followed. Recommendations were made to the Stellenbosch Municipality on measures to increase housing satisfaction with state-subsidised housing units.
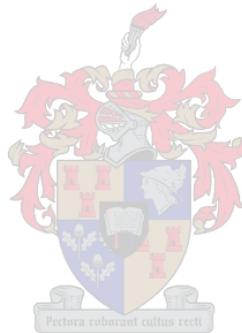
Opsomming

Die Suid-Afrikaanse regering het in 1994 'n behuisingsbeleid opgestel wat volgens sewe strategieë geïmplementeer word. Een van hierdie strategieë is om subsidiebystand te verleen aan persone in lae-inkomstegroepe. Dit stel hulle in staat om huiseienaars te word en om sodoende hul lewensgehalte te verbeter. Die lewering van staatsgesubsidieerde behuising sal help om teen 2014 die behuisingsagterstand te verminder en daarmee ook informele nedersettings uitwis. Die doel van hierdie studie was om die vlakke van behuisingtevredenheid van inwoners in staatsgesubsidieerde behuisingeenhede te bepaal.

'n Literatuuroorsig is onderneem om 'n grondige verslag daar te stel oor bestaande kennis omtrent die studiegebied. Die Suid-Afrikaanse behuisingkonteks, die Suid-Afrikaanse behuisingbeleid, volhoubare nedersettings en die behuisingsubsidieskema is bespreek. 'n Oorsig is gedoen oor behuising in die algemeen. Daar is in die besonder aandag gegee aan die literatuur oor faktore wat tevredenheid met behuising beïnvloed. Die literatuuroorsig is afgesluit met 'n bespreking oor na-ingebruiksnemingevaluering.

Die geografiese gebied wat deur die studie gedek is, is Kayamandi, Stellenbosch. 'n Konteksontleding van Kayamandi en die behuisingsontwikkeling (Projek 5a) is gedoen om die behuisingsituasie in hierdie omgewing te begryp. Ten einde die inwoners se vlakke van tevredenheid met behuising in Projek 5a te bepaal, is 'n opname gemaak om die na-ingebruiksnemingevaluering te doen. Die ondersoek is uitgevoer om die inwoners se vlakke van tevredenheid, asook hulle verwagtinge en ervaring van die behuisingeenheid, die behuisingkompleks, die gemeenskap en die behuisingproses te bepaal. 'n Ewekansig geselekteerde steekproef van 50 respondente is gekies om deel te neem aan 'n semi-gestruktureerde onderhoudvraelys. 'n Waarnemingskontrolelys is gebruik om die fisiese omstandighede van die behuisingeenheid, die behuisingkompleks en die gemeenskap te evalueer.

Die data wat van die semi-gestruktureerde onderhoudvraelys verkry is, is ontleed en frekwensietabelle is opgestel. Die frekwensie van fisiese omstandighede wat waargeneem is, is in tabelle opgestel en beskryf. Die ontleding van die data van die semi-gestruktureerde onderhoudsvraelys het aangetoon dat respondente 'n lae inkomste verdien het en dat hulle onderwysvlakke laag was. Die gemiddelde huishouding het uit 4.12 persone bestaan wat 'n eenslaapkamereenheid bewoon het. Die resultate het aangetoon dat respondente tevrede was met hul verhuising na hierdie behuisingeenhede asook die algemene behuisingsituasie, omdat die

omgewing waarin hulle toe kon leef beter was as die vorige. Hulle was ontevrede met sekere elemente van die behuisingeenheid, die behuisingkompleks en die gemeenskap asook die behuisingproses, maar hulle was oor die algemeen tevrede met die lewe in Kayamandi.

Die gevolgtrekkings van die studie dui aan dat die behuisingeenheid, die behuisingkompleks en die gemeenskap, asook die behuisingproses, sekere elemente, dienste en infrastruktuur kortgekom het, en dat dit die vlakke van tevredenheid onder die inwoners beïnvloed het. Inwoners se verwagtinge het van hul behuisingervaring verskil, moontlik omdat die respondente swak ingelig was, nie volledig deelgeneem het nie en ook omdat die korrekte prosedure nie tydens die behuisingproses gevolg is nie. Aanbevelings is aan die Stellenbosch Munisipaliteit gemaak oor stappe wat gedoen kan word om groter tevredenheid te verseker ten opsigte van behuising in staatsgesubsidieerde behuisingseenhede.

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

LIST OF ADDENDA

Addendum 1: Map of the area

Addendum 2: Questionnaire

Addendum 3: Observation checklist for housing unit

Addendum4:   Observation checklist for housing complex

Addendum 5: Observation checklist for community

Addendum 6: List of photographs

Addendum 7: Plan of the complex

Addendum 8: Plan of unit

Addendum 9: Graphic presentation of the Project 5a development

LIST OF FIGURES

LIST OF TABLES

CHAPTER 1
INTRODUCTORY PERSPECTIVES

1.1 INTRODUCTION, MOTIVATION AND PROBLEM STATEMENT

When the ANC came into power in South Africa in 1994, the new government was faced with a big housing backlog problem mainly among the low-income group (people who are either unemployed or have a combined household monthly income of less than R3 500). In 2003 the housing backlog was estimated at 2.3 million units. This included people living in informal settlements, traditional shelters and the homeless (Cornelissen, 2001:14). According to Saff (1996:235) informal settlements (often referred to as squatter settlements or shanty towns) are dense settlements comprising communities housed in self-constructed shelters under conditions of informal or traditional land tenure. This is the product of an urgent need for shelter by the urban poor. These settlements are unstructured and unplanned, with densely situated, small, makeshift shelters which are built from diverse materials such as cardboard, wooden planks and corrugated iron sheets. In traditional settlements shelters are made from building materials indigenous to that specific area and constructed according to how it was done in previous times, such as mud houses and huts often found in rural areas. The homeless are people with no housing who live on the city streets. They have become a problem in the large cities (Mifflin, 2000:60).

The government set themselves a goal in 1994 of delivering one million houses within five years to reduce this backlog. The goal was mainly to deliver low-income housing (Mmakola, 2000:3). In 2004 the government set themselves another goal of eradicating all existing shacks and informal settlements by 2014 (Matemola, 2005:1). An example of this, among other housing projects, is the N2 Gateway project that is planned to eradicate the housing backlog in Cape Town and will lead to the development of 700 high density units at Joe Slovo squatter camp in Langa, Cape Peninsula (Pressly, 2005:1).

Between 1994 and 2004 the government delivered only 1.64 million houses. This has provided six million people with houses (Department of Housing, 2005:1). Many of the beneficiaries were dissatisfied with these houses because they were no bigger than the shacks they had previously occupied and there were structural problems. This resulted in the beneficiaries selling the houses and returning to their shacks (Breaking new ground in housing delivery, 2004:2).

Post-occupancy evaluations of low-income houses that are state delivered are of the utmost importance. This will indicate to the designers, architects and developers of these houses the strengths, weaknesses and failures as well as successes of their designs and housing developments. Post-occupancy evaluation (POE) is generally defined as the process of systematically evaluating the degree to which occupied buildings meet inhabitants' needs. POE is a systematic evaluation of opinions about buildings in use, from the perspective of the people who use them. It is an assessment of how well the building matches the users' needs, and identifies ways to improve building design, performance and how it can fit the purpose for which it was built. POE systematically analyses a particular environment to gain understanding of the impact it has on occupants of a building and its environment, hence how it facilitates or inhibits daily activities of the occupants (Watson, 2003:1). POE is conducted after the building has been occupied for some time so that occupants are accustomed to the new space and the experience of moving does not bias the results (Huizenga, Zagreus, Arens & Lehrer, 2003:4).

Housing developments not only provide structures to live in, but are supposed to address other aspects of housing as well. This includes the provision of services, schools, community halls and economic opportunities. These aspects support a community's move to a new housing environment. If possible, the transition to a new environment should be easy with no disruptions in the lives of the people who move there. Besides the evaluation of the housing unit itself, post-occupancy evaluation of housing developments should include other aspects of the housing development, community and environment as well. This will indicate whether the needs and expectations of occupants have been met.

The developers and designers need feedback from the occupants of low-income housing to ensure that they deliver a product that is in demand, to avoid repeating mistakes and to improve on existing structures. This type of evaluation provides objective feedback from the occupants of the dwelling. The South African Housing Policy also sets standards for state delivered housing that should be met by developers and designers. Evaluation needs to incorporate research into housing designs and housing delivery up to a stage where research informs design. This ensures that there will be a bigger focus on what the inhabitants need rather than on delivery and numbers only (Brand & Orfield, 2004:1).

Kayamandi is a township located on the outskirts of Stellenbosch. In 2003 there were a total of 3 700 households in Kayamandi of which approximately 16.6% lived in formal houses and 83.4% lived in informal dwellings (prefabricated hostels and informal shacks). Kayamandi is home to

about 22 000 people with a rapid growth of 10% annually (Stellenbosch Municipality Integrated Development Plan, 2005:10). Sixty-two percent of Kayamandi's population lives in inadequate informal shacks. A survey conducted in Kayamandi during 1995 indicated that the average size of an informal dwelling was $25m^2$. Informal housing accommodated five to seven people and was mostly poorly constructed from waste materials like old rusted corrugated iron sheets, cardboard and plastics. Twenty-three percent of Kayamandi's population lived in hostel accommodation. Some of these hostels have been demolished and others have been upgraded into family units (Stellenbosch Municipality IDP, 2005:10). This form of accommodation was built between 1950-1966 to house 2 000 migrant labourers. In hostel accommodation each household has approximately six square meters of space and it is in full view of other occupants. Previously there were six hostels in Kayamandi. The hostels originally had two toilets per hostel and no shower facilities available. On average 20 families resided in a hostel (Erhard, 2000:3).

More recently there have been new housing developments in Kayamandi. One of these is Project 5a, the state-subsidised housing units, which was completed in 2003. This housing development received a National Housing award in 2004 from the Institute of Housing, South Africa (IHSA), for the best housing development in the category "Project of the year".

State-subsidised housing units are part of the big effort to eradicate the need for low-income groups to live in shacks. Initiatives like this are good for the people, the economy and the quality of life of the poor but the initiative does not end there. After these houses have been occupied for some time a post-occupancy evaluation needs to be conducted to evaluate whether these housing developments indeed meet the needs and expectations of the occupants. By conducting a POE one is informed of the housing satisfaction levels of the occupants and whether the house is up to standard. When developers plan another project, information gained through a POE will help them to avoid mistakes previously made, save developers money, ensure proper construction of houses, give a platform to dwellers to air their likes and dislikes regarding their houses and contribute to improving the quality of life and housing satisfaction levels of the poor.

The following problem statement was formulated for the study: *Are the occupants of Project 5a in Kayamandi satisfied with their houses?*

1.2 GOAL AND OBJECTIVES

The problem statement led to the formulation of the **goal** of this study, namely to conduct a post-occupancy evaluation and to determine the levels of housing satisfaction of occupants in Project 5a in Kayamandi, Stellenbosch.

In order to achieve this goal, the following **objectives** were formulated for this study:

1.2.1 To do a context analysis of the geographical area.

1.2.2 To identify factors which influence levels of housing satisfaction of the occupants with regard to the housing unit, the housing complex, the community and the housing process.

1.2.3 To determine the occupants' expectations of the housing units, the housing complex, the community and the housing process.

1.2.4 To compare the occupants' expectations of the housing units, the housing complex, the community and the housing process with their housing experience.

1.2.5 To evaluate the physical conditions of the housing units, the housing complex and the community.

1.2.6 To make suggestions and recommendations to the Stellenbosch Municipality in implementing measures to increase housing satisfaction with state-subsidised housing.
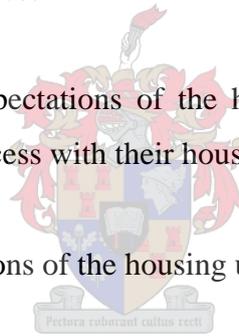
1.3. CONCEPTUAL FRAMEWORK OF THE RESEARCH

The conceptual framework as seen in Figure 1.1, is a graphical presentation of the different concepts in the literature and how they relate to one another in terms of the research.

POST-OCCUPANCY EVALUATION OF STATE SUBSIDISED HOUSING UNITS IN KAYAMANDI, STELLENBOSCH

South African housing context

South African housing policy ⟷ Sustainable human settlements

National housing subsidy

Hostel redevelopment programme

Upgrading

Housing in general

Residential satisfaction ⟵ Post-occupancy evaluation
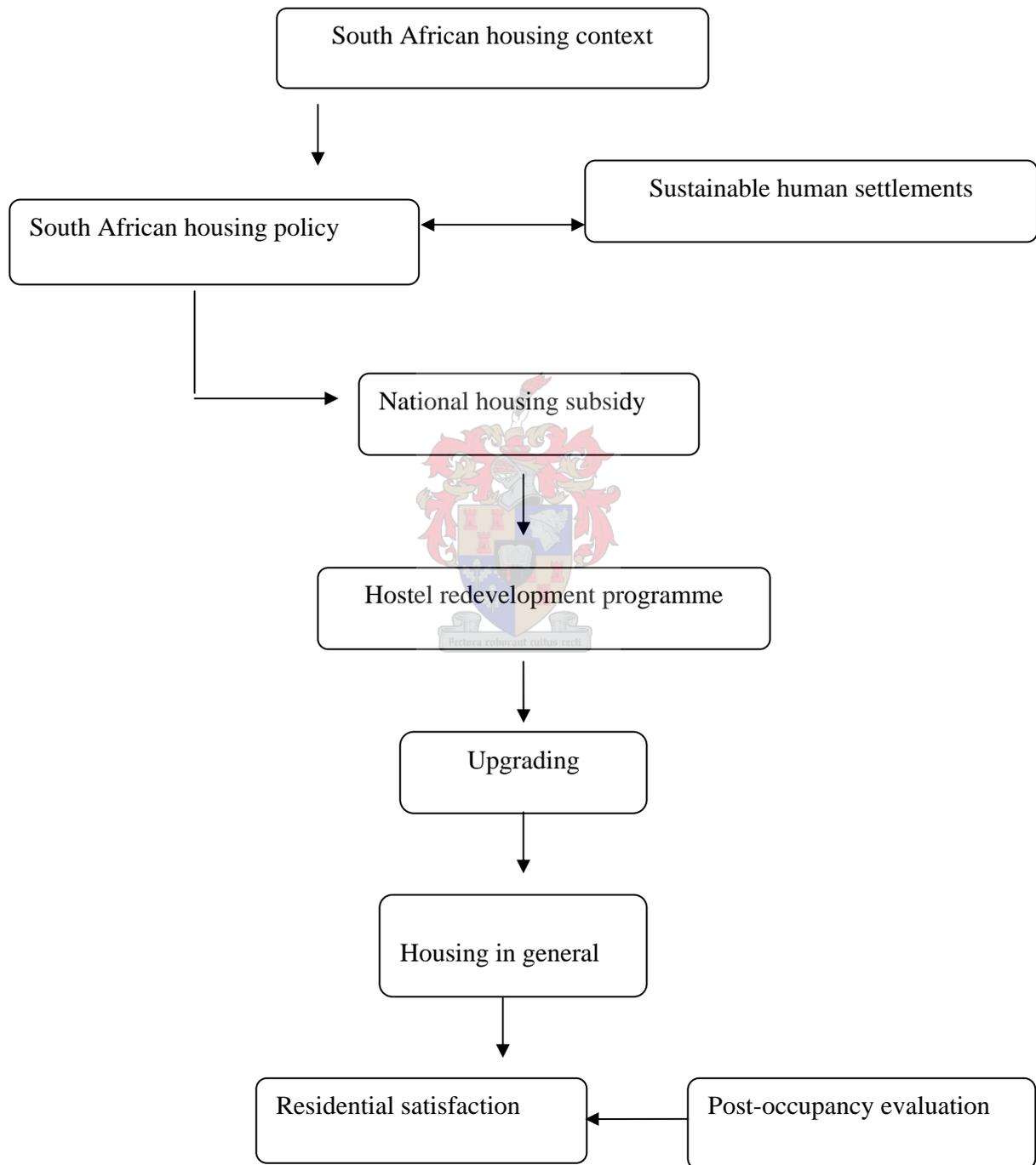
Figure 1.1: Conceptual framework of the research

The South African housing context describes the housing stock in the country as well as the backlogs, housing demands and housing supply. The South African housing policy was implemented to deal with the housing needs of the poor. This policy is applied in terms of seven housing strategies that are interrelated and interdependent. Through this policy the South African government emphasizes the development of sustainable human settlements. The housing policy includes the national housing subsidy assistance. The hostel redevelopment programme is the specific type of subsidy assistance which was used to fund the housing development where this research was conducted. Upgrading of hostel units is described to give a background to what is entailed and expected when upgrading is conducted. Housing plays an important role in the quality of life, especially for low-income groups because financially they do not always have the means to improve the quality of their housing. In this study the residential satisfaction of beneficiaries of state-subsidised housing units were determined. This was evaluated by a post-occupancy evaluation.

1.4 OPERATIONAL DEFINITIONS

1.4.1 Post-occupancy evaluation

Post-occupancy evaluation (POE) is a systematic evaluation of opinions about buildings in use, from the perspective of the people who use them. It is an assessment of how well the building matches the users' needs, and identifies ways to improve building design, performance and how it can fit the purpose for which it was built. POE systematically analyses a particular environment to gain understanding of the impact it has on occupants of a building and its environment, hence how it facilitates or inhibits daily activities of the occupants (Watson, 2003:1).

1.5 DESCRIPTION OF TERMS

For the purpose of this study the following terms are described:

1.5.1 Low-income

Low income refers a gross monthly household income of less than R3 500 per month.

1.5.2 Low-income housing

Low-income houses are constructed through government subsidy assistance. The subsidy assistance covers expenses of a housing unit that costs R28 279 and requires a once off contribution from the

beneficiaries of R2 479. Beneficiaries qualify for subsidy assistance if the gross monthly household income is less than R3 500.

1.5.3 Levels of housing satisfaction

Levels of housing satisfaction refer to the occupants' perception of what a dwelling and environment should have and provide for the household as well as their experience of the housing process. This includes how the house, environment and the process of acquiring the house enhances or inhibits the potential of the realization of their housing needs.

1.5.4 Housing expectations

Housing expectations are the occupants' views of what features a housing unit, the housing complex, and the community should have and what the housing process should be like. This is compared to the actual housing experience of the occupants.

1.5.5 Housing unit

Housing unit refers to each individual dwelling in Project 5a which has been constructed and is occupied by a beneficiary.

1.5.6 Housing complex

Housing complex refers to all the state-subsidised housing units of Project 5a as well as the layout of these units, including open spaces and play areas for children between and around the housing units.

1.5.7 Community

Community refers to the people who live in the state-subsidised housing units and the housing complex (Project 5a), as well as the neighbourhood (see Addendum 1) and the resources such as schools, spaza shops and community centres available for the use of residents in Project 5a.

1.5.9 Housing process

Housing process refers to the procedure and the objectives set by the national government in providing housing to beneficiaries. This is a guide for municipalities to follow during the implementation and delivery of housing.

1.5.10 Physical conditions

Physical conditions refer to the observable physical attributes of the housing unit, the housing complex and the community. They will be evaluated by using a checklist compiled from literature.

1.6 RESEARCH REPORT SEQUENCE

In Chapter 1, the introduction, motivation for the research and the problem statement are presented.

Chapter 2 takes an in-depth look at the literature related to the study. This includes literature on the South African housing context, South African housing policy, sustainable human settlements, housing subsidy scheme, hostel redevelopment programme, upgrading and hostel upgrading, housing in general and residential satisfaction. It concludes with post-occupancy evaluation.

Chapter 3 describes the methodology. This includes the research design, procedure and techniques used to collect the data and the design of the measuring instruments. The methods used in analysing the data are explained as well.

The results of the research are presented in Chapter 4. This includes the data of the document study, the results of the semi-structured interview questionnaire and observation checklists.
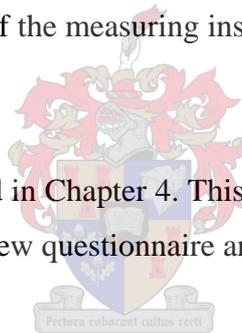
In Chapter 5 the results of the document study, semi-structured interview questionnaire and the observations are discussed. Reference is made to related literature.

Chapter 6 presents the conclusions of the study as well as recommendations for further research in the evaluation of housing satisfaction. Recommendations to the Stellenbosch Municipality for the development of future housing developments in Kayamandi are presented.

The introduction, motivation and problem statement are presented in this chapter. The study area where the research was conducted is also described. Furthermore, the goal and objectives of the study are stated. This chapter also includes the operational definitions and sequence of the study. Chapter 2 follows with the review of relevant literature.

CHAPTER 2

LITERATURE REVIEW

This research project is a post-occupancy evaluation of state assisted housing units in Kayamandi, Stellenbosch. These specific subsidised housing units in Kayamandi fall under the category of the hostel redevelopment programme. This option is distributed through the National Housing subsidy scheme in accordance with the South African housing policy. The aim of this research project was to determine the residential satisfaction of residents in this low-income housing category. In order to achieve this, relevant literature applicable to this topic has been researched.

In this chapter, a literature review is undertaken to give an overview of the literature framework underlying the study. The chapter begins with a discussion on the housing situation in South Africa. This is followed by a discussion of the South African housing policy and sustainable human settlements. Housing subsidies, with special reference to the redevelopment of public sector hostels programme, are explored as well as the concept of upgrading and hostel upgrading. Housing in general and the meaning and role of housing and residential satisfaction is discussed. The literature review is concluded with a discussion on post-occupancy evaluation.

2.1 THE SOUTH AFRICAN HOUSING CONTEXT

During the last two decades more families in South Africa than in the rest of the developing world, have experienced increased deterioration in their physical living conditions. The number of families without formal housing is on the increase. Along with a lack of adequate housing there is also an absence of clean water, sanitation and waste disposal facilities (Baba, 1998:18-19). There are 28 million people (66% of the entire population) that live in urban areas throughout the country. Only 61% of this group lives in a formal house or with family members. The formal housing stock in urban areas is 3.4 million but there is still a shortage of two million housing units in these areas in South Africa (Department of Housing, 2002a:4).

Presently there are still more than 1.8 million dwellings that are considered inadequate housing and 1.84 million households live in squatter houses, informal settlements and backyard shacks (Breaking New Ground, 2004:3-4). Table 2.1 represents the number of people living in informal

settlements compared to the number of planned formal housing units by the national government in the different provinces during 1998 to 2004.

Table 2.1: Total number of people living in informal housing and planned formal housing units in South Africa

Province	Informal units	Planned formal units
Eastern Cape	416,956	237,765
Free State	257,068	104,046
Gauteng Province	1,011,387	999,190
KwaZulu Natal	1,016,596	303,081
Limpopo Province	70,415	146,908
Mpumalanga	190,782	155,434
Northern Cape	31,405	42,730
North West	212,443	149,690
Western Cape	353,331	228,789
Total	**3,560,383**	**2,367,633**

Source: Department of Housing, 2004b

In urban areas in South Africa there are 1.5 million informal housing units. Furthermore, there are 620 000 occupied serviced sites and 220 000 unused serviced sites in urban areas. Informal settlements on the outskirts of cities and informal houses in backyards of formal housing units amount to 16.4% of households (5.2 million people live in informal houses). Annually 150 000 people house themselves in squatter houses (Department of Housing, 2002a:4).

A total of 14.5 million people live in rural areas. Census 1996 revealed that although there are no official figures on the shortage of houses in rural areas, estimates indicate that more or less 400 000 houses may be needed in rural areas (Department of Housing, 2002a:4).

Potable water, proper sanitation systems and electricity are some of the basic services in South Africa to which 11 million people do not have access. About a quarter of the South African population does not have access to running potable water in their homes. In many of these cases water is collected in water tanks from a communal tap. Sanitation services are not available to 16% of households. Twenty-two percent of households do not have access to flushing toilets and ventilated pit latrines are not available to 48% of households. Electricity is not supplied to 46.5% of households, (1.98 million households). Cultural amenities, along with socio-cultural amenities such as schools, health care services, sports facilities and community centres are also not available in many communities (Department of Housing, 2002a:4).

On 3 March 2005 the Minister of Finance, Trevor Manual, announced a new strategy aimed at replacing and upgrading all informal settlements in the country by 2014. He announced that government would inject R2 billion into its new comprehensive housing strategy. In strengthening this new housing plan there would be a shift towards investing in the development of sustainable residential communities. This further supports the government's view to create sustainable human settlements (Matemola, 2005:1).

2.1.1 Housing demand

Housing demand is measured in terms of quantity. This means that there is a shortage of a certain number of houses. South Africa has a population of 47.5 million people. There was an increase of 30% in the number of households between 2001-2004 whereas an estimated growth of 10% was expected. There is a total demand for 300 000 houses to be built annually to keep up with the population growth and to eradicate the existing housing backlog (Department of Housing, 2002a:7).

Unemployment has also increased from 16% in 1996 to 30% in 2002. This aggravates the financial pressure on households. Housing services provision has not kept up pace with the household formation. This also means that the demand for housing has increased and has further impacted negatively on the size of the housing backlog (Breaking New Ground, 2004:4).
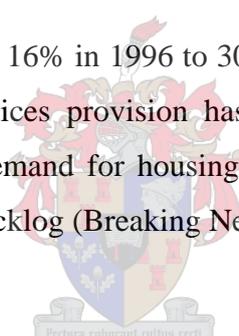
2.1.2 Housing supply

Since 1994 the government has invested R29.5 billion in state assisted housing. Between 1995 and 2000 the government provided 200 000 houses annually. Housing subsidy grants increased from R2.692 billion in 1996/1997 to R4.5 billion in 2004/2005 and will increase to R5 billion in 2006/2007. These increases in development funding have gone largely towards the provision of 1.6 million houses and has allowed 500 000 families the opportunity to secure public housing stock (Breaking New Ground, 2004:4).

Not all of the 1.6 million subsidy houses that have been built have become valuable assets to low-income groups. When a house is defined as a valuable asset it means that it becomes an asset to the household which they can use as collateral to obtain a micro loan or use as an asset that can later be renovated and sold to make a profit. The housing subsidy grant does not pay for municipal services

and taxes. This has resulted in many of the subsidized houses becoming a liability instead of an asset to beneficiaries and the municipalities (Department of Housing, 2002b:4).

State assistance in funding to obtain houses has not eradicated the housing shortage. Housing supply has not met the demands and needs of a rapidly changing country, urbanization, population growth and the declining economic conditions of low-income groups (Breaking New Ground, 2004:4).

In the Western Cape there is still a housing shortage of 310 000 formal housing units. However, this problem is not unique to this province. Plans are underway to provide houses for the people. An example of this is the N2 Gateway Project aimed at building 2500 houses (from 2005-2010) and house 12 000 people that are presently residing in the Joe Slovo informal settlement in Langa, Western Cape. Other initiatives to eradicate shack dwellings are the upgrading of hostel dwellings all over the country (Department of Housing, 2003:2).

The Western Cape Provincial government built 4 045 houses in the six months September 2004-March 2005 and have developed and serviced 10 813 sites in order to create housing opportunities. Furthermore, this province cleared plans to build 14 542 houses and further developed and serviced 16 647 sites in 2004 to create more housing opportunities. Building commenced in December 2004 (Department of Housing, 2003:4).
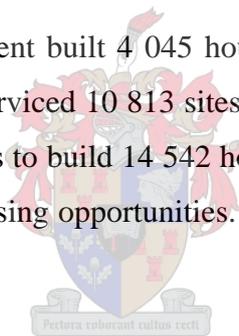
Approximately eight million people in this province have benefited from the housing subsidy scheme. During 2002 the provincial government reinstated 15 of the 29 housing projects that had previously been terminated because of bad management and corruption. This has led to 2 105 family units being available in the Western Cape for beneficiaries (Department of Housing, 2004a:1).

A well-located housing project will improve the occupants' access to certain resources, which they did not have when they lived in informal settlements. This will give them a better chance of employment and increase their economic opportunities. The creation of open public and green spaces in housing developments will improve the environmental quality of these new housing developments. As an ongoing process housing seeks to provide social amenities and facilities that will promote resource sharing such as parks where children can play. A range of affordable housing

options should be provided as well as assistance in self-help, upgrading programmes and ongoing public participation (Sowman & Urquhart, 1998:4).

The South African Housing Policy was implemented to address the housing needs of the poor, and to correct the housing injustices of the past ruling government. A discussion on the South African housing policy follows.

2.2 THE SOUTH AFRICAN HOUSING POLICY

South Africa's present housing policy was derived from a multi-party negotiating body, the National Housing Forum (NHF). This forum consisted of representatives of political groupings, the business community, the building industry, the financial institutions, the unions, and development organisations. Negotiations began in 1992 and decisions were implemented just before the first democratic elections in 1994. This was a response to the then government's racially based housing policy (Budlender, Mokate, Rogerson & Stravrou, 1998:1).

The NHF researched and developed legal and institutional interventions to housing. This research led to the formation of the National Housing Accord, which again involved various stakeholders. The stakeholders represented the homeless, civil society, the financial sector, emerging contractors, established contractors, building material suppliers, developers and communities. This accord had in it an agreement by all the stakeholders to work side by side to achieve the housing goal and implement its vision. The Housing White Paper, which sets out the government's housing policy framework, was published in December 1994 (National Housing Code, 2000:4UF).

The purpose of the National Housing Policy is to make sure that all stakeholders of the government commit to the housing policy and increase housing delivery (The Housing Act, 1997:2). The government's goal is to provide 350 000 houses per annum until the previous housing backlog has been wiped out. Principles of the housing policy include people-centred delivery and partnerships; skills transfer and economic empowerment; fairness and equity; choice; quality and affordability; innovation; transparency, accountability and monitoring; and sustainability and fiscal affordability (The Housing White Paper, 1994:1).

The South African Housing vision as spelt out in 1994 White Paper on Housing, aimed to give all South Africans access to a permanent residential structure with secure tenure, adequate water, sanitation, waste disposal and electricity services. The housing policy was derived around several programmes. The most important programme that was aimed at reducing the plight of the poor, was the National subsidy scheme administered through Provincial Housing Boards. This provided a once-off capital subsidy for land, housing and infrastructure to those earning less than R3 500 per month. The subsidy scheme addresses the demand for the state to deliver complete houses for all, and to spread housing benefits widely (The Housing White Paper, 1994:4).

The housing policy expands housing credit to the poor through making the enormous resources in the financial sector available by assuming some of the risks inherent in lending to low-income groups. The housing policy framework seeks to rationalize the institutional environment in order to achieve delivery and to eradicate political conflicts. Central government is empowered by the Constitution to set parameters for provincial housing policy, while provinces are empowered either to adopt policy developed by central government or to formulate their own housing policies (The Housing White Paper, 1994:4). All the programmes and guidelines set out by the National Housing Policy fell within the structure of the White Paper.

The 1997 Housing Act (Act No. 107 of 1997) followed the Housing White Paper. It was an extension of the programmes, guidelines and provision set by the White Paper. The Housing Act is aligned with the South African Constitution. It outlines the roles and responsibilities of the three levels of government, namely national, provincial and municipal governments. This act also outlines the administrative course of action for the development of the National Policy (Budlender et al., 1998:1).

The Housing Act creates a system that provides funding which is sustainable for housing development. It combines good planning of finances and expenditure in housing. The housing policy has in place a system that holds authorities accountable for monies spent and encourages provinces to create their own provincial housing development funds. Besides creating own funds the South African fund provides public funding for national housing programmes and provincial housing programmes that concur with the national housing policy (The Housing Act, 1997:3).

As required by the Act, in 2002 the Minister of Housing issued the National Housing Code outlining national policy. Under the Act and Housing Code each level of government (national, provincial and municipal) is responsible for housing delivery. The national government determines national housing policy, to which provincial and local government must adhere to. The national government also establishes and facilitates a sustainable national housing development process. National government must ensure that the development process is secure, stable and convenient. Provincial governments have a responsibility to create an enabling environment within the province and within the framework of national policy. This enabling environment must allow all the inhabitants of that province access to adequate housing. Municipalities are responsible for ensuring that the right to adequate housing is realized by the development of housing, for addressing the issue of land, services and infrastructure and for creating an enabling environment for housing development within their area of jurisdiction (Budlender et al., 1998:1).

2.2.1 Seven housing strategies

The South African housing policy is being undertaken in terms of seven key strategies. Without one of the strategies, all the others are lacking. This means that one strategy cannot function without the other. For this reason, government policy is seen as a package of these seven strategies that are all interrelated and interdependent. An example of this is the housing subsidies programme. This programme is critical for the majority of the population who are in the low-income group. The subsidies are not sufficient for acquiring formal homes without a contribution from the beneficiaries. For this reason, housing credit is needed. However, without a stable housing environment, it would be impossible to mobilize housing credit at scale. For those who cannot afford credit, support for the People's Housing Process is critical. None of this would be possible without the appropriate institutional framework (Department of Housing, 2002d:1).

The seven housing strategies include stabilizing the housing environment, mobilizing housing credit, provide subsidy assistance, supporting the People's Housing Process, rationalizing institutional capacities, facilitating speedy release and servicing land and coordinating state investment in development.

2.2.1.1 Stabilizing the housing environment

Housing and the public environments need to be stable to gain trust and investment from the private sector. A stable public environment relies on incentives and benefits that will improve the living

15

conditions of people through investment made by the private sector as well as through access to credit. The current dire situation of low-income groups needs to change to a more opportune situation of reconstruction and development. The public and private sectors need to work together and consult the concerned beneficiaries (The Housing Act, 1997:8).

The National Housing Code (2000:9UF) emphasizes the importance of upholding contracts to minimize the perception that low-income sectors are a high-risk area. The responsibility to change these perceptions lies wills all the involved parties.

The government has proposed two strategies to ensure that the public environment is stabilized. The first strategy is a national and provincial initiative for the resumption of the payment of goods and services. This is combined with public investment and management of specified areas which were previously disruptive (National Housing Code, 2000:9UF).

Interventions to decrease the high risk of investment in low-income areas have been initiated. There are five interventions by government to increase the elements of trust in stabilizing the housing environment. They are the Mortgage Indemnity Fund (MIF), the National Home Builders' Registration Council, Servcon Housing Solutions, Thubelisha Homes and the Masakhane Campaign (National Housing Code, 2000:10UF). Each of these will be discussed briefly.
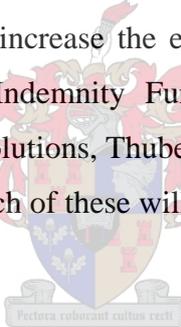
▪ Mortgage Indemnity Fund (MIF)
The Mortgage Indemnity Fund was in operation for three years (1995-1998). The MIF was able to generate R10 billion in loans and was responsible for bridging the gap between government, financiers and communities. The MIF unlocked significant mortgage lending in the township housing market where banks had stopped lending (National Housing Code, 2000:12UF).

▪ National Home Builders' Registration Council (NHBRC)
The NHBRC was established in 1995 to regulate the home building industry, and to provide fallback warranties to consumers. This was designed to address the major risk to purchasers and funders of new houses that the building was not up to standard, which contractors could not, or would not, repair (National Housing Code, 2000:12UF).

- Servcon Housing Solutions

Servcon Housing Solutions was launched in June 1995 as a joint venture between the government and the banks to deal with the properties that had been repossessed by the banks after a sale in execution. The banks were unable to repossess due to a breakdown in law and order. Servcon was responsible for helping such residents pay back their loans. This was done by the instalment sale option (pay rent) and the rightsizing programme (move to other more affordable houses) (National Housing Code, 2000:12UF).

- Thubelisha Homes

Thubelisha Homes was established to provide housing stock for rightsizing as initiated by the Servcon rightsizing programme (National Housing Code, 2000:12UF).

- Masakhane Campaign

The Masakhane Campaign was initiated to change the views and perceptions of individuals, communities and the local government about whose responsibility it was to provide services and pay for them. It encouraged individuals to pay for services, communities to stop rallying against paying for services and local government to provide these services (National Housing Code, 2000:12UF).
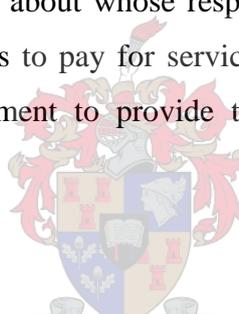
2.2.1.2 Mobilizing housing credit

The second strategy of the housing policy is mobilizing housing credit. According to the Department of Housing (2002d:1) the strategy to mobilize housing credit is closely linked with the strategy to stabilize the housing environment. Both strategies seek to increase investment in low-income housing. As mentioned earlier, the strategy to stabilize the environment seeks to decrease risks in this part of the housing sector. However, the strategy to mobilize housing credit seeks to manage and cushion commercial risk and to share it between stakeholders in the housing sector. These stakeholders include individuals, the private sector, and the government. The long-term goal is to encourage lending to the low-income sector and make it a normal market practice. Mobilizing housing credit addresses the activities of the National Housing Finance Corporation (NHFC) and the National Urban Reconstruction and Housing Agency (NURCHA).

The rationale for mobilizing housing credit for low-income groups is the fact that for a long time low-income groups had no access to credit. This is because it is believed that low-income groups are not willing to save their money and that this environment is not stable. This led to this sector being provided with badly designed credit. Whilst the process of stabilizing the environment is in

17

motion there is still mistrust and this sector is still viewed as a high risk by financial institutions. The government has developed strategies to mobilize housing credit by using different mechanisms and approaches towards risk management and sharing. The aim is to change risk perceptions that inhibit lending to previously disadvantaged people (Pinsky, 1995:27).

Pinsky (1995:28) states that the risk-sharing interventions developed in mobilizing credit vary. The strategy is now based on the principle of partnerships. This strategy aims to mobilize the capacity of individuals, institutions and non-governmental organizations to participate in a variety of market-enabling measures. Mechanisms have been provided to mobilize provision of credit on a risk-sharing basis, so that financial institutions may help to develop the low-income housing sector so that they may be able to operate on their own, without help from the government in the long term.

Figure 2.1 depicts the different levels of finance of the NHFC, the beneficiary institutions and the various sources of funding.
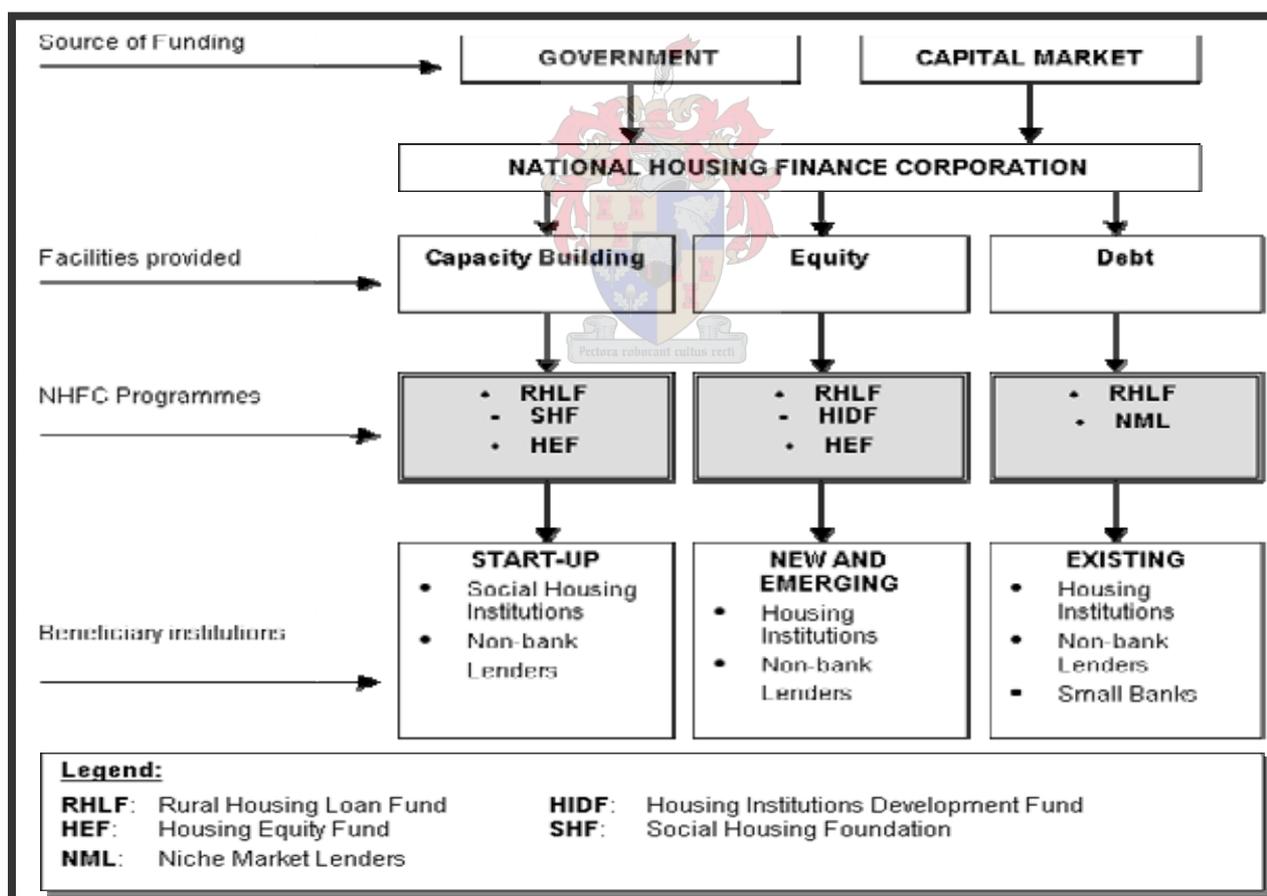
Figure 2.1: National housing finance corporation

Source: Department of Housing, 2002d:3

18

▪   The National Housing Finance Corporation (NHFC)

The Department of Housing (2002d:3) describes the National Housing Finance Cooperation as a public company owned by the South African government which was set up as a development finance institution in April 1996. The NHFC and its other constituencies provide funds, loans, guarantees and other products to support financial lenders in the low-income housing sector for a range of tenure types in both urban and rural areas. The main function of the NHFC is to oversee and find means and explore ways to sustainably provide housing credit to the low-income groups.

To achieve this mission, the NHFC focuses its efforts in three areas:

- Debt finance: loans are made available to established housing institutions, non-bank lenders and bankers to provide funds for households eligible for credit
- Equity finance: the NHFC provides financial gearing capacity to social housing institutions and non-bank lenders; and
- Capacity building: emerging and new institutions are assisted with the institutional capacity in order for them to participate in the financial services market.

The following institutions complement the NHFC:

➢ The Industrial Development Cooperation provides industrial development finance for, and investment into, industrial concerns.
➢ The Development Bank of Southern Africa is concerned with the development of infrastructure, finance for provincial / local authorities, parastatals and utilities.
➢ The Khula Enterprise Finance makes loans available to and finances small, medium and micro enterprise development
➢ The Land and Agricultural Bank is involved in financing agricultural development.

▪   The National Urban Reconstruction and Housing Agency (NURCHA)

The National Urban Reconstruction and Housing Agency (NURCHA) were established in May 1995 as a Presidential Lead Project in charge of addressing the housing backlogs and inequities of the past government. Operating as a non-profit (Section 21) company, its aim was to facilitate low-income housing development, focusing on the needs of families earning less than R1 500 per month. NURCHA provides guarantees for bridging finance (development capital) and housing loans, while also undertaking a range of other initiatives to support stakeholders in the low-income housing sector so that they can carry out their respective roles (Department of Housing, 2002d:4).

The goals of NURCHA are to facilitate low-income housing development by guaranteeing loans made by commercial banks and to promote small and medium enterprises in housing developments to strengthen the capabilities and capacity of institutions involved in low-income housing delivery.

NURCHA has two categories of programmes:

o   Guarantee Programmes include facilitating bridging finance and facilitating end user finance.

    NURCHA offers guarantees to encourage financial institutions to make bridging finance loans to developers and contractors. For established and larger developers, NURCHA shares up to 60% of the risk with the bank making the loan. With emerging and small contractors who are perceived to be high-risk borrowers, NURCHA offers guarantees for 70% in order to encourage lending into this important sector of the economy. In addition, NURCHA assists emerging contractors with cash flow planning, and may provide some management assistance during the course of the project. It also facilitates end user finance by providing families who do not meet the criteria set by moneylenders to qualify for loans (Department of Housing, 2002d:5).

o   The Joint Venture Development Fund was originally established by government and placed with the NHFC. In April 1998, the NHFC signed an agreement with NURCHA to have NURCHA manage the Fund and its approved project on the NHFC's behalf. The government's purpose for this R100m fund is to have equity invested into joint ventures with private sector developers and contractors, to encourage and facilitate housing in the R20 000-R60 000 range in targeted areas, where little development has taken place. This construction-financing tool applies equally to home ownership and to rent-to-buy projects, in areas targeted to promote densification and physical and social integration (Department of Housing, 2002d:5).

2.2.1.3 Providing Subsidy Assistance

The third strategy of the housing policy is to provide subsidy assistance. Providing subsidy assistance entails the Housing Subsidy Scheme, the Discount Benefit Scheme and the Public Sector Hostels Redevelopment Programme.

▪ *The Housing Subsidy Scheme* is the primary means of assistance in terms of the national housing policy. On March 15, 1994 the housing subsidy scheme replaced all previous government subsidy programmes for households with an income of R3 500 per month or less. The households should not have owned property or received a government housing subsidy before and were expected to meet a range of other criteria (The Housing Act, 1997:3). This subsidy scheme will be discussed in more detail in 2.4.

▪ *The Discount Scheme* was initiated to promote home ownership of housing stock for long-term tenants in state-financed housing stock. This stock includes formal housing and 622 000 serviced sites (excluding sites delivered with the Independent Development Trust capital subsidy financing) delivered in terms of the pre-1994 administration. These tenants receive a maximum discount of up to R7 500 on the cost of a property. In most instances, the discount is the same amount as the selling price of the property. In cases where there is still an outstanding amount after the discount, the occupant is then held responsible for settling that amount (National Housing Code, 2000:15UF).

▪ *The Hostels Redevelopment Programme* aims to create humane and better living conditions in the public sector hostels**.** The main focus is to upgrade these hostels into family and single units (Vanstone, 2001:1). The hostel redevelopment programme will be discussed in more detail in 2.4.1.

2.2.1.4 Supporting the People's Housing Process

The fourth strategy of the housing process is supporting the People's Housing Process. The People's Housing Process is a process whereby individuals and or communities build their own houses. Supporting this process means that households are assisted in obtaining subsidies through the Housing subsidy scheme to fulfil their housing needs. This strategy comprises of three institutional arrangements namely support organizations, funding and the people's housing partnership trust (Khan & Thurman, 2001:29).

▪ Support organizations

These comprise legal entities formed by individuals or the community to secure housing subsidies either for themselves or the whole community, to facilitate land acquisition to gain secure land tenure and to provide technical, financial, logistical and administrative support to individuals building their own houses (National Housing Code, 2000:17UF).

- Funding

Funding in the People's Housing Process (PHP) not only includes the housing subsidy, but also facilitation and the establishment of grants. The PHP facilitation grant provides funds for any work done in preparation of applying and submitting an application to the PHDB by the support organization. Work done before submission of applications includes community workshops held to assist communities form or enter into an agreement with the support organization. These workshops help community members obtain skills in developing a business plan. An establishment grant enables the support organization to provide community members with technical, financial, administrative and logistical support (National Housing Code, 2000:18UF).

- People's Housing Partnership Trust

The People's Housing Partnership Trust is responsible for implementing the government's capacitating programme in support of the PHP at both a local and a national level. This involves advocating, promoting and creating actual support for the PHP, facilitating existing procedures to deliver land, finance and infrastructural services and assisting local organizations support people's housing initiatives. This programme promotes technical and other skills associated with supporting the development of the PHP (National Housing Code, 2000:18UF).
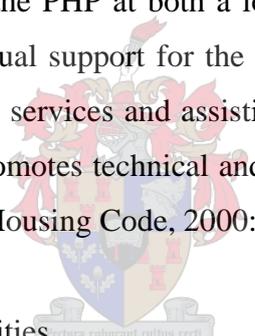
2.2.1.5 Rationalizing institutional capacities

The fifth strategy of the housing policy is to rationalize institutional capacity. As stated by the National Housing Code (2000:19UF), the strategy to rationalize institutional capacities is one single transparent housing funding process that capacitates institutional systems in the government sector. Partnerships within the different spheres of government are initiated and the public sector is encouraged to participate. This is evident in the roles played by individuals in civil society in the policy development process and housing delivery in communities. According to Act No. 107 (The Housing Act, 1997), rationalizing institutional capacity is a product of extensive consultation and negotiation with all the various role players in the housing sector. The role players include national departments, provincial housing departments and housing boards, the private sector, civil society, non-governmental organizations and organized local government.

Capacity building in the Department of Housing is aimed at creating an environment that enables national, provincial and local government to better fulfil their roles. This entails introducing

appropriate legal and policy frameworks, establishing an effective and efficient workforce, and installing appropriate technology, equipment and systems for monitoring, evaluation and reporting purposes. The focus of the Housing Act is on role definition for each of the three spheres of government. Government functions should be performed at the sphere best able to serve the local communities (The Housing Act, 1997:4):

- National government is responsible for national housing policy and must establish and facilitate a sustainable national housing development process.
- Provincial government must create an enabling environment by doing everything in its power to promote and facilitate the provision of adequate housing in its province within the framework of national housing policy.
- Municipalities must pursue the delivery of housing. Every municipality must ensure that the right to access adequate housing is realized. This is done by municipalities actively pursuing the development of housing by addressing issues of land, services and infrastructure provision, and by creating an enabling environment for housing development in its area of jurisdiction.

The National Capacitating Programme helps to ensure that provincial housing departments and municipalities have the capacity to carry out their housing functions. Measures to improve the efficiency of housing development boards have also been implemented through this programme (Department of Housing, 2002d:28).
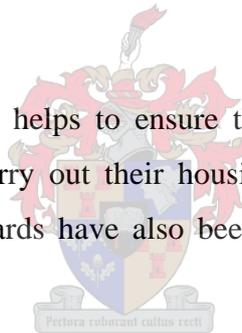
2.2.1.6 Facilitating speedy release and servicing of land

The sixth strategy of the housing policy is to facilitate the speedy release and servicing of land. Facilitating the speedy release and servicing of land as described by the National Housing Code (2000:20UF) is the main focus of this strategy through the Development Facilitation Act, 1997 [Act No. 67 of 1997] and the land development objectives required in accordance with the act. Facilitating speedy release and servicing land is supported by the development facilitation act, land development objectives, development tribunals and the development and planning commission. This strategy is explained in detail below.

- The Development Facilitation Act (DFA), 1997 [Act No. 67 of 1997]

The main focus of the DFA is to speedily undertake land development projects specifically to provide serviced land to speed up the delivery of low-income housing (National Housing Code, 2000:20UF).

- Land Development Objectives (LDO)

These objectives require all the municipalities to follow them as the basis for future land developments. These LDO must be based on socio-economic analysis, which means that all stakeholders and communities must be consulted and based on relations between the municipalities. In each case the municipality is responsible for stating the proposed target (number and the rate) to be achieved (National Housing Code, 2000:21UF).

- Development tribunals

The premier of a specific province establishes development tribunals. The tribunals consist of stakeholders, local authorities and experts in whatever field is being addressed. This tribunal is therefore responsible for settling disputes and develops time frame (National Housing Code, 2000:21UF).

- The Development and Planning Commission
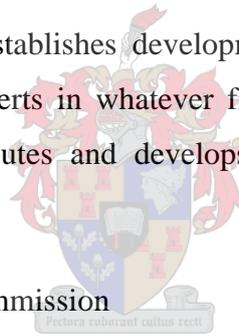
This commission is responsible for reviewing planning and related legislature in the country per province (National Housing Code, 2000:12UF).

- Ensuring appropriate standards

Government has in place an infrastructure policy which ensures that new housing developments are provided with potable water, storm water drainage, sanitation and domestic energy. This infrastructure must be of a specific standard and the national norms and standards ensure that they are adhered to (National Housing Code, 2000:22UF).

- Infrastructure

Both physical and engineering standards and environmental standards impact on housing and infrastructural services. There are guidelines provided to planners and developers that outline the options they have when developing township residential areas. This is known as the guidelines for engineering and amenities in residential townships. The National Home Builders' Registration Council (NHBRC) outlines the building construction and design standards to which builders must adhere whilst the National Building Regulations provide regulations on health and safety standards. Environmental standards have also been set in various legislation and policies which ensure the protection of the environment when buildings are being constructed (National Housing Code, 2000:22UF).

- Housing

Housing standards have been set and MECs will not accept or approve housing development proposals which do not meet the requirements. The standards state that R7 500 of the housing subsidy must be spent on services and the rest on the top structure. All houses must have a minimum size of 30 m^2 and like the standards set for infrastructural services, there must be a minimum level of potable water, sanitation, storm water drainage and roads.

There is other legislation that supports the above-mentioned policies. This legislation is responsible for ensuring land development and land use, control, land registration and tenure systems. This legislation includes the Land Acquisition Grant Policy, the Settlement Grant Policy, the Land Registration and Tenure Systems Policy and the old Provincial Ordinances and new Provincial Acts, to name a few (National Housing Code, 2000:21UF).

2.2.1.7 Coordinating state investment in development

The seventh strategy of the housing policy is to coordinate state investment in development. Housing delivery requires coordination and integrated action by all stakeholders from the public and private sectors. This forms the basis for government's fundamental principle of partnerships among all role players. The concept of coordinating "state investment" in development maximizes the impact of state investment through careful planning, so that various investment developments supplement one another. The aim is to have a housing process which promotes stability and socially

and economically integrated communities. State investment in development is coordinated through the Urban and Rural Development Framework (Department of Housing, 2002d:32).

- The Urban Development Framework

The Urban Development Framework supports government's vision of providing sustainable human settlements. The aim of this framework is to promote an urban development policy approach for effective urban reconstruction and development which is consistent, guides development policies, strategies and actions of all stakeholders in the urban development process and steers them towards the achievement of a collective vision (Department of Housing, 2002d:34).

- The Rural Development Framework

The Rural Development Framework explains how government, working with rural people, aims to achieve a rapid and sustained reduction in absolute rural poverty. Through institutional development people living in rural areas set the needs and priorities in their own communities (Department of Housing, 2002d:36).

- Integrated Development Plans (IDPs)

Municipalities are required to have IDPs. These IDPs are a combination of the Development Facilitation Act and Land Development Objectives in terms of the Local Government Transition Act, 1993 [Act No. 209 of 1993]. This ensures that the objectives set by municipalities in terms of the Land Development Objectives and housing delivery objectives can be implemented with the support of a financial and institutional framework (National Housing Code, 2000:22UF).

The methods involved in providing houses and the houses delivered to low-income groups must be sustainable. Sustainable human settlements not only provide houses and an environment which is sustainable but also support economic growth, social development and building the capacity of its occupants. It also supports the natural environment which is essential for human development and survival.

2.3 SUSTAINABLE HUMAN SETTLEMENTS

The South African government describes sustainable human settlement development in the document "Breaking New Ground" (2004:11) as a well-managed balanced entity in which economic growth and social development can carry the capacity of the natural systems on which people depend. This leads to sustainable development, wealth, job creation, poverty alleviation and social equity. This means that the settlements are supportive of the communities that reside there and it contributes towards a greater social cohesion, social crime prevention, moral regeneration, and support for national heritage. It also recognizes and supports indigenous knowledge systems and the ongoing extensions of land rights.

The Department of Housing's vision for sustainable human settlements is to promote a non-racial and integrated society by developing sustainable human settlements and quality housing. This vision includes the acceleration of housing delivery as a vital strategy to help in the alleviation of poverty and using housing as a method of job creation. It further supports the contribution that housing has made towards the alleviation of assets poverty through its contribution in strengthening new human settlements and the development of housing assets. In 1994 the South African government committed itself to the development of more livable, equitable and sustainable cities. It did this by ensuring a more compact urban form, facilitating higher densities, mixed land use development and through an integration of land use development and public transport. The government further planned to ensure a more diverse and responsive environment while reducing travelling distances for the poor (Breaking New Ground, 2004:13).

2.3.1 Four pillars of sustainable human settlements

Sustainable development is supported by addressing environmental challenges, generating economic empowerment, building institutional capacity and enhancing social capital. These are called the four pillars that support sustainability and they are interrelated in the development process. Environmental challenges may interact with social and economic pillars to create opportunities for job creation. If the environment makes use of recycling services this might create an environment for inhabitants to collect recyclable items for money (Irurah, Bannister, Silverman & Zack, 2002:6).

- Addressing environmental challenges

Addressing environmental challenges entails reducing the depletion of scarce resources. Housing is viewed as a means of addressing the limits of resources efficiently through minimizing the impact that pollution has on the environment. Addressing environmental challenges includes land conservation, urban integration and greening of the environment. Efficient renewable energy use and water conservation is also addressed. Resource recovery, alternative sanitation, waste management and use of materials that are efficient are challenges which are addressed through the sustainable development of human settlements (Irurah et al., 2002:6). According to Edwards (1999:122) sustainable human settlements focus on providing building alternatives and approaches to housing rather than the conventionally used ones. Conventional building involves traditional building materials such as concrete blocks, cement with aggregate, non-recyclable as well as non-renewable resources. Alternative methods and materials include using recycled cement, clay bricks and recycled, renewable and eco-friendly building materials.

- Generating economic empowerment

Generating economic empowerment through sustainable development is aimed at people from previously disadvantaged groups who are either unemployed or have lost their jobs due to retrenchments and/or public and private sectors restructuring. Methods of generating economic empowerment are land and security of tenure (which includes informal settlement upgrading and rural land reform), job creation, entrepreneurship and emerging contractor support. This further supports the role that housing plays in creating jobs for emerging contractors and entrepreneurs as stated previously. Affordability and alternative finance deals with the housing subsidy programme provided by the South African government. Costs are also saved through appropriate location of housing developments and efficient energy use and water conservation. Provisions should also be made for transformation and home-based enterprises. This might lead to empowering women and previously disadvantaged groups (Irurah et al., 2002:10).

- Enhancing social capital

Social capital is enhanced in sustainable development by responding to socio-cultural needs and practices of occupants. Sustainable human settlements should have integrated housing. This can be achieved by providing diverse accommodation in terms of tenure and it can address the individual needs of each household. Socio-cultural amenities and services should also be integrated. Sustainable human settlements aim at creating heterogeneity and diversified accommodation (Irurah et al., 2002:12). Kruger (2004:1) adds that traditionally, housing delivery was based on the delivery

of numbers, but sustainable human settlements focus on quality and not on quantity. In a sustainable services should also be integrated. Sustainable human settlements aim at creating heterogeneity and diversified accommodation (Irurah et al., 2002:12). Kruger (2002:1) adds that traditionally, housing delivery was based on the delivery of numbers, but sustainable human settlements focus on quality and not on quantity. In a sustainable human settlement, planning, designing and managing the physical environment can reduce crime and make the community safer. Community members can initiate this through various efforts, for example by developing safety plans such as neighbourhood watches.

- Building institutional capacity

Building institutional capacity through sustainable development means creating a stable, transparent environment that is inclusive and efficient. People should be held accountable for the decisions they make. These decisions should be implemented by optimizing limited resources to achieve sustainable housing. The public and private sector, civil society and the housing project beneficiaries all play a role and are held accountable for decisions made in housing development (Irurah et al., 2002:15).

Sustainable human settlements help to establish effective, efficient human settlements that do not harm the environment. The national and provincial government, non-governmental organizations and community-based organizations all need to work together to create a viable community (Kruger, 2004:1).
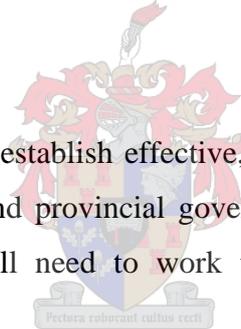
Sustainable human settlements need to be monitored and evaluated. This should be done when the housing project is completed as well as through evaluation later, by using various methods. Research methods such as participatory action research, surveys and focus groups, can be applied to evaluate housing performance. Results from the research can then be used in formulating policy and strategy analysis. Training and capacity building in a sustainable settlement is also important as it helps individuals and communities to become empowered and to reach their full potential. Technical support of human settlements is achieved when building technology is supported with planning and design input and decision-making (Kruger, 2004:1).

Low-income groups have been afforded an opportunity to formal houses and secure tenure through the Housing subsidy scheme (see 2.2.1.3). This subsidy allows housing to fulfill its roles by providing better constructed communities and improve the quality of life for the low-income group.

Through the Housing subsidy scheme the South African government is slowly meeting the housing demand, eradicating shacks and informal settlements and reducing the housing backlog. Therefore a short discussion on housing subsidies follows.

2.4 THE HOUSING SUBSIDY SCHEME

The Housing Subsidy Scheme is part of the South African Housing Policy's seven strategies to address the housing challenge. The Housing Subsidy Scheme (with six subsidy mechanisms), the Discount Benefit Scheme and the Hostels' Redevelopment Programme are all intended to provide subsidy assistance (see 2.2.1.3).

Housing funds for national housing programmes are budgeted for by national government and taken from the South African Housing Fund Programme. The South African Housing Fund provides these funds to provincial governments to establish and maintain habitable, stable and sustainable residential environments (Department of Housing, 2002b:3).

Funds allocated to the provinces is according to a formula based on equity and taking into account the housing backlog and income profile of each province. The conditions attached to the allocation funds are based on the provisions of the Housing Act, 1997 and are agreed upon by the housing department and the provinces. The housing department developed guidelines to facilitate the process of transferring funds from the housing funds to the provinces (South Africa Year Book, 2002/2003:3). Housing funds are now reflected in the revenue funds and expenditure of provinces, enhancing provincial accountability. A housing subsidy is thus a money grant provided by the South African government to help beneficiaries who qualify to obtain housing. This housing refers to the provision of permanent residential structures with secure tenure and privacy. These structures provide adequate protection against the elements, potable water, adequate sanitation facilities and domestic electricity supply (Department of Housing, 2002b:3).

Housing subsidy assistance is not paid back to the government by beneficiaries and the money is not paid out in cash to beneficiaries. The money is made available to developers or builders of housing projects to obtain land and pay for the acquisition of goods and services in order to complete houses. The provincial board manages this money, approves subsidy applications and pays out the money to developers of specific housing projects (South Africa Year Book, 2002/2003:3). Developers, either private companies, local authorities or a community organization, use the money to buy a site, install services, obtain building materials and to erect the houses. These

subsidies are not enough to build lavish houses, but rather to help beneficiaries make a start. A beneficiary will only receive a subsidy once (Department of Housing, 2002b:3).

According to the Department of Housing (2002a:4) the criteria to qualify as a beneficiary of a housing subsidy are the following:

- An applicant must be a South African citizen over 21 years of age with a gross household monthly income of less than R3 500.
- Applicants must either be married, live with a partner or be single with financial dependants. According to the government, households are recognized as those who are either a married couple, live together and have a signed affidavit stating that they live together as partners, or are single but have financial dependants.
- One-person households and applicants who previously received a subsidy from government, already own a house or have property in their particular province or anywhere else in South Africa, do not qualify.
- If a couple separates, neither party will qualify for another subsidy again.

The amount of money a beneficiary qualifies for depends on how much the household earns each month. The gross monthly income of all people in the household is calculated to determine the subsidy amount for which the applicant qualifies. This is known as the total household income and, as mentioned, should not exceed R3 500 per month (Department of Housing, 2002b:5).

The Housing Subsidy Scheme consists of seven subsidy mechanisms: project-linked, individual, consolidation, institutional, People's Housing Process (PHP), rural subsidies and relocation assistance (The Department of Housing, 2002d: 6).

1. The project-linked subsidy is used in assisting beneficiaries to acquire ownership of fixed residential properties for the first time. These beneficiaries can buy houses in Member of Executive Council (MEC) approved housing projects.
2. The individual subsidy assists beneficiaries to obtain ownership of fixed residential properties for the first time. These beneficiaries are enabled in buying existing houses or houses in projects not approved by MECs.
3. The consolidation subsidy is provided to beneficiaries who are previous recipients of serviced sites and who have ownership rights to these sites. This subsidy provides or

upgrades a top structure on the site. The consolidation subsidy provides R14 102 to households, which is known as a top-up amount to provide or upgrade the top structure.

4. The institutional subsidy provides subsidized accommodation through institutions, to persons who qualify for individual ownership subsidies, on the basis of secure tenure such as rental, instalment sale and share block. The institutional subsidy provides a R25 800 subsidy to an institution.

5. The People's Housing Process provides support to people who want to build their own houses to access consolidation, project-linked, institutional and rural housing subsidies as well as other support mechanisms.

6. The rural subsidy enables households who have uncontested informal land rights to obtain a housing subsidy to meet their housing needs.

7. Relocation Assistance was made available to help households and individuals who were three months in arrears with their instalments on 1 August 1997 and whose loans could not be rehabilitated to rightsize to affordable housing. This was all in partial fulfilment of the government's strategy to help stabilize the housing environment. Servcon mediates this strategy (The Housing Act, 1997:3).

Table 2.2 outlines the housing subsidy amounts for the various housing subsidy mechanisms for which qualifying beneficiaries in the different income categories can apply from the National Department of Housing. It also stipulates the contribution each beneficiary is liable for and the product price. The product price is the total amount of both the subsidy and the contribution made by beneficiaries.

Table 2.2: Housing subsidy amounts for 2005

Income category	Subsidy amount	Contribution	Product price
HOUSING SUBSIDY SCHEMES R0 – R1 500 (project-linked & individual subsidies)	R25 800	R2 479	R28 279
R0 – R1 500 (rural and PHP subsidies)	R28 279		R28 279
R1 500 – R2 500 (project-linked, rural, PHP and individual subsidies)	R15 700	R2 479	R28 279
R2 500 – R3 500 (project-linked rural, PHP and individual subsidies)	R8 600	R2 479	R28 279
Consolidation subsidies up to R1 500	R14 102	R2 479	R16 581
Consolidation subsidies up to R800 (aged, disabled and indigent)	R16 581		R16 581
Institutional subsidies: R0 – R3 500 per month	R25 800	R2 479	At least R28 279
HOSTELS' REDEVELOPMENT PROGRAMME Hostels' Redevelopment Programme: Families	R25 800		
Hostels' Redevelopment Programme: Individuals	R6 400		

Source: Department of Housing, 2005

There are only two situations under which the subsidy amount will be increased. This is when there is a geophysical variation that causes the development costs to be particularly high because of location and topographical conditions. The other situation is when the subsidy is awarded to a beneficiary with a disablement or if a household member of the beneficiary is disabled (Department of Housing, 2002b:5).

Table 2.3 summarizes the additional subsidy amount for which beneficiaries of the different household income categories are eligible to apply, depending on the above-mentioned situation. Subsidy for immediate ownership includes the individual, project and relocation subsidy mechanisms. Consolidation subsidies are available only to those who have already benefited from a previous state site and service schemes.

Table 2.3: Additional subsidy amounts for 2005

Monthly income	Subsidy for immediate ownership	Consolidation subsidy	Subsidy for rental or instalment sale
R0–R1 500	R16 000	R8 500	R16 000
R1 500–R2 500	R10 000	R0	R16 000
R2 501–R3 500	R5 500	R0	R16 000

Source: Department of Housing, 2005:6

Subsidy amounts are never paid directly to a beneficiary. A developer applies for the subsidy on behalf of the beneficiary. A completed application form of the beneficiary is approved by the Provincial Housing Board. Relevant information, namely personal, employment and income information of the applicant is gathered. This is recorded on the national data base.

Table 2.4 summarizes the types and number of subsidies allocated between 1994 and 1998. There was no data available for hostels' redevelopment programme.

Table 2.4: Number of subsidies delivered

Subsidy type	Number	Percentage of total
Project-linked	1 716 176	70.4%
Individual	157 824	6.5%
Consolidation	235 421	9.7%
Institutional	61 914	2.5%
Rural	94 894	3.9%
Hostels' redevelopment	170 175	7%
Total	**2 436 404**	**100%**

Source: Department of Housing, 2004b:13

In January 1997, 85% of all subsidies allocated were project-linked. Beneficiaries of these households earned less than R800 per month. The average subsidy allocated in 1997 was R13 800 per beneficiary. Eight percent of subsidies were allocated to beneficiaries earning R801–R1 500 per month and four percent was paid to households earning R1 501-R3 500. Subsidies allocated between 1994 and 1998 were delivered to the very poor. Only 5% of subsidies were linked to any form of credit (Baumann, 2000:8).

For the purpose of this research the hostels' redevelopment programme will be briefly explained as the state-subsidised housing units (Project 5a) was financed through the hostels' redevelopment programme.

2.4.1 Hostels' redevelopment programme

Hostels were originally designed as transit camps for migrant workers who were presumed by employers to be temporary in the cities and towns of South Africa. The hostels' redevelopment programme is part of the human settlements redevelopment programme. This programme aims to fill the gap in the development needs of dysfunctional and disadvantaged communities (South Africa Year Book, 2003/2004:1).

When the new government took over in 1994 many of the hostels designed for migrant workers became overcrowded as more family members now joined migrant workers who were living in these units. The objective of the hostels' redevelopment programme is to provide finance in order to upgrade these living environments and create manageable, livable humane conditions by converting hostels into family units. Upgraded hostels are to be integrated into local communities. The upgraded hostels are more homely, more habitable, less congested and more suited for occupation by families (National Housing Code, 2000:10).

Upgrading informal, formal or hostel dwellings is a vital part of creating sustainable human settlements. It is important to carry out upgrading projects, as this is a way of improving the living conditions of residents. When upgrading takes place it results in occupants who are more productive in their work and who are generally happier. Hostels all over South Africa are being upgraded either into better constructed single units or into family units. Hostel dwellings are housing whole families

and no longer male migrant workers. The aims and goals of upgrading are discussed in more detail in the following section.

2.4.2 Upgrading

The upgrading of informal settlements is a housing process where specified housing stocks, which can be either an informal settlement, formal settlement or hostels, are improved. Upgrading entails physical, social, environmental and economic improvements that enhance the well-being of the community. Upgrading of physical elements include a package of basic services such as clean water, sanitation, adequate sewage disposal and electricity that are provided to existing housing stock. This package of basic services improves the physical elements in the community. These initiatives contribute to reducing densely populated areas, which hostels usually are (Martin, 1983:53).

The aim of upgrading is to provide secure tenure for residents as well as to improve low-income housing and living conditions in the community. Proper upgrading can change a community where there was overcrowding that resulted in a high risk of public health problems and epidemics, to a cleaner environment and with more space for occupants. Upgrading retrofits and repairs existing houses and makes them safer, better maintained, healthier and less crowded. It helps communities manage their homes and services better. It also encourages occupants to get involved in their community (Vanstone, 2001:1).

Unlike most low-income housing projects, upgrading does not disrupt or change the social structure of existing communities. It preserves existing relationships and economic systems formed in the community for low-income groups. The investments, such as home-based businesses, stokvels, and repairs on the house that residents have already made in their community, are enhanced. This does not only benefit the economic situation of residents but the entire national economy, as moving occupants to alternative accommodation is more costly than upgrading (The World Bank Group, 2001:1).

Martin (1983:55) refers to four objectives in upgrading: health, social, legal and economic objectives. In an upgrading project more than one of these objectives may be applicable. The health objective of upgrading is to reduce public outbreaks of epidemics. The upgrade will impact on the

health of the occupants and will improve the health of the entire community. Once the health of residents is improved they will be strong and happier and their levels of productivity will increase. This can have a positive effect on satisfaction levels. The economic objective of upgrading is to improve the infrastructure of that area through the provision of loans, subsidies and sites for small businesses. This creates jobs for the unemployed. The social objective of upgrading is to ensure the provision of social services that will enhance the community. These services include clinics, schools, community centres, play grounds, open spaces and enhancing the community's self-reliance. The legal objective of upgrading is to provide secure tenure for residents as well as to apply building controls and to include services (Martin, 1983:55).

According to De Bie (2000:1) an upgrading project in Senegal had five goals namely land and tenure security, community participation or involvement, cost recovery, minimal intervention of infrastructure after upgrading and improvement of environment and management of the surroundings.

- Upgrading should provide land and tenure security for residents of the housing unit. Residents are given the title deed to the housing unit. This provides residents with a unit of their own and increases their security against having to pay rent and being evicted. Furthermore this gives residents an incentive to participate in the improvement of their community and environment. Access to land ownership encourages them as owners to invest in their houses by maintaining their houses and their community.

- With community participation the community or their representatives actively take part in all stages of improving living conditions namely the decision-making, implementation, financing and managing facilities available to them. Once they have organized themselves they define their priorities and their needs. All decisions are taken in accordance with their concerns and with their financial means. As the community becomes involved and participates in all the various stages of the project, there is more clarity of roles, which, in turn promotes an understanding between the community, the authorities and the field workers (De Bie, 2000:2).

  The community members, local authorities and the private sector should participate in upgrading. Participation can be done by getting technical assistance from either individuals or constructors (Martin, 1983:53). Community participation is important for the successful implementation of the project. The community must be consulted on the project concept which has been developed as they can either accept or reject the concept (Banes & Madonsela,

2000:41). The community knows their community and their problems better than any outsider. Participation will give them a sense of ownership and will empower the community in the process. With the backing of the community the project is guaranteed continuity and sustainability (The World Bank Group, 2001:2).

- A further goal of the Senegal upgrading project was cost recovery. Cost recovery refers to the financial replacement of the upgrading municipal services. Costs are recovered when the municipality pays the developers for housing upgrades. The municipalities recover the costs for upgrading of services by beneficiaries.

- Minimal intervention of infrastructure refers to prioritizing the tasks in upgrading of the living conditions. The beneficiaries' financial situation needs to be considered and will be the determining factor of the project. Financial constraints may limit the scope and time frame of the upgrade. To respect this requires an adapted plan to existing structures.

- Improvement of the environment and management of the surrounding area needs attention as well. Upgrading is not only limited to garbage collection, sanitation and adequate water supply. Upgrading should also include problems linked to the economic environment and physical surroundings outside the housing structure (De Bie, 2001:2).
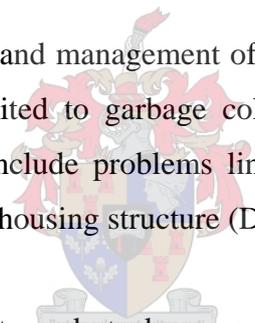
Upgrading of the housing environment needs to be complemented by sectoral reforms. Sectoral reforms are a way of removing obstacles that inhibit low-income groups from gaining access to resources. These reforms include financial aid, governance, social capital, job creation and targeted activities. The private sector needs to participate more than providing financial aid and access to credit for low-income groups than it does presently. This includes providing micro-credit for households and investments in small business enterprises. At the same time, the private sector needs to remove obstacles in the way of informal businesses. Partnerships between the private sector and low-income groups are necessary to create better financial solutions for the problems facing these communities. The private sector should provide financial support to low-income groups (The World Bank Group, 2001:3).

Reforms in job creation refer to information about job openings, community centres and skills development training that should be made available to low-income groups. Reforms in social capital will help low-income groups that do not have access to information, organizational capacities or

social capital. Poverty alleviation methods such as social safety nets, public works employment, better health care facilities, skills' development training, schools and childcare are needed. Sectoral reforms should target facilities such as youth centres and sports clubs for the youth. These are avenues and efforts that can be built to improve the economic situation of low-income groups (The World Bank Group, 2001:3).

2.4.2.1 Hostel upgrading

This study investigates the satisfaction levels regarding housing of residents in state-subsidised housing units in Kayamandi. These units were financed through the hostel redevelopment programme that aims to create humane and better living conditions in the public sector hostels. Therefore hostel upgrading will be discussed in more detail.

In the past hostels were built as transit camps for temporary migrant workers and they were intended to house individuals, not families. The toilets and shower facilities in these hostels were not built inside the rooms but rather in a shower area in another section of the unit. Hostels were meant to house men and not women and children. However, these male workers eventually became permanent workers and were joined by their wives and then their families.

The redevelopment programme does not only provide living conditions that are more humane and livable for residents of hostels, but it also contributes to the development of individuals through empowering and encouraging them to participate in local economic development. Redevelopment further aims to integrate society in decision making. Local efforts to better manage, administer and sustain redevelopment improvements and socio-economic efforts are a goal of the local government (National Housing Code, 2000:15UF).

Hostels all over South Africa have been upgraded from single units to family units with the aid of the public sector redevelopment programme. Families with a monthly income of less than R3 500 qualify for a grant of R25 800 for a family unit. Individuals earning less than R3 500 per month qualify for a grant of R6 400 to buy a single unit (Department of Housing, 2005).

There are two tenure options for a redevelopment scheme. Units are either available for rent or to buy. If the local authority decides to provide rental accommodation in the upgraded hostel development the grant provided for upgrading per qualifying beneficiary is R25 800 for a family

and R6 400 for an individual (Department of Housing, 2005). The amount available for upgrading to qualifying beneficiaries either for rent or to buy is the same. The local authority provides the rent option when there is a higher demand for renting accommodation than ownership. Local authorities prefer to have hostel upgrades as a rental option, especially for individuals. They recommend that families who want the ownership option apply for subsidy houses instead (National Housing Code, 2000: 14UF).

According to the National Housing Code (2000: 43UF) the redevelopment scheme, which includes the upgrading of hostels, is an inclusive programme where all the concerned stakeholders, also known as the governing body, must be consulted. The governing body includes the hostel residents, developers, municipalities and the Provincial Housing Development Board (PHDB). A local negotiating group (LNG) should be consulted in this regard. The governing body needs to determine the income group within which the hostel residents fall and do a survey on the social and economic capacity of the residents. This survey determines the needs of the hostel residents and what they can afford to pay for housing and services.

The National Housing Code (2000:43UF) specifies that the redevelopment process should ensure that nobody has been left out during the redevelopment process. If displacement occurs, then alternative accommodation should be provided for that family or the individual. Special provision should be made for women who may not be legally competent to contract in terms of the law. When a redevelopment scheme is identified, all the occupants of the hostel need to be registered. This registration is simply a list containing all the residents' names that have a right to benefit from the scheme (National Housing Code, 2000:15UF).

The application process by municipalities for the upgrading of hostels is made up of four different stages. This includes the notification stage, the consultation and preliminary stage, the detailed design stage and the tender stage. Initially, the PHDB and the provincial government receive an application from an applicant who states his/her intention to initiate a hostel redevelopment project (notification stage). In this application the name, address, size, facilities and description of the hostel must be given. In the consultation and preliminary stage a Local Negotiating Group (LNG) consisting of community members, local contractors and local authorities is established and details of the members, how often they meet and their capacity and function are recorded. Once the notification has been approved and the LNG has been established, the LNG accepts proposals from

consultants and briefs the consultants on the objectives of the programme. Together with the consultants the LNG identifies the needs and goals of the project and draw up a budget.

After the budget has been approved for planning, the applicant applies for public redevelopment funding and permission from the PHDB to proceed with the plans. Once approval has been granted for the designs and redevelopment process (detailed design stage) they put out a tender, which must also be approved (tender stage). Once approval has been granted for the designs and redevelopment process, the LNG advertises for tenders, who must also be approved. The tenders are then responsible for submitting a report on behalf of the municipality. If there are any discrepancies in the actual and estimated costs and planned and tendered construction, the discrepancies are addressed (Department of Housing, 2002c:16).

After approval the PHDB keeps watch over the project to make sure that the project is executed according to the goals and objectives set by the consultants and the LNG. It keeps record of the progress made during execution and assists where assistance is needed (Department of Housing, 2002c:17).

Housing plays a very important role in the lives of all people. It is a basic need as well as a right for all people to have shelter from the elements. Housing in general and the role that housing plays in the people's lives, is subsequently explained.
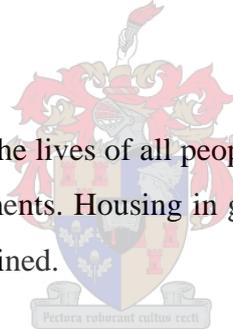
2.5 HOUSING THEORY

The right to adequate housing is one of the most important basic human rights recognized in many international Human Rights treaties (The right to adequate housing, 2002:1). Housing addresses basic human needs. At a primary level Van Vliet (1998: xix) says that housing acts as shelter. Housing as a shelter is limited to the building itself. This offers protection against crime and extreme levels of cold, heat, high winds and other dangerous weather situations that may threaten the well-being of people.

2.5.1 Definition of Housing

The word *house* is both a noun and a verb. The term *housing* thus refers to the physical structure as well as to what it does, namely to provide security and access to social and economic amenities. As a noun housing refers to a product. It could be between an individual artifact (in other words a

single house) or a collection of units (apartments and the national housing stock) (Mmakola, 2000:5).

Housing is not limited to the physical structure only and therefore it entails more than bricks and mortar. It requires available land, the actual process of building the house, appropriate services such as provision of water, sewerage removal and the financing of all these (The right to adequate housing, 2002:1). Therefore as a verb, to house is viewed as a process.

2.5.2 Housing process

Housing as a process includes the provision of houses, how people become housed and the role that the house plays in the life of the individual, the family, and society as well as how the houses are maintained (Mmakola, 2000:5). Housing as a process also emphasizes the importance of housing in job creation and economic development (Cornelissen, 2001:20). Housing as a process is ongoing and it suggests that people should get involved in the construction of their own homes. This refers to participation in the different phases of housing construction. Participation means that people have a say in what type of housing they want. This participation might lead to the formation of small construction companies as a result of the skills that participants acquired during the housing process (Cornelissen, 2001:21).

As a process housing needs to be implemented successfully. For successful implementation to take place, housing should also seek to create a unique place of belonging for occupants. Housing is also a commodity that can be produced and exchanged in economic transactions. From an economic perspective, housing represents the largest financial investment most households make in their lifetime. As a social or collective good, housing is the centre of relations in a community. It defines social positions of different members of society and shapes interactive patterns amongst societal members. As a package of services and a sector of the economy, housing includes services such as water and sanitation, which makes environments more habitable (Mmakola, 2000:5).

According to Van Vliet (1998: xix) there are other important functions that housing fulfils. At a household level housing provides physical enclosure for domestic behaviour – a place where occupants have privacy for their daily activities, where they can cook, eat, socialize and rest away from the outside world. Housing forms a basis for individual, family and community activities where there are interactions with neighbours, work-related activities, schooling and shopping.

Housing entails more than a physical structure and having a roof over one's head. It is also a place that people make into a home and to which they become emotionally attached.

2.5.3 The role of housing

The construction of formal housing structures moves low-income groups away from informal settlements and shack dwellings into formal houses, a better constructed neighbourhood and into communities. According to Cornelissen (2001:22) housing plays a major role in enhancing the quality of life for low-income groups. Housing should provide habitable environments with adequate infrastructure. There should also be a safe delivery of housing opportunities. When housing is adequately provided it ensures the provision of social services and encourages the establishment of sustainable communities (Ralegoma, 2004:83). This is not always the case in most new housing developments.

Rukwaro and Olima (2003:144) identified aspects that developers and authorities should consider when a housing development is planned. These aspects are physical planning (planning for land use), management of assets and resources, development control of the area, buildings, car parks, informal settlements and security (community policing, neighbourhood watches). Infrastructure (roads, transport systems, street lighting, water, sewerage, solid waste management) and social welfare (health facilities such as public health centres, primary health care facilities and schools) are also included. Social welfare also includes issues affecting society, such as homelessness, unemployment and public transport and the environment.

Adequate housing is said to improve living conditions. Adequate housing can improve labour productivity because workers are less likely to stay away from work due to sicknesses contracted as a result of poor living conditions. People who are properly housed have pride in themselves and their community and they might feel motivated to maintain and upgrade their houses. Housing may also lead to employment opportunities. These are generated by new housing developments because there is a demand for consumer products such as household appliances and furniture. This therefore stimulates production in these sectors. Another employment opportunity is the supply of building material where the construction of housing creates a demand for products like cement, bricks, glass and wood, and thus stimulates production of these materials (The right to adequate housing, 2002:3).

Housing is an investment in infrastructure, such as roads, water and sewerage systems. This stimulates economic growth by increasing the accessibility of job opportunities to the unemployed. Housing construction creates new markets for products as communities become more accessible to suppliers of goods and services via better road networks. This further creates direct employment opportunities in the construction sector. A household's privacy is enhanced by proper housing and this improves the quality of life of such households. Housing should create a stable community, further contributing towards improved safety and security (Department of Housing, 2002a:1).

It is important to determine the residential satisfaction of occupants that live in low-income housing developments. The evaluation of residential satisfaction is important in any housing project as it presents to developers the views, perceptions and preferences of housing occupants. A discussion on residential satisfaction and factors that influence this follows.

2.6 RESIDENTIAL SATISFACTION

Residential satisfaction is influenced by the occupants' perceptions of the various aspects of the house, the aspects of the community and how the house and the community are managed. Occupants tend to make an immediate comparison between their previous dwelling and their present housing and that also influences residential satisfaction. In the evaluation of residential satisfaction certain characteristics, services and amenities in the residential environment may be identified that play a role in housing satisfaction. Residential satisfaction or housing satisfaction gives an indication of how people respond to the environment in which they live (Francescato, 1998:484).

People evaluate performance of the environment according to their needs and this influences residential satisfaction. The relationship of people with their environment is based on the relationship between a person's characteristics (background, their feelings, beliefs, attitudes and behavioural tendencies) and the social and physical components of that particular environment (Francescato, 1998:484).

The residential satisfaction of occupants is often compared amongst themselves. Aspects of a housing environment that relate the most to residential satisfaction and the degree of satisfaction of residents with those aspects, can be identified. The results of research can guide architects and developers in the planning of low-income housing developments. Research helps planners,

designers and developers to improve living conditions, housing types, designs and construction of residential settings. This will lead to increased housing satisfaction of residents and improve unsatisfactory housing conditions, especially for low-income groups. This group does not always have access to adequate resources (Francescato, 1998:485).

If occupants' attitude towards their community is favourable and their levels of satisfaction are high, they will behave in a way which will be beneficial to both the housing unit and the community. The occupant will contribute towards the maintenance of the housing unit and the neighbourhood and participate in community activities and events. Such occupants display higher levels of satisfaction (Amerigo & Aragones, 1997:52).

2.6.1 Evaluation of residential satisfaction

Measuring residential satisfaction is therefore important because it broadens one's understanding of how and why occupants respond to certain factors in the environment in which they live as well as to certain housing types and living conditions. It provides information that can be used to improve residential living conditions of those people whose preferences and requirements are not known through the normal housing channels and markets as they relate to the more affluent segment of the population. Research further needs to identify methods and ways to increase access to resources in order to maximize residential satisfaction (Francescato, 1998: 485).

Residential satisfaction should be evaluated in low-income housing areas and amongst low-income groups, because these are the groups who usually cannot move away if they are dissatisfied with the areas or housing units they live in. Residential satisfaction is based entirely on the occupant's individual definition of residential quality. For instance, one occupant's idea of good residential quality will be to have a toilet inside the housing unit whilst for another it may not be. Residential satisfaction also depends on culture and, in some cases, different socio-economic levels. Occupants usually compare what they consider to be high or good residential quality to the current residential environment in which they reside. When the gap between what they expect and what they have decreases, residential satisfaction increases (Amerigo & Aragones, 1997:53).

2.6.2 Influences on residential satisfaction

The housing structure, the environment and the larger community all play a role in whether or not people are satisfied with their residence and residential environment. Therefore, for the residential environment to be successful and for it to contribute to residential satisfaction, careful site planning is essential. Site planning occurs when developers and constructors plan where they will build the residential area and determine how far it will be from other amenities. This will create a well-balanced environment (Nelischer, Perkins & Smith, 1997:229-230).

In this context, the environment extends beyond the physical factors, namely the house, the housing development and the community, but it includes social and economic factors. Social factors (social environment, social characteristics of the community, density and the private outdoor areas) and economic factors (income and socio-economic background of residents) can increase or improve satisfaction levels of housing residents. If residents are satisfied with the services, and other aspects in the community meet their needs, they will continue to live in that residential environment (Francescato, 1998:484). Therefore, these services and amenities can provide an indication of residential satisfaction.

Previous studies suggest that residential satisfaction is affected by objective variables such as the housing and environmental conditions. Housing and environmental conditions include the quality of the neighbourhood, social environment, physical environment, quality of and access to community services, and the quality of the residence, home ownership and location of the residential environment. The household's demographic composition such as age, gender, income and parental status of occupants are also objective variables that influence satisfaction. Physical form, which is an objective variable, can directly influence residential satisfaction through aesthetic and functional appeal and may also indirectly affect satisfaction through the influence on access to services and social interaction (Yang, 2004:1).

Francescato (1998:484) agrees with Yang (2004:1) and adds that environmental characteristics influence residential satisfaction. Environmental characteristics are social and organizational aspects like social interaction among occupants, children's play area, activities provided for teenagers, participation of occupants in activities such as tenant meetings, different organizations for the community, stokvels (community saving schemes) and formal and informal social gatherings of residents that influence residential satisfaction. The two prominent variables that

affect occupants' rating of satisfaction are age and income. Satisfaction is said to increase with the age and income of the occupants (Shaw, 1994:8-9).

The layout of the community, namely how the houses and open areas have been arranged, has the ability to facilitate social interaction among community residents. The layout determines how that space is used. The behaviour of occupants in a community depends on where that behaviour takes place and how satisfied occupants are with the activities that they perform in that setting or place. Social activities strengthen community ties and the communal fabric (Abu-Ghazzeh, 1999:41).

Abu-Ghazzeh (1999:62) reported that his study found that children's play areas are also a place of interaction for both parents and children, especially for mothers whilst supervising their children playing. Noise levels near play areas influence levels of satisfaction. Occupants living closer to the play area are more affected by noise.

Francescato (1998:484) refers to research on residential satisfaction that was done in Sweden. This was initiated to give a voice to low-income households who had no platform to air their views. These households were neglected by the housing sector, but their needs, housing expectations and interests needed to be voiced as they, under normal circumstances, did not have adequate access to the housing market. Despite the housing shortage for low-income households, research indicated a high incidence of vacancy in high rise housing developments. Occupants were not satisfied with these houses and instead decided to return to the slums (Francescato, 1998:485). This was also the case in South Africa where occupants of RDP houses in Khayelitsha, Cape Town, sold houses at a loss and returned to their shacks (Breaking new ground in housing delivery, 2004:3).

Residential satisfaction is also a subjective evaluation and relies heavily on the individual's views, perceptions, previous experiences, behaviour, norms, values and emotions (Francescato, 1998:486). According to Athram (2000:1) the socio-economic background of occupants influences aspirations of occupants regarding their house.

Amerigo and Aragones (1997:51) point out that psycho-social aspect play a bigger role in residential satisfaction than physical features. Therefore occupants of housing units display higher levels of satisfaction when they relate well with their neighbours and when they are attached to their residential environment. Resources, for example equipment in the unit and infrastructure, also influence residential satisfaction but to a lesser extent than psycho-social aspects.

In a post-occupancy evaluation study (Liu, 1999) to determine the residential satisfaction of occupants of a public and private housing estate in Hong Kong, it was noted that social status reflected respondents' perceptions of residential satisfaction. The research found that residents with a high social status who lived in private housing estates were more satisfied than those with lower social status who lived in public estates. The researcher recommends that developers and designers should consider the effects of this attribute on residential satisfaction. This study also investigated the adequacy of daylight and natural light in housing units and lighting levels of public areas in the housing estate (Liu, 1999:516). Residents were satisfied with the position of the windows, privacy from neighbours, ventilation and amount of natural light inside their units (Liu, 1999:521). This influenced their residential satisfaction.

The evaluation on the durability of building materials and sanitary fittings revealed that respondents were dissatisfied with the maintenance and cleanliness of the building estate and quality of the building materials (Liu, 1999:520). The researcher recommends that housing authorities should pay attention to the final housing product delivered by developers. However, he adds that it is important to note that the expectations and needs of occupants change over time and with this factor in mind, housing units should provide for adaptations and extensions (Liu, 1999:521).

Turkoglu (1997:55) identified six factors that need to be evaluated when determining the levels of satisfaction of occupants of housing units. These factors include the size and physical condition of the dwelling, accessibility to the city centres, the workplace, hospitals and shopping centres as well as the provision of municipal services. Furthermore, the availability and maintenance of social, recreational and educational services as well as social and physical and environmental problems, climatic control of the dwelling and satisfaction with neighbours are all aspects to be evaluated when determining levels of satisfaction.

In a study conducted by Turkoglu (1997:56) in Istanbul, Turkey, the results indicated that occupants of formal housing units had higher levels of housing satisfaction than those in squatter houses. The results from the regression analysis depicted that residential satisfaction was mostly based on satisfaction with the dwelling and the neighbourhood. The results indicated that positive physical conditions in a housing unit resulted in higher levels of satisfaction. Physical conditions include perceived physical comfort, maintenance and appearance of the housing complex, layout and the size of the house. Occupants were less satisfied with the community if physical problems were present, for example noise, air pollution, and unsatisfactory climatic conditions of the housing unit.

Attributes that also influenced residential satisfaction, were positive location as well as accessibility to other amenities of the housing complex. These amenities included accessibility to facilities such as the workplace, shopping centres, municipal services and the city centre (Turkoglu, 1997:65-66).

The research results of a study conducted by Abu-Ghazzeh (1999:44) on social interaction reported that residents rated a neighbourhood, the community and social interaction in the community and that this influenced residential satisfaction. The relationships which residents had formed in the community were of significance. The researcher showed that social interaction with other members of the community was based entirely on whether the occupant chose to interact with others or not. The more neighbours communicated, talked about problems and borrowed things from each other, the closer they became. If community members knew each other by name, lived within close proximity to each other and had friends in the community, they had higher levels of satisfaction with the community and with their social situation (Abu-Ghazzeh, 1999:53).

The above research results indicate that an opportunity for social contacts, proximity to others and space for interaction all enhance social interaction. A combination of the population size, density and social heterogeneity are factors that influence social interaction. Therefore the design and the layout of the housing complex and the community may create an opportunity, support and/or inhibit social interaction. This influences who interacts with whom and where (Abu-Ghazzeh, 1999:41) who found that where people live together in a physical environment or if housing units are within a short distance from each other, they have a greater chance of meeting each other. If they live within the same physical setting they have a greater chance of forming friendships and interacting socially (Abu-Ghazzeh, 1999:42).

Furthermore, the design of outdoor spaces also affects the patterns of use of these spaces by residents. The amount of space between housing units and spaces which residents share, determine which people meet and relate to each other. The more paths residents share, the more they are likely to meet. These paths lead to and from housing units to activity sites such as shops, taxi ranks and routes to the city centre (Abu-Ghazzeh, 1999:43).

In his study Abu-Ghazzeh (1999:57) concluded that most social interaction took place in the streets, parking lots, open spaces and entrances to the housing units. Even neighbours who did not know each other well, greeted one another when they met in the streets. Walkways were found to be a source of outdoor activity, especially among the elderly. Walkways provide an opportunity to view the surroundings and landscape and to get close to the neighbours (Abu-Ghazzeh, 1999:61).

Abu-Gahzzeh's (1999:57) results further indicated that children's play areas were social areas for both parents and children, especially for mothers whilst supervising their children playing. Noise levels influenced levels of satisfaction. Occupants who lived closer to the play area were more affected by noise. Noise levels were found to be highest during summer, after school hours and during school holidays. Noise which particularly annoyed and affected occupants were moving furniture, shouting, closing doors, loud music, drilling and jumping on stairs (Abu-Ghazzeh, 1999:62).

The topography of an area determines the spatial structure and open spaces for social interaction in a neighbourhood. Therefore the community should be designed in such a way that it flows, has a transition between various public spaces and that occupants are not isolated from neighbouring areas (Abu-Ghazzeh, 1999:68).

In a study conducted in 2003 by Rukwaro and Olima Clay city estate in Nairobi, occupants identified the provision of roads, security lighting, drainage and sewerage facilities, adequate parking facilities, security in the environment and proximity to social amenities as aspects that contributed to their levels of satisfaction. Occupants felt that if there were adequate roads to and from the estate, this area would be less congested. Adequate lighting in all areas such as the roads, the premises and gates and external walls of the building would reduce crime by exposing potential offenders. Sewers and drainage provision and maintenance and management were the responsibility of occupants (Rukwaro & Olima, 2003:154).

These researchers further reported that social amenities for example schools, nurseries, playgrounds, hospitals, clinics, community halls and entertainment areas should be included during the planning and implementation of the development (Rukwaro & Olima, 2003:154). The research in Clay city estate in Nairobi found that occupants of a housing unit may be satisfied with the design of the housing unit and complex, but they may be dissatisfied with the housing process (Rukwaro & Olima, 2003:155).

Post-occupancy evaluation of existing low-income housing developments may lead to problems being identified and avoided in future developments. This may save developers and designers much money. At the same time POE gives low-income groups the opportunity to air their views on a housing development. The following discussion describes POE in detail.

2.7 POST-OCCUPANCY EVALUATION (POE)

Post-occupancy evaluation is a systematic evaluation of opinions about buildings in use, from the perspective of the people who use them. It is an assessment of how well the building matches the users' needs, and identifies ways to improve building design, performance and how it can fit the purpose for which it was built. POE systematically analyses a particular environment to gain understanding of the impact it has on occupants of a building and its environment, hence how it facilitates or inhibits daily activities of the occupants (Watson, 2003:1). POE is conducted after the building has been occupied for some time so that occupants are accustomed to the new space and the experience of moving does not bias the results (Huizenga et al., 2003:4).

Systematic analysis is important for various interest groups as it assists them in realizing the potential and limitation of their building and environment (Watson, 2003:1). POE gives managers of buildings a new, efficient diagnostic tool which can be applied to any building type, size and which provides both negative and positive data on building performance (Tseckares & Monis, 1993:6). An environment for POE can be an individual building and its setting or a particular group of buildings and their settings. It can also be an individual urban space (Watson, 2003:1).

In post-occupancy evaluations of buildings occupants ask questions and also provide answers to design professionals. Occupants can have a significant impact on creating change in terms of improving the use of buildings. Their input is two-fold. Firstly, they provide information and feedback to the architect and the construction company responsible for the design of the building environment. This can lead to improved building design and can influence and change the roles of professionals involved in a building project so that flaws in design, or construction-related mistakes are not repeated. Secondly, by empowering end-users through post-occupancy evaluation occupants help to provide benchmarks and contribute towards research on architecture and buildings to show how the end product (the building design and its management) will meet the needs of the occupants. Post-occupancy evaluations can show what works and what does not work
in the design of a building (Enright, 2002:26). POE consists of gathering information in several forms including the use of data, occupant satisfaction data and interviews with key design construction and operation personnel (Carmody, 2002:6).

Occupants, designers and owners of buildings all benefit from POE. POE empowers the occupants because it gives them an opportunity to air their views, perceptions and opinions on how the

building performs and how they think it should perform. According to the School of Works Ltd (2004:2), if occupants feel that they have been fully involved in planning and all decision making related to the building they are much happier with the finished product. As the design is applied the occupants begin to understand the implications of the spaces and facilities they asked for. Designers get a view of the occupants' perceptions and opinions. Through this process the designers become aware of what users need and what is important to them. Owners of buildings can benefit from POE as it allows for occupant participation. This helps occupants accept facilities and adjust their activities to suit the new building (Enright, 2002:44).

Post-occupancy evaluation uses the direct experiences of occupants of an environment as the fundamental principle to evaluate the intended use of a building. The occupants and other people with an interest in a building, evaluate the setting. This includes managers, customers or clients, visitors, owners, design and maintenance teams, and particular interest groups such as the disabled. All of the above are affected by the performance of the building because they will use the building at one stage or another (Enright, 2002:44).

2.7.1 Benefits of POE

According to Watson (2003:3) there are many benefits of post-occupancy evaluation. By understanding how buildings support or inhibit activities, buildings can be fine-tuned and management practices can be adjusted. The smallest adjustments to buildings and the ways these buildings are used impact the most and benefit occupants more than drastic measures. Through POE designers can discover how similar buildings perform once they are in use. Designers can capitalize on successful design features and learn to avoid past mistakes.

Post-occupancy evaluation is also a valuable tool for assessing building quality, since designers, owners and building managers are held accountable for the success or failure of the building. Furthermore, POE identifies ways people can use buildings and equipment more efficiently and more cost-effectively. Dysfunctional or seldom-used building features can be eliminated or replaced and mistakes corrected in future designs. This way money is saved because there will be no need to spend money on renovating or making repairs to the newly designed building (Watson, 2003:3).

Post-occupancy evaluation is an important tool in planning the refurbishment of existing buildings. It helps to clarify perceived strengths and weaknesses of an existing setting to focus resources

where they are needed. It is also used to identify where building design adjustments are needed to support changing practices, markets, legislation and social trends. POE involves the occupants (users of buildings) by requiring them define how buildings work for them. Participation in evaluation identifies ways to design and use buildings and equipment more effectively. The way a setting supports or inhibits the occupants' activities will impact on how they relate to the building (Watson, 2003:3).

Preiser, Rabinowitz and White (1988:5) differentiate between short-term, medium-term and long-term benefits of POE. Short-term benefits result from the immediate use of the POE findings, namely the successes and failures in the building. Medium-term benefits relate to the major decisions made about the re-use and remodelling of the new construction. These decisions are used to solve the existing problems of the building. Long-term benefits involve findings that will improve the entire building construction industry. According to Strategic Assessment Management (2003:2) benefits of POE are to improve project briefings, thus promoting the functionality and cost effectiveness of the building, to improve the management of buildings by identifying maintenance and other recurrent costs and to improve the operational process by providing better services that meet the needs of occupants.
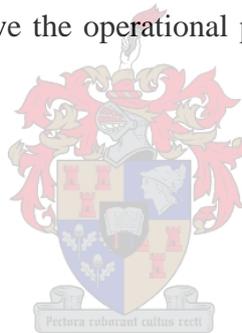
2.7.2 The process model of POE

Preiser, Rabinowitz and White (1988:53) refer to POE as a process model. This model covers the levels of effort, major phases and steps involved in conducting POE. It consists of three levels of effort, namely the indicative, investigative and diagnostic level. Levels of effort refer to the time period and extent of evaluation. There are also phases in POE namely, planning, conducting and applying post-occupancy evaluation. Each phase consists of different activities that need to be carried out. This process model can be applied to the evaluation of any building type and size.

Indicative POE gives an indication of the major successes and failures of a building's performance. This is a quick (one hour to two days) evaluation. It is inexpensive, requires less evaluation issues and yields good results. It requires systematic application and uses data-gathering methods such as well-defined walk-through evaluations, archival and document evaluation and interviews. Research planning in indicative POE is straightforward and simple. It does not require any further testing or developments of explicitly stated performance criteria, but is based on existing ideas and

developments such as the type of building being evaluated. Furthermore, the research plan is derived from the goals of the project (Preiser, Rabinowitz & White, 1988:54).

Investigative POE elaborates on indicative POE and is a more in-depth, thorough, complicated and time consuming than indicative POE. When indicative POE identifies issues that warrant more detailed study, it is followed by investigative POE. It makes use of a more integrative application, and is more comprehensive and more reliable than indicative POE. The evaluation criteria are explicitly stated before the evaluation of the setting and each element to be evaluated is measured. Unlike indicative POE, investigative POE requires more time for preparations to develop a research plan and performance criteria. It monitors specific functions over time and compares them to existing performance and evaluation criteria (Preiser, Rabinowitz & White, 1988:56).

Diagnostic POE involves a multi-method strategy to gather information. Questionnaires, surveys, interviews, observation and physical measurements are used. It involves high efforts and is more costly than indicative and investigative POE. It takes from several months to a year to do the evaluation. This evaluation makes use of triangulation to ensure credibility of its findings and the analysis of the methods involves more sophisticated and more rigorous automatic recording devices. Analysis combines several categories of research and develops its own performance criteria for each element (Preiser, Rabinowitz & White, 1988:57).

Strategic Assessment Management (2003:3) also refers to three levels of effort for POE, namely the broad level, the detailed level and a combination of both the broad and the detailed level. The broad level can be compared to the indicative level of Preiser, Rabinowitz and White (1988:54). This level of effort also uses fewer resources and is done routinely on new buildings. The detailed level is more in-depth and intensive and uses more resources. This can be compared to the investigative level of effort of Preiser, Rabinowitz and White (1988:56). The third level is a combination of both the broad and the detailed levels of effort and is more detailed and highly effective, and results indicate issues identified as priorities. Resources are then focused on these issues.

Preiser, Rabinowitz and White (1988:58) outline different phases and steps involved in conducting POE. These include activities, justifications, resources and the results involved in the different phases of planning (Phase 1), conducting (Phase 2) and applying (Phase 3) of POE. These phases are in accordance with the POE phases of other authors (Watson, 2003:5; Strategic Assessment

Management, 2003:5). See Table 2.5 for a comparison of the different phases of POE by various authors.

Table 2.5. A comparison of the different phases of POE

PHASE	Preiser, Rabinowitz & White (1988:58)	Watson (2003:5)	Strategic assessment management (2003:5)
1	Planning phase o Do reconnaissance and feasibility study o Plan resources o Plan research	Preparation phase (2-3 weeks) o Identify users o Select users o Draw up timetable	Pre-evaluation phase o Initiating a POE o Define the scope o Select level of evaluation
2	Conducting phase o Initiate on site data collection o Monitor and manage data collection o Analyse data	Interviewing phase (1 week) o Interviews o Walk through o Observations	Evaluation phase o Develop data collection methodology o Select data collection instrument o Conduct and analyze the survey
3	Applying phase o Report findings o Recommend actions o Review outcomes	Analysis and reporting phase (3-6 weeks) o Documentation o Recommendations o Compile and present report	Post-evaluation phase o Implement actions and measure effectiveness o Measure effectiveness o Measure performance

2.7.3 Planning the POE

During the planning phase of POE all the preliminaries to organize and initiate the evaluation process are done. Watson (2003:5) refers to this as the preparation phase and Strategic Assessment Management (2003:5) refers to the pre-evaluation phase.

Reconnaissance and feasibility involves determining the level of effort, and establishing the objectives as well as the parameters of the POE. During reconnaissance the building plans are reviewed, the setting is observed, methods of data collection to be used are planned, meetings are conducted with the client, literature research is conducted and the cost is drawn up (Preiser, Rabinowitz & White, 1988:58). According to Watson (2003:5) at this stage users and participants are identified and the time table and schedule of the POE is set. Strategic assessment management (2003:5) states that at the pre-evaluation phase the POE framework is established.

Resource planning involves the allocation of personnel to various sections, calculation of the time each task takes and the detailed scheduling of the POE. Personnel should be experienced in the evaluation methods. Time-frames for different evaluations are planned (Preiser, Rabinowitz & White, 1988:59).

Research planning is the final step before conducting the POE. All the elements to be evaluated are decided upon. The research plan determines critical items to be investigated and indicators that will represent the items. It also sets the criteria to evaluate the measures (Preiser, Rabinowitz & White, 1988:60).

2.7.4 Conducting the POE

According to Preiser, Rabinowitz & White (1988:75), data collection is the key task in conducting POE. Firstly, the on-site data collection process is initiated. This includes mobilization of all parties involved. Mobilization of all parties is very important in investigative and diagnostic levels of POE because very little equipment and instruments are used and a special work area for evaluation is required. A base of operation is established, pilot testing is done and all data collection methods are coordinated. Strategic Assessment Management (2003:6) states that at this stage data collection includes focus groups, questionnaires, walk-through and workshops. A draft report is written which is later reviewed with the participants of the POE. Small groups of the same users are interviewed whilst walking through the building (Watson, 2003:5).

Secondly, the data collection procedures are monitored and managed. This is a form of quality control which is essential as it assures consistency and usefulness of the data to be collected. Inter-observer reliability is based on careful comparison of observations made by different observers of

the same scene. Reliability of data collection methods must be checked for all personnel (Preiser, Rabinowitz & White, 1988:75).

Thirdly, the data is analysed. This involves differentiating the findings and making sense of the data in terms of the questions asked in the beginning of the research. Data analysis entails describing, interpreting and explaining the performance of the building (Preiser, Rabinowitz & White, 1988:75).

2.7.5 Applying the POE

Application of POE involves reporting the findings, recommending and planning actions and reviewing the effect of the recommended actions.

The reporting of findings depends on the purpose of the evaluation and the client. The purpose could be to identify problems and successful and unsuccessful performance in facilities. Findings might refer to aspects such as inadequate space or ventilation. The purpose of findings could also be to solve short-term problems by identifying and resolving minor building and space problems (Preiser, Rabinowitz & White, 1988:76).

Findings could also focus on resolving major environment and space problems in a facility where, for example, extra rooms have to be added. Findings could also be used for information systems and design criteria for databases (building configurations, location of activities, technical systems and user response). The purpose of this is to improve on the design of new settings (Preiser, Rabinowitz & White, 1988:76).

In reporting the findings of indicative POE the focus is on the identification of problems and short-term objectives. The findings are briefly stated and concentrate on the successes and failures of the building. In reporting investigative POE findings the focus is on medium-term objectives. Findings are presented in report form and contain both the evaluation criteria and performance measures for each element studied. Both the abstract and the summary in the report are very important (Preiser, Rabinowitz & White 1988:77). Participant findings are documented and from these findings recommendations are generated. A report is then compiled and presented (Watson, 2003:5).

The findings of diagnostic POE reports are detailed and technical. Reports include executive summaries of findings, an introduction, methodology, data analysis, findings, the conclusion, an

appendix or appendices and a bibliography. Reports also include photographs, videos, tapes and questionnaires (Preiser, Rabinowitz & White, 1988:78). POE findings are implemented, actions are taken and the effects of the actions are measured. A measure of the success of a POE is the degree to which outputs such as the recommendations and action plans are implemented (Strategic Assessment Management, 2003:7).

This chapter gave an in-depth description of the relevant literature which relates to the study. The South African housing context as well as the South African housing policy was described. Residential satisfaction and post-occupancy evaluation were also explained. The next chapter describes the procedure followed during the study in order to achieve the goal of this study, namely to do a post-occupancy evaluation of state-subsidised housing units in Kayamandi, Stellenbosch. It also explains the research design, the procedure and the data analyses used to conduct this study.
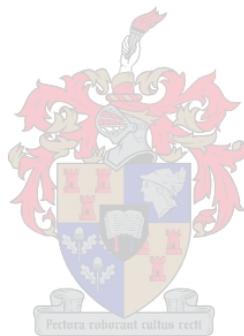
CHAPTER 3

METHODOLOGY

Chapter 2 provided a detailed description of related literature as well as a theoretical framework for this study. This chapter documents the design and methodology followed to achieve the goal of this research, namely to do a post-occupancy evaluation of state-subsidized housing units in Kayamandi, Stellenbosch.

The research design of this post-occupancy evaluation research study is an integration of both qualitative and quantitative research methodology. The research uses descriptive as well as tabulated and numerical data. Bamberger (2000:12) states that unstructured questions use a qualitative approach which has no categorization, and notes are taken. Quantitative data collection is done in numerical form with pre-coded categories. The questionnaire is usually administered to a large number of individuals or households.

The post-occupancy evaluation data was collected using the survey method. Surveys are used to collect the same information from different people (Aldridge & Levine, 2001:5). Surveys using a questionnaire rely on directly asking people questions to get information from them. Some questionnaires can be completed by respondents. These are known as self-administered questionnaires (Fink & Kosecoff, 1998:1).
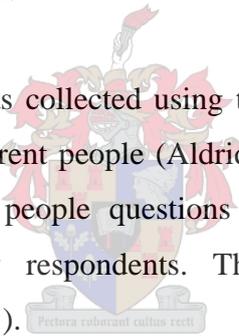
This research was conducted using a document study, a semi-structured interview questionnaire and observation to gather data. All the relevant procedures and techniques are described.

3.1 GAINING ACCESS TO THE FIELD

The area where the research was conducted is situated in zone L in Kayamandi, Stellenbosch. Zone L is home to about 1 200 people and the area consists of mostly shacks and the state-subsidised housing units of Project 5a. Occupants of the state-subsidised housing units were previously occupants of hostels, shacks in the backyards of these hostels or residents of shacks along the Kayamandi main road. When the road was widened the occupants were moved to the Project 5a housing units. The hostels from which occupants were moved were in such a bad

condition that these hostels could not be upgraded. With the permission of the government, the Stellenbosch Municipality developed 175 subsidised housing units with funding from the hostels' redevelopment programme.

The Stellenbosch Municipality is responsible for providing low-income housing in Kayamandi. This municipality was awarded both the National and the Provincial Housing Project of the Year awards by the Institute of Housing, South Africa for this housing development. The researcher identified the need to conduct a post-occupancy evaluation in a housing development that won an award as "Project of the year".

To gain access to the field, the researcher held meetings with the area housing manager in charge of low-income housing in Kayamandi, the project manager of Housing at the Stellenbosch Municipality as well as a representative from Dennis Moss Partnership Inc., the developers of these state-subsidised housing units in Kayamandi. Permission was received form the Stellenbosch Housing Department to conduct the research in Kayamandi.

3.2 PROCEDURE OF DATA COLLECTION

Data gathering techniques and instruments that were used in this research included a document study, a semi-structured interview questionnaire and observations.

For the purpose of this study a context analysis was done to describe the area where the research was conducted. In order to measure levels of housing satisfaction and expectations of occupants with regard to the housing units, the housing complex, the community and the housing process, the study group in the research was identified using a random sample of the occupants of the state-subsidised housing units in Kayamandi. The measuring instruments were designed. This included a questionnaire and an observation checklist. These instruments were pilot tested and administered.

3.2.1 Context analysis of Kayamandi

In order to achieve the objective, namely to do a context analysis of the housing situation in Kayamandi (Objective 1.2.1), a document study was done. Documents studied included the Integrated Development Plan (IDP) of the Stellenbosch Municipality (Stellenbosch Municipality

the researcher to fill in the response exactly as was given by the respondent. Closed-ended questions had pre-selected responses to the questions (Hall & Hall, 1996:99). The questionnaire was also translated into Isixhosa to accommodate respondents who did not understand English. An interpreter was used to translate the responses to the researcher. The questions were read out to the respondents and they provided their answer to the researcher and interpreter.

3.2.2 Sample selection

To identify factors which influence levels of satisfaction with regard to the housing units, the housing complex, the community and the housing process (Objective 1.2.2), to determine the occupants' expectations of the housing units, the housing complex, the community and the housing process (Objective 1.2.3) and to compare the occupants' expectations of the housing units, the housing complex, the community and the housing process with their housing experience (Objective 1.2.4), a survey was undertaken in Kayamandi using a semi-structured interview questionnaire. The universe of the study was respondents of the 175 state-subsidised housing units in Project 5a.

The study group in this research was selected using a random sample with a random start of the heads of the households or spouses of the heads of the households in Project 5a. A sample size calculator programme was used to determine the sample size (Creative research systems, 2002:9). A sample of 50 was calculated with a confidence interval of 12 and confidence level of 95%. The plots of the state-subsidised housing units were the primary sampling unit. The secondary sampling unit was the randomly selected household and the final sampling unit was the head of the household or the spouse of the heads of household to whom the semi-structured interview questionnaire was administered.

Random sampling was conducted to avoid researcher bias and to prevent respondents from influencing each other on what to answer. Random sampling ensures that the selected respondents are representative of the people living in the demarcated area and allows the researcher to make generalizations (Bless & Higson-Smith, 2000:25).

A sampling frame, which is a map of all the housing units in Project 5a, was obtained from the Housing Department, Stellenbosch Municipality. The number of housing units (175) was divided by sample size (50) to determine which units would be included in the survey:

Number of housing units / sample size = specific housing unit

175 / 50 = 3.5 rounded off to 4

A continuous line was drawn on the map through all the houses to ensure that all the houses had an equal chance of being included in the selection. To determine the starting point of the questionnaire, a random number between one and four was marked on the map. Every fourth house on the line was marked. These houses marked on the map were then visited to administer the semi-structured interview.

Where a respondent was not competent to answer the questions of the semi-structured interview questionnaire or the identified individual did not want to participate, the researcher followed a replacement procedure. The selected housing unit was replaced by the housing unit on the left of the selected housing unit, on the line of the map, when facing the housing unit. If that identified individual on the left did not want to participate, then the unit on the right of the selected housing unit on the map was visited. If that was not feasible, the housing unit to the left of the unit on the left of the selected unit was visited. If there was still no respondent, the same procedure was followed and the unit on the right was selected.

3.2.3 Design of the questionnaire

To determine the factors that influence housing satisfaction as well as the expectations and experience of occupants living in Project 5a, a questionnaire (Addendum 2) was administered. For the purpose of this research the questionnaire was administered by the researcher in the form of a semi-structured interview. This ensured that problems did not occur in situations where the respondents were illiterate.

The questionnaire was designed using a dendrogram. The semi-structured interview questionnaire consisted of both open and closed questions. Open-ended questions provided space which allowed the researcher to fill in the response exactly as was given by the respondent. Closed-ended questions had pre-selected responses to the questions (Hall & Hall, 1996:99). The questionnaire was also translated into Isixhosa to accommodate respondents who did not understand English. An interpreter was used to translate the responses to the researcher. The questions were read out to the respondents and they provided their answer to the researcher and interpreter.

The questionnaire consisted of a cover page and five sections (Addendum 2). The cover page gave a short description of the researcher and the institution from which the researcher came. The cover page also stated the reason and the purpose of the survey and requested the participation of the respondent. Confidentiality and anonymity were guaranteed to the respondent. Mouton (2001: 243) states that respondents have the right to remain anonymous, especially when face to face interviews are used as a means of data collection or where the researcher will be able to recognize the faces of the respondents. Bless and Higson-Smith (2000:161) add that respondents must be assured that the information they will provide will be used for the purpose of the research only and that responses will not be shared with other respondents. Only once respondents are assured of confidentiality and anonymity will they feel free to respond honestly and provide complete information. Therefore respondents were free to refuse to participate in the survey. The date, unit number, questionnaire number and the time of the interview were also recorded on the cover page of the questionnaire.

Section A collected the demographic and socio-economic information of the household. Section B collected information about the respondents' levels of satisfaction with their housing unit. Section C collected information about the respondents' levels of satisfaction with their housing complex. Section D collected information about the respondents' levels of satisfaction with the community and Section E collected information about the respondents' levels of satisfaction with the housing process. Each section began with an explanation of what types of questions the researcher was going to ask the respondents and, where the researcher thought it was necessary, terms such as *housing unit*, the *housing complex*, the *community* and *housing process* were explained.

Section A (Questions 1-9) gathered the demographic information of each member of the household. This included questions on the number of people who usually sleep in the house, their gender, age, highest educational qualification, whether they were attending school, their employment status, financial contribution to the household, nature of their income (grant or salary) and when they received their income (per day, week, month or year). Questions 10-18 gathered information on the place of birth of respondents, the name of the person in whose name the house was registered, how long respondents had been living in Kayamandi, language spoken at home, marital status, employment status and place of employment, distance of work from home, mode of transport used to go to work or to amenities and the type of housing respondents had occupied before moving to the housing unit.

Information on marital status and co-habiting, number of dependents in the household, employment and income were asked to determine if the occupants qualify for a housing subsidy. To qualify, beneficiaries were required either to be married or to be co-habiting (marital status), have dependants such as children or elderly people (number of household and members). Employment status and monthly income illustrate the income group of the beneficiaries. Place of employment, distance from work and modes of transport were asked to compare their expenses for transport to amenities and work with income.

Section B (Addendum 2, Questions 19-20.22) collected information about the respondents' levels of satisfaction with their housing unit. Respondents had to indicate whether they were very satisfied, satisfied, dissatisfied or very dissatisfied with different aspects of the housing unit, ranging from size and space in the unit to climatic conditions of the unit. Satisfaction with all of the mentioned elements in the housing unit was an indication that respondents were satisfied with the housing unit.

This section also consisted of open-ended questions (Questions 21-26) and allowed respondents to state their expectations when they became beneficiaries of the housing subsidy, to indicate which expectations had been met and which ones had not been met, how moving to the house had affected their families, what first came to mind when they thought about their house as well as what changes they would make to their house and outside environment if they could. Responses to Question 26 would indicate respondents' aspirations as well as their housing priorities and would therefore further indicate levels of satisfaction with housing.

Section C collected information on the levels of satisfaction (very satisfied, satisfied, dissatisfied or very dissatisfied) of respondents with the housing complex. Questions 27.1-27.18 determined the levels of satisfaction with certain elements of the housing complex. These elements included the location; design and layout; accessibility to amenities; noise levels; areas for social interaction; walkways; security and parking for cars. Questions 28 and 29 investigated the activities which usually took place in the complex as well as where those activities took place. Responses to these questions would indicate the level of satisfaction of respondents with certain elements of the housing complex.

Questions 30.1-30.20 required respondents to compare certain aspects of where they lived at that time with where they had lived previously. The respondents were required to give a Yes or No response in this comparison. Comparison with where respondents had lived previously may indicate

whether there had been an improvement in the living conditions of respondents. Question 31 was an open-ended question and required respondents to indicate what first came to mind when they thought about the housing complex. Responses on this would further indicate occupants' levels of satisfaction with the housing complex.

Section D (Addendum 2) required respondents to indicate whether they were very satisfied, satisfied, dissatisfied or very dissatisfied with certain aspects of the Kayamandi community. Satisfaction levels with regard to transport amenities, educational facilities, shops and services were determined (Question 32). Their general satisfaction with life in Kayamandi, a reason for this, whether they thought that the future for their family in Kayamandi was very good, good, bad or very bad, whether they would like to see their children living in Kayamandi and why they felt like that, were also determined (Question 33-35.1). These responses would indicate the levels of satisfaction of respondents with the community.

Section E (Addendum 2) required respondents to indicate their satisfaction with the housing process. Questions 36-38 requested a Yes or No response. Respondents had to indicate what happened during the development of the housing project. Questions centred around the identification of their needs, their participation in and contribution to the housing process, knowledge of and contribution to the design and layout of the housing unit and satisfaction with the phases of the housing project. Their levels of satisfaction with the phases of the housing project were also investigated (Question 39) as well as meetings and discussions held by community members during the housing process (Question 40). Responses to these questions indicated the levels and satisfaction of involvement of the respondents with the housing process. Involvement of the community is a criterion set by government when new housing developments are established.

It is important to investigate to what extent respondents' lives had been disrupted since they had moved to the new house (Question 41). According to Sowman and Urquhart (1998:74) any new housing project or relocation results in some levels of disruptions in the lives of individuals, families and communities. Support systems are important, especially in low-income areas, because these people do not have access to material resources such as child care when they go to work or to the shops. They rely on neighbours to look after their children for an hour or so while they rush to town.

Question 42 investigated the income of respondents before deductions. Question 43 investigated the population group respondents mostly associated with. Question 44 investigated what respondents would do if they won R500 in the lotto. This would give an indication of the respondents' priorities. Respondents had to indicate whether they were generally satisfied, very satisfied, dissatisfied or very dissatisfied with life in Kayamandi (Question 45). This would indicate the levels of satisfaction of respondents with the Kayamandi community.

3.2.4 Pre-testing of questionnaire

The questionnaire was assessed by experts for feasibility and face value and it was pre-tested. The completed questionnaires of the first day were used as a pre-test. The questionnaire was refined by the researcher where necessary.

3.2.5 Administering the questionnaire

The interpreter, acting as a fieldworker, was briefed on the objectives and purposes of the research. The researcher discussed each question in the questionnaire with the interpreter. The interpreter was then given the guidelines on how to administer the semi-structured-interview to the identified individuals and instructed not to lead or give examples to the identified individuals while conducting the semi-structured interviews.

The semi-structured interview questionnaire was administered by the researcher to the heads of households or to the spouses of the heads of households. The respondents were asked if they preferred the questionnaire to be conducted in English or Isixhosa. If a respondent wanted it to be conducted in Xhosa, the questions were read out to the respondent in Xhosa and the answers were translated to the researcher in English. The researcher was responsible for quality control of the completed questionnaires. The researcher made sure that the questionnaires were completed in full.

3.2.6 Observations

In order to evaluate the observable physical characteristics of the state-subsidised housing units, the housing complex and the community, an observation checklist was compiled from literature.

Observing the environment is an unobtrusive method. It is a means of observing and listening to what is going on in the field when collecting data. During this phase of research, information is gathered from the physical setting of the research area (Neuman, 2003:381).

An observation of both the interior and the exterior of each housing unit was done after completion of the interview questionnaire (50 observations). The date, time, unit number and weather conditions at the time when each observation was done, were noted. An observation of the housing complex and the community surrounding the housing complex was done during a walkthrough. The complex was observed once a day while the survey was conducted, except for the last day when two observations, one early morning and one late afternoon, were done (nine observations). This observation was done within a distance of 200 m from the housing complex. The community was observed once a day while the survey was being conducted (eight observations). The date, time and weather conditions at the time when each observation of the complex and community was done, were noted.

Checklists for the housing unit (Addendum 3), housing complex (Addendum 4) and the community (Addendum 5) were compiled from literature (Abu-Ghazzeh, 1999:41; Amerigo & Aragones, 1997:51; Huizenga et al., 2003:4; Turkoglu, 1997:55). According to Winston and Turner (2001:63), the construction of houses should be durable, safe, comfortable and efficient for the occupants of that particular house. This structure should then have psychological, social as well as physical features that satisfy the users' needs.

The walls of a house should provide protection and privacy for its occupants. The walls act as a support system for the roof. Therefore if the wall is not strong and constructed from a quality material, the house will not be sound, walls will start to crack and low quality paint will peel. The wall finishes provide beauty for the housing product and can improve the acoustics. The colour of the wall may improve lighting inside the unit. Proper finishes also protect the inside of the house from rain and wind. The roof of a house provides protection from the elements. Leakages damage both the structure and the contents of the house (Winston & Turner, 2001:65).

Information on the finishes of the structure was gathered to evaluate the quality of the structure and how this might influence the levels of satisfaction of the occupants. Improper construction and poor quality materials may lead to deterioration such as erosions in the floor, cracks in the walls and mildew and damp. This may influence the comfort and livability of the occupants and levels of

satisfaction of the respondents with their housing unit. It is therefore important to note all the defects in the physical structure of the house and determine how these affect the satisfaction levels of the occupants.

The observation checklist of the interior of the housing unit included the finishes of the walls; ceiling; cracks in the unit; mildew, damp and leakage; erosion of floor covering; amount of light; comfort, privacy and ventilation; extensions and improvements of the unit (Huizenga et al., 2003:4). The exterior observation checklist included finishes of the walls; structure of the roof; cleanliness and maintenance; gardens, fences, security measures; and parking for cars (Abu-Ghazzeh, 1997:41). The technical defects in the interior and exterior of the housing unit was observed. Defects may influence the respondents' levels of satisfaction.

A neighbourhood (complex and community) impacts greatly on the levels of satisfaction of residents. It impacts on the social interaction of residents as well as on the safety of occupants and children. The maintenance and cleanliness of a community or complex impacts on the health of its occupants especially on children, as they are more prone to disease. Fences, lights between houses and street lights all contribute to the safety of the complex and community. According to Bennett (2003:234) security for occupants of low-income housing is important as it reinforces their self-esteem and attitudes. If residents do not feel safe they develop negative emotions that can cause them to withdraw from society.
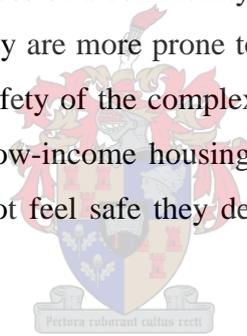
The observation checklist for the housing complex (Addendum 4) and the community (Addendum 5) included maintenance and cleanliness; fences; traffic congestion; parking; and lights between the housing units and street lighting (Turkoglu, 1997:55). The community was observed within a distance of 200 m from the housing complex. These observations may give an indication of the value that respondents place on their immediate environment and the measures they have taken in ensuring that it is well maintained and looked after.

Photographs were used to verify observations. Photographs were taken of the technical defects in the housing unit, the housing complex and the community as well as of improvements made by occupants (Addendum 6). This was done to give the reader a clear picture of the defects and/or deterioration as well as improvements in housing units, the complex and the community.

3.3 DATA ANALYSIS

According to Marshall and Rossman (1999:150), data analysis brings order, structure and interpretation to data collected by the researcher. For the purpose of this research both qualitative and quantitative data analysis were used. Data analysis is a means of reducing the data collected into a more manageable entity which can then be interpreted so that the meaning of and insight into the words of the respondents can be established (Marshall & Rossman, 1999:152).

3.3.1 Document study

The document study of the study area contains a description of the geographical area and housing in Kayamandi. The demographic composition, infrastructure and public facilities, services and the state-subsidised housing units are described. Furthermore this documentary analysis highlights the mission and strategies of the Stellenbosch Municipality that are currently implemented to meet the national housing target of eradicating shacks by the year 2014 as well as strategies to reduce the Kayamandi housing backlog.

3.3.2   Questionnaire

The semi-structured interview questionnaires that gathered information on the housing satisfaction and expectations, were analysed using both qualitative and quantitative analysis. Qualitative data analysis searches for general statements which are then recorded in categories of data. Qualitative analysis is descriptive to understand characteristics of the community and households. This has been done to allow a systematic comparison of both types of data (Marshall & Rossman, 1999:155). Quantitative data gives a detailed description of the number of respondents who indicated specific or similar responses. The quantitative data was analysed in tabulated form using frequency tables and histograms.

Data from the survey was captured in an Excel spreadsheet. For closed-ended questions or questions where response categories were provided, a code was given to each response (a number for each response in a block at each question). These numbers were entered directly onto the spreadsheet to avoid errors and to process the data (Mouton, 2001:109).

Patterns and themes in the responses to open-ended questions were noted and categorized. A code (numeric value) was assigned to each of the responses before it was entered onto an Excel

spreadsheet and analysed. Codes can be either in abbreviations, coloured dots or in numerical forms (Marshall & Rossman, 1999:155).

Frequency occurrences of words, phrases and similar responses from respondents were counted. A numerical value was assigned to responses containing the same words, phrases, themes and similar responses. All numerical values assigned to both closed-ended and open-ended questions were recorded in blocks on the right-hand margin of the questionnaire (Bless & Higson-Smith, 2000:121).

After all the data had been captured, it was validated by reviewing all the responses and comparing it with what had been captured on the Excel spreadsheet. Inconsistencies, missing systems and errors were removed. The statistical analysis program *SPSS 12.0 for Windows* was used to analyse frequency occurrences.

3.3.3 Observations

The checklists were completed during walkthroughs. The data of observations of the housing unit, the housing complex and the community were tabulated using frequency tables. Descriptions of the conditions were documented.

Photographs were taken during the walkthroughs of the housing unit, the housing complex and of the community. Observations which could not be photographed were documented in the form of notes in a journal. The results of the different defects, improvements and extensions noted in the housing unit, the housing complex and the community were counted to give more substance to the results. The results were tabulated. Photographs of the defects, improvements and extensions can be seen in Addendum 6.

This chapter documented the methodology of the study. In the next chapter the results are presented.

CHAPTER 4

PRESENTATION OF RESULTS

In the previous chapter, a detailed description of the methodology used in this research was discussed. This chapter documents the results of the study in view of the goal to determine the housing satisfaction levels of residents of the state-subsidised housing units in Kayamandi, Stellenbosch. The results are presented and discussed according to the stages of data collection as explained in the methodology (Chapter 3), namely the results of the context analysis (Objective 1.2.1), the semi-structured interview questionnaire (Objective 1.2.2, 1.2.3 and 1.2.4) and the observation of the housing unit, housing complex and the community (Objective 1.2.5).

4.1 CONTEXT ANALYSIS OF GEOGRAPHICAL AREA

To investigate the environment in which the research would be conducted, background information on the demarcated area was needed. The context analysis gives a description of the Kayamandi neighbourhood, the housing situation in Kayamandi, the demographic composition, the infrastructure and facilities and services. The housing units where the survey was done (Project 5a) are described. The Stellenbosch Municipality's strategy for service delivery will also be described as they are responsible for the provision of housing and services in Kayamandi.

4.1.1 Geographical area and housing

Kayamandi is a predominantly black township located on the outskirts of Stellenbosch. This area is 79 hectares in size. A socio-economic survey conducted in 2004 in Kayamandi by Arcus Gibb Engineering Consultants indicated that Kayamandi is home to 14 264 blacks, 354 coloureds and 18 whites (total 14 636). The latest figures indicate that this area houses about 22 000 people with an annual population growth of 10% (Stellenbosch Municipality IDP, 2005:10).

Kayamandi is divided into ten different wards (Addendum 1). The Stellenbosch Municipality IDP (2005:10) refers to the housing stock in Kayamandi as consisting of 912 formal housing units, 2 304 informal housing units, 126 traditional housing units, 38 prefabricated hostel dwellings, four

public brick hostel dwellings and 12 private brick hostel dwellings. Nine of the 54 hostel units have been upgraded. Breaking New Ground in Housing Delivery (2004:22) explains that upgraded units have two bedrooms (instead of one) with a bathroom (shower, toilet and basin) and a lounge and kitchen inside the individual unit instead of a toilet outside and a kitchen shared by all the occupants in the hostel.

Kayamandi has a housing backlog of 3 000 units and a three-year waiting list (Penxa, 2005:1). The Stellenbosch Municipality developed a partnership with Dennis Moss Partnership Inc. and this company has been responsible for low-income housing developments in Kayamandi since 1996. These developers have built eight developments and delivered 979 houses since 1996. Some of these developments are the Snake Valley housing project (built in 2001) with 133 houses of 36 m^2 with an additional 18 m^2 foundation slab provided to extend the house. Another development is Costa Land (built in 1998) which has 125 detached housing units of 48 m$^{2.}$ These units have two bedrooms, a bathroom, kitchen and lounge. The developers were also responsible for the upgrading of nine prefabricated hostels. These have been changed into semi-detached houses with two bedrooms, a bathroom, lounge and kitchen and are 36 m^2 in size (Stellenbosch Municipality IDP, 2005:12).

Currently the Kayamandi tourism centre is under construction and this has already provided employment to several residents of Kayamandi. This tourism centre will include a business centre that sells crafts, a restaurant and an information centre. These will be completed by June 2006 (Dennis Moss Partnership Inc., 2005).

4.1.2 Demographic composition

There are 3 700 households in Kayamandi (Stellenbosch Municipality IDP, 2005:10). The differences between the male and female population (blacks and coloureds) are not very great, with the males 7 345 and 7 273 females (Arcus Gibb Engineering Consultants, 2004).

With regard to the highest education levels of people over the age of 20 in Kayamandi, the situation is as follows:
- ❖ 330 people have a qualification higher than matric;
- ❖ 1 735 have a matric qualification;

❖ 4 110 had some high school education;

❖ 752 completed primary school;

❖ 1 644 had some primary school education;

❖ and 702 had no schooling at all. These statistics are represented in Figure 4.1.

Eighty percent of the population in Kayamandi earns less than R1 500 and only 20% earn more than R1 500 per month (Arcus Gibbs Engineering Consultants, 2004:2).
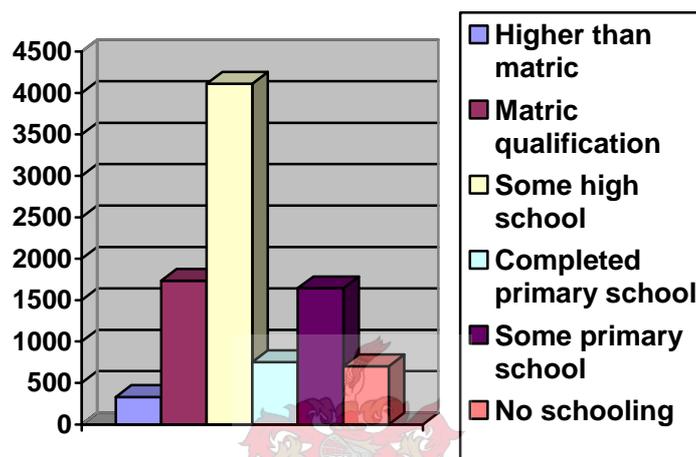
Figure 4.1: The highest levels of education of Kayamandi residents over the age of 20

The labour force in Kayamandi consists of 4 506 employed, 3444 unemployed and 2739 people that are not economically active (Stellenbosch Municipality IDP, 2005:10). Xhosa is the predominant language in Kayamandi, followed by Afrikaans. Other languages that are spoken are Sesotho, Setswana, SiSwati, Tsonga and Zulu.

4.1.3 Infrastructure and public facilities

Kayamandi has one library, one resource centre (Kamvalethu Centre), one high school, one primary school, two crèches, six places of worship, one police station, one clinic and one community hall. The high school has 2 200 learners and a teacher:student ratio of one teacher to 45 learners (1:45) and 15 classrooms. The primary school consists of nine classrooms, 1 200 learners and a teacher:student ratio of one teacher to 50 learners (1:50).

According to V. Jobela (personal communication, July 8, 2005) there are other places of worship that are run from people's shacks on Sundays. The township also has a few general dealers and numerous spaza shops. The clinic offers ante-natal services and immunizations and is run by eight nurses. When a doctor is needed, patients are referred to hospitals around Stellenbosch. There is one rugby field and one soccer field which serve 27 different clubs in Kayamandi.

4.1.4 Services

4.1.4.1 Electricity/energy supply

Electricity, on a prepaid basis, is available to households, six households use gas, 135 households use paraffin and 84 households use candles as a source of energy. This totals 3 942 households which is contrary to the 3 700 households said to be in Kayamandi (Stellenbosch Municipality IDP, 2005:10).

4.1.4.2 Water supply

The Stellenbosch Municipality IDP (2005:11) states that 561 of the 912 formal dwellings have an indoor tap facility. A further 507 dwellings have tap facilities in their yards. Council-built hostels (brick) have one indoor tap in the kitchen and one in a bathroom to serve all residents in that hostel. The 38 prefabricated hostels are each served by one outdoor communal tap. In some of the informal settlements there is just one tap in each zone and 1 117 dwellings are served by a community tap that could be as far as 200 m away from the dwellings (Stellenbosch Municipality IDP, 2005:11).

4.1.4.3 Sanitation facilities

According to the Stellenbosch Municipality IDP (2005:11) occupants of formal houses have access to flush toilets. There are 3 132 households who have access to these flush toilets whilst 12 households make use of septic tanks. Six households use bucket latrines whilst 207 households have no access to any sanitation. This totals 3 315 households whereas the document analysed stated that there are 3 700 households in Kayamandi. No mention is made of the other households.

4.1.4.4 Waste

At the time of the survey, refuse was collected weekly from 2 934 households whilst 114 households had their refuse collected monthly. A communal dump was used by 195 households, 108 had their own dumps and 12 households have no refuse disposal in Kayamandi (Stellenbosch Municipality IDP, 2005:11). This totals 3363 households whereas the Arcus Gibb Engineering Consultants (2004) document analysed stated that there were 3 700 households in Kayamandi.

4.1.5 Zone L Project 5a

Recently, in association with the Stellenbosch Municipality, Dennis Moss Partnership Inc. have been responsible for some of the state-subsidised housing developments taking place in Kayamandi. Since a business and tourism centre are planned to be situated at one of the entrances of Kayamandi, the main road in and out of Kayamandi, was widened. In order for the road to be widened, some of the residents in the informal settlements had to be moved. These shack dwellers, along with the occupants of some of the hostels which were too dilapidated to be upgraded, are now residents of state-subsidised houses in Zone L. The construction of this housing development was funded from the Hostels Redevelopment Programme and is called Project 5a.

Hostel accommodation in Kayamandi, as in other parts of South Africa, was historically built for temporary migrant male workers. A hostel was originally designed to accommodate six males in a dormitory. All occupants had to share one shower facility, a toilet, the open area and a kitchen. There were 52 people per hostel. All the hostels were single-floor dwellings. Some of them were demolished. Council built hostels consisted of six rooms per hostel whilst the prefabricated hostels consisted of 12 rooms in each hostel. The migrant workers were later joined by their families.

The Project 5a housing units are located between Zone L and Snake Valley in Kayamandi (Addendum 1). There are 175 housing units in Project 5a. The complex has 71 blocks and consists of between two and four units per block (Addendum 7). There is a prepaid electricity box in the unit and all the units have running cold water. Garbage is collected once a week.

Although the units in Project 5a were financed through the Hostels Redevelopment Programme, they do not have two bedrooms. The average size of a unit is 36 m^2 (Addendum 8). Each unit

consists of an open plan lounge/kitchen area with two windows and a bathroom (toilet, shower and basin) downstairs. Upstairs is one bedroom with four windows.

The roofs are made of fibre cement sheets. The walls are concrete hollow blocks (no cavity walls) with a waterproof cement finish externally and one coat acrylic PVA paint internally. The unit has a blockboard flooring fixed to pine rafters upstairs and a concrete floor slab downstairs. The staircase is made from cement blockwork and wood. The balustrade has a safety rail. The units have no ceilings between the fibre cement roof covering and the top floor. The blockboard floor of the upstairs room serves as the only ceiling for the downstairs section. The housing unit has a plastic sink in both the kitchen and the bathroom. There are no built-in counters or cupboards in the unit.

4.1.6 The Stellenbosch Municipality strategy for service delivery

The Stellenbosch Municipality has an Integrated Development Plan (IDP) that is used to initiate, plan, coordinate, facilitate and enable appropriate housing developments within its jurisdiction. This falls within the framework of the National and Provincial Housing legislation to work with experts within the public and private sectors to construct adequate houses and provide essential services (Stellenbosch Municipality IDP, 2005:46).
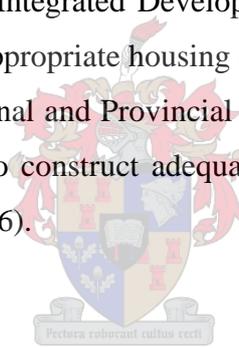
4.1.6.1 Mission

The mission of the Stellenbosch Municipality IDP (2005:46) is to provide sustainable services to communities that are reliable and affordable. The IDP must also ensure that the quality of life for the communities is improved. Their mission is further to establish a safe municipal area with a vibrant, growing economy that will eradicate poverty by providing economic and employment opportunities. The document states that communities should be encouraged and empowered so that they can take part in matters of local government. A clean, healthy, high quality environment should be established so that it may attract investors and visitors to the community.

4.1.6.2 Strategic initiatives

According to the Stellenbosch Municipality IDP (2005:48), strategies are being undertaken to alleviate the Stellenbosch housing backlog of 16 000 units in their jurisdiction. This number

excludes farm houses. The strategies concerning the housing delivery plan, sustainable municipal services (water, sanitation, electricity and waste), safety and roads and storm water will be described next.

The aim of the Stellenbosch Municipality IDP is to improve **housing delivery**, effectively manage informal areas and manage rental stock. A business-like approach has been adopted to meet the demand for 16 000 low-income houses that have been identified. Instead of staying with the former apartheid style of having low-income groups on the outskirts of town, land has been identified to bring communities and economic opportunities closer to town. In-situ development has been used and has proven to be the most feasible (Stellenbosch Municipality IDP, 2005:66).

The further aim of the Stellenbosch Municipality IDP is to increase access to **sustainable municipal services**. Therefore an initiative to provide communities with access to appropriate infrastructure and services, appropriate and adequate water supply, acceptable sanitation services, electricity services and acceptable solid waste management, has been adopted. The municipality seeks to ensure that existing municipal services are being optimally used and are also well maintained (Stellenbosch Municipality IDP, 2005:60).

The aim of the Stellenbosch Municipality IDP is to create a **safe environment** with an effective fire service for the whole municipal area and increase road traffic safety. Strategies are being carried out to maintain safety and to ensure that the central business districts in Stellenbosch are thriving and successful that they are enjoyed by all. The municipality aims to manage disasters effectively (in line with the approved Disaster management plan). Effective fire prevention measures and the safety of pedestrians and cyclists are also high on the list of priorities (Stellenbosch Municipality IDP, 2005:61).

For the **upkeep of roads and storm water control** the municipality has a system in place whereby existing streets, drain collectors and main roads are evaluated every three years so that the appropriate maintenance procedures can be applied (Stellenbosch Municipality IDP, 2005:72).

4.2 SEMI-STRUCTURED INTERVIEW QUESTIONNAIRE

In order to identify the factors which affect the levels of satisfaction, the expectations and the experiences of occupants with regard to the housing units, the housing complex, the community and the housing process (Objectives 1.2.2, 1.2.3 and 1.2.4) a semi-structured interview questionnaire (Addendum 2) was administered to a systematically selected sample (using a random start) of the heads of households or spouses of the heads of households of the housing units in Zone L, Kayamandi. The questionnaire was administered to a total of 50 respondents.

No major problems were experienced during the pre-testing of the questionnaire. The only change was that "single" and "married" replaced "other" as categories for marital status (Question 14). This change was made whilst the first interview was being conducted. The results of the six questionnaires which were conducted on the first day of the survey were included to add to the final total of 50 questionnaires. The questionnaires were checked on a daily basis to check for any faults or to determine whether any questions had been missed. None was found.

The responses on closed-ended questions and questions where categories were given in the questionnaire will be reported in the same sequence as they appeared in the questionnaire. They will be presented in table form. The results of open-ended questions were categorized and tabulated. The results within the tables are presented in descending order. For the purpose of this study the frequency occurrence of the responses in the questionnaire will be discussed.

4.2.1 Demographic and socio-economic information

The first section of the questionnaire (Section A) gathered the demographic and socio-economic information on the respondents and the members of the households.

Interviews were conducted with more male heads of households (n=34) than female heads of households (n=12). Only four respondents were spouses of the heads of households and they were all female (Table 4.1).

Table 4.1: Respondents

	Male	Female	Total
Head of household	34	12	46
Spouse of head of household	0	4	4
Total	**34**	**16**	**50**

Table 4.2 is a summary of the age of respondents. The age group with the largest representation was the group of 31-40 years old (n=25).

Table 4.2: Age of respondents

Age	Male head	Female head	Spouses	Total
21-30	5	2	0	7
31-40	21	3	1	25
41-50	6	3	2	11
51-60	2	4	1	7
Total	**34**	**12**	**4**	**50**

Table 4.3 summarizes the highest grade passed by the respondents. The highest number of respondents (n=20) were in the category Grades 6–9. Only three respondents had a qualification beyond matric. None of the female heads of households had a qualification beyond matric.

Table 4.3: Highest grade passed (respondents)

Qualification	Male head	Female head	Spouse	Total
Never	2	2	0	4
Grades 1-2	0	0	0	0
Grades 3-5	5	3	1	9
Grades 6-9	15	4	1	20
Grades 10-12	10	3	1	14
College	1	0	1	2
Technikon	1	0	0	1
Total	**34**	**12**	**4**	**50**

Forty-six respondents were employed at the time of the survey. They made an average contribution of R400 per month to the household expenditure. Twenty-one respondents were paid on a monthly basis.

There were 206 people who usually slept in the 50 households. This is an average of 4.12 people who sleep in a household. Only three households consisted of one person and 11 households had two people in the household. One household consisted of nine people and another household of 10 people. These two units had one bedroom each and no extensions had been made to these houses (see Table 4.4).

Table 4.4: Number of people per household

Households	Number of people in household	Total
1	10	10
1	9	9
5	7	35
4	6	24
11	5	55
6	4	24
8	3	24
11	2	22
3	1	3
Total 50		**206**

Table 4.5 is a summary of the composition of the households. There were no respondents in the categories "friends' children", "lodgers" and "friends of lodgers" (See Addendum 2, Question 1) and these categories are excluded from the presentation of the results.

Households consist mostly of children (own children of respondents and children of family members n=111) and adults (n=95). Only 13 children of family members and one friend were part of the households. Adult family members included spouses, brothers and sisters as well as brothers- and sisters-in-law of the respondents. No parents and parents-in-law of respondents, were members of the households.

Table 4.5: Composition of households

Household member	Number of respondents
Respondents	50
Own children	98
Other adult family member	44
Other adult family members' children	13
Friends	1
Total	**206**

Table 4.6 is a summary of the age distribution of members of the households (the age of the respondents is presented in Table 4.2). Forty-eight children of respondents were 10 years or younger and 40 children of respondents were between the ages of 11 and 25 years old.

Table 4.6: Age of members of households (excluding respondents)

Age	Children	Adult family members	Family member's children	Friends	Total
Under 2yrs	16	0	0	0	16
3-5 yrs	12	0	0	0	12
6-10 yrs	20	0	1	0	21
11-15 yrs	15	5	4	0	24
16-20 yrs	11	2	2	0	15
21-25 yrs	14	10	3	0	27
20-24 yrs	8	7	0	1	16
26-30 yrs	2	10	2	0	14
31-37 yrs	0	10	1	0	11
Total	**98**	**44**	**13**	**1**	**156**

In Table 4.7 the highest grade passed by members of the household (excluding the respondents) is summarized. The category Grades 8-10 had the highest representation (n=37). Three of the respondents did not know the highest grade passed by adult family members in the household whilst five children of respondents had never been to school although they were passed the school going age.

Table 4.7: Highest grade passed

Level	Children	Adult family members	Family members children	Friends	Total
Never been to school	5	0	0	0	5
Crèche	13	0	0	0	13
Pre-school	7	0	1	0	8
Grades 1-2	8	1	2	0	11
Grades 3-7	16	7	2	0	25
Grades 8-10	24	12	1	0	37
Grades 11-12	14	12	1	1	28
College	9	4	2	0	15
Teaching diploma	0	3	0	0	3
Technikon	1	2	2	0	5
University	1	0	1	0	2
Don't know	0	3	1	0	4
Total	**98**	**44**	**13**	**1**	**156**

Sixty-five of the total number of 156 members (excluding respondents) of the households had a monthly income. Of these 65 members, 48 were employed and had an income. Forty adult members of the households made an average monthly contribution of R400.

Respondents were asked where they had been born (Question 10). They were mostly from the Eastern Cape (n=45) and one respondent was from another African country (Table 4.8).

Table 4.8: Place of birth

Place of birth	Number of respondents
Eastern Cape	45
Western Cape	1
Gauteng	1
Burundi	1
Total	**50**

Respondents had to indicate whether the housing unit was registered in their name (Question 11). Only five respondents indicated that the housing unit was not registered in their name but in the name of another person who had qualified for the subsidy. Two respondents rented the units from

beneficiaries who had qualified for the subsidy. Three respondents did not pay any rent, but the housing unit was registered in the name of the respondents' brother (n=2) and the respondents' mother (n=1). These results are presented in Table 4.9.

Table 4.9: Owner of the house

Owner	Number of respondents
Registered in name	45
Other	5
Total	**50**

Respondents indicated their length of stay in Kayamandi (Question 12).The majority of the respondents had been living in Kayamandi for between 6 and 15 years (n=35). See Table 4.10.

Table 4.10: Length of stay in Kayamandi

Length of stay	Number of respondents
0-5 yrs	4
6-10 yrs	19
11-15 yrs	16
16-20 yrs	4
21-25 yrs	2
26-30 yrs	2
31-34 yrs	3
Total	**50**

To the question which language respondents spoke at home (Question 13), the majority of respondents replied that they spoke Xhosa (n=43). One spoke Afrikaans. Languages in the category "other" included Sesotho (n=4), Swahili (n=1) and Hlubi (n=1).

Table 4.11: Home language of respondents

Language	Number of respondents
Xhosa	43
Other	6
Afrikaans	1
Total	**50**

Table 4.12 summarizes the marital status of the respondents. Twenty-one of the respondents were married whilst six respondents had been widowed. Only two respondents were divorced/separated.

Table 4.12: Marital status

Marital status	Number of respondents
Living together	9
Widowed	6
Divorced/separated	2
Single	12
Married	21
Total	**50**

Question 15 required that respondents indicate their employment status and place of employment. Four of the respondents were unemployed. The majority of the respondents (n=32) worked in the Stellenbosch area, followed by respondents who worked in Kayamandi (n=6).

Table 4.13: Place of employment

Area	Number of respondents
Stellenbosch area	32
Kayamandi	6
Bellville area	4
Franschhoek	2
Somerset West	1
Paarl area	1
Total	**46**

Respondents indicated how far their place of employment was from their home (Question 16). Twenty-six respondents worked within a distance of 10 km from home. Five respondents had to travel up to 30 km to their place of employment. Fifteen respondents worked between 16-30 km from home. The results are presented in Table 4.14.

Table 4.14: Distance of work from home

Distance	Number of respondents
0-5 km	10
6-10 km	16
11-15 km	5
16-20 km	8
21-25 km	2
26-30 km	5
Total	**46**

Respondents were asked to indicate the different modes of transport they made use of on a daily basis (Table 4.16). To walk (n=46) was still the most popular, but 45 respondents also made use of the taxi service every day.

Table 4.15: Mode of transport

Mode of transport	Taxi	Train	Car	Bicycle	Walk
Yes	45	36	24	7	46
No	5	14	26	43	4
Total	**50**	**50**	**50**	**50**	**50**

Respondents indicated the type of housing in which they had stayed before moving to the present location (Question 18). The highest number of respondents (n=37), had lived in an informal dwelling before they moved to the units in Project 5a. Only seven respondents had previously lived in a hostel (Table 4.16).

Table 4.16: Previous dwelling type

Dwelling	Number of respondents
Informal dwelling	37
Hostel	7
House (shared with family)	4
Room in backyard	2
Total	**50**

4.2.2 Satisfaction with housing unit

The second section of the questionnaire (Section B) covers aspects relating to the satisfaction with and expectations of the housing unit.

The respondents' indication of their length of stay in the housing unit (Question 19) is summarized in Table 4.17. Twenty-one respondents had been occupants of the housing units for between 13-18 months. Only one respondent had been an occupant for less than six months. Thirty-three respondents had been in the housing unit for between 13 and 24 months. Eight respondents had been occupants since 2002.

Table 4.17: Length of stay in housing unit

Months	Number of respondents
3-6 months	1
7-12 months	8
13-18 months	21
19-24 months	12
24 + months	8

Respondents had to indicate their levels of satisfaction (very satisfied, satisfied, dissatisfied and very dissatisfied) with different elements of the housing unit (Question 20). The results are summarized in Table 4.18. Elements in the housing unit with which respondents were satisfied (very satisfied and satisfied) included the number of windows (n=42), the position of windows (n=41), the number of lights and number of doors (n=38), the position of the doors (n=34), and the position of the unit (n=30).

Elements in the housing unit with which respondents were dissatisfied (dissatisfied and very dissatisfied) included the interior finishes and climatic conditions (n=46), exterior finishes and privacy in the unit (n=39), space in the unit (n=37), size of the unit (n=36), number of rooms, number of bedrooms and position of bathroom/toilet (n=36). Elements in the unit that no respondent was very satisfied with (n=0) included space in the unit, number of bedrooms, position of the windows, number of doors, interior and exterior finishes and climatic conditions of the unit. Only four respondents were very satisfied with the noise levels and safety in the unit and only three

85

respondents were very satisfied with position and layout of the unit and the number of lights in the unit.

Table 4.18: Satisfaction with elements of housing unit

Element	Very satisfied	Satisfied	Dissatisfied	Very dissatisfied	Total
Size of unit	1	13	26	10	**50**
Space in unit	0	13	28	9	**50**
Number of rooms	1	14	30	5	**50**
Number of bedrooms	0	15	28	7	**50**
Layout of the unit	3	20	19	8	**50**
Position of windows	0	41	4	5	**50**
Position of doors	1	33	11	5	**50**
Position of bedroom	2	20	15	13	**50**
Position of lounge	1	20	20	9	**50**
Position of kitchen	2	20	22	6	**50**
Position of bathroom/toilet	1	14	16	19	**50**
Position of unit	3	27	13	7	**50**
Number of lights	3	35	7	5	**50**
Number of windows	1	41	5	3	**50**
Number of doors	0	38	9	3	**50**
Ventilation in the unit	1	17	17	15	**50**
Privacy in the unit	2	9	25	14	**50**
Safety in the unit	4	19	16	11	**50**
Interior finishes	0	2	21	25	**50**
Exterior finishes	0	11	19	20	**50**
Noise levels in the unit	4	16	17	13	**50**
Climatic conditions of unit	0	4	9	37	**50**

Respondents had to indicate whether the expectations they had when they heard about the housing scheme were met when they moved in (Question 21). They further had to indicate which expectations were not met (Question 21.1) and could give more than one answer. The expectations of 17 respondents were met and the expectations of 33 respondents were not met. Table 4.19 summarizes the expectations that were not met.

Table 4.19: Expectations of respondents not met

Expectations not met	Number of respondents
Bigger units	8
Structure with finishes	7
Structure that protects from the elements	5
More comfort than previous living environment	4
Improved living conditions from shacks	3
Free services	3
No defects in structural elements	2
Bigger plots	1

Respondents had to indicate what they expected when they were told they would be getting houses (Question 22). Respondents could give more than one answer. Nineteen of the respondents had expected houses like the Snake Valley housing units with a 18 m^2 foundation slab to extend the unit whilst 18 expected more comfort than they had in their previous living environment. The results are summarized in Table 4.20.

Table 4.20: Expectations when heard about housing scheme

Expectations	Number of respondents
Houses like Snake Valley	19
More comfort than previous living environment	18
Double storey unit	11
Bigger unit	9
Bigger plot	9
Structure that protects from the elements	2
Structure with finishes	2
Toilet outside the unit	2
Free services	1
Hot water	1
Trees	1
Paved sidewalk	1
More consultations with the municipality	1

In Question 23 respondents had to indicate if moving to the units had been good or bad for their family and had to explain their answer (Table 4.21). Respondents could give more than one explanation. Forty-three respondents were of the opinion that moving to these units had been good for their family. The main reasons for this were that respondents had moved out of shacks to a better living environment (n=39) and that there was a lower risk of fires (n=12).

Table 4.21: Reasons why moving to housing unit was good

Reason why moving had been good	Number of respondents
Better living environment	39
Lower risk of fires	12
Accessibility to services	3
Peaceful environment	2
Privacy	2

Seven respondents indicated that moving to the housing unit had been bad for the family. Table 4.22 summarizes the results. Reasons for this were that the design and layout of the housing unit differed from the plans shown to them by the municipality (n=4), the house was too small (n=2) and they had left family behind (n=2) and they had been forced to leave their previous housing environment (n=2).
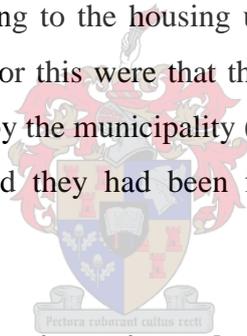
Table 4.22: Reasons why moving to housing unit was bad

Reason why moving had been bad	Number of respondents
Different from plans shown by municipality	4
Size of unit	2
Left family behind	2
Forced to leave previous housing environment	2

Respondents were asked what thoughts had first come to mind when they thought about their house (Question 24). The first thought mentioned by the majority was to improve the structural finishes (n=44). Twenty-six respondents mentioned that they had thought of fixing the defects in the structure whilst 22 respondents had thought of extending their house. Table 4.23 summarizes these results.

Table 4.23: Respondents' first thoughts about their house

Thoughts	Number of respondents
Improve the structural finishes	44
Fix the defects in structure	26
Extend the unit	22
Need for furniture and accessories	10
Change the layout of the unit	8
Improve safety	1
Move and rent it out	1

When the respondents were asked to name what they would change in the house if they could change anything (Question 25), the layout of the unit was mentioned as the major change that they would like to make to their house (n=25), and 14 respondents mentioned that they would like to improve the structural finishes of the unit. Six respondents would not like to change anything in their house (see Table 4.24).

Table 4.24: Changes respondents would like to make to housing unit

Changes to the housing unit	Number of respondents
Change the layout of the unit	25
Improve the structural finishes	14
Extend the unit	3
Fix the defects in structure	1
Add bath tub instead of shower	1
Nothing	6
Total	**50**

Although 13 respondents were of the opinion that they would not make any changes to the outside environment (Question 26), other respondents mentioned a bigger plot (n=8). Ten respondents mentioned changes related to the housing unit itself and not the environment outside the housing unit. The results are summarized in Table 4.25.

Table 4.25: Changes to outside environment

Changes	Number of respondents
Nothing	13
Bigger plot	8
Pave sidewalks	5
Remove fence	4
Other	10
Total	**50**

4.2.3 Satisfaction with housing complex

The third section of the questionnaire (Section C) investigated the respondents' satisfaction with and expectations of the housing complex.

Respondents indicated their levels of satisfaction with different elements of the housing complex (Questions 27). Table 4.26 summarizes the results. Elements of the complex with which respondents were satisfied (very satisfied and satisfied) were accessibility to shops (n=47) and other communities (n=37), walkways (n=36), location of the housing complex (n=34), direction of the houses (n=32), appearance of the houses (n=29), layout of the complex (n=28) and outside noise levels (n=26).

Respondent were dissatisfied (very dissatisfied and dissatisfied) with play areas for children (n=45), parking for cars (n=39), space in the complex (n=38), areas for social interaction (n=37), size of the complex (n=34), open spaces (n=33), structure of the house (n=30) and types of houses (n=28). An equal number of respondents (n=25) were satisfied and dissatisfied with the colour of houses and security in the housing complex. No respondent (n=0) indicated that they were very satisfied with the space, walkways and layout of the complex.

Table 4.26: Satisfaction with housing complex

Element	Very satisfied	Satisfied	Dissatisfied	Very dissatisfied	Total
Size of complex	2	14	29	5	**50**
Space in complex	0	12	31	7	**50**
Open spaces	1	16	26	7	**50**
Layout of complex	0	28	17	5	**50**
Accessibility to other communities	3	34	12	1	**50**
Accessibility to shops	5	42	2	1	**50**
Colour of houses	1	24	16	9	**50**
Outside noise levels	2	24	15	9	**50**
Areas for social interaction	2	11	23	14	**50**
Walkways	0	36	13	1	**50**
Structure of the house	3	17	22	8	**50**
Security	2	23	10	15	**50**
Location	7	27	11	5	**50**
Types of houses	3	19	18	10	**50**
Direction of houses	3	29	13	5	**50**
Appearance of the houses	5	24	14	7	**50**
Play areas for children	1	4	17	28	**50**
Parking for cars	1	10	17	22	**50**

Activities that usually take place in the community (Questions 28 and 29) are sports in the Kayamandi stadium (n=26), dancing in the community hall (n=11), choir singing in the community hall (n=8) and drinking in the taverns (n=1), making African beer in the respondents' homes and HIV support groups at the Kamvalethu Centre (n=2).

Respondents had to compare certain aspects of where they had lived previously with where they lived now (Question 30). The results are summarized in Table 4.27. Respondents indicated that they now had adequate access to running water (n=49) and that the water runs daily (n=49). Compared to where they had lived previously, the present complex had walkways they could use to access other areas (n=44). They were satisfied with their neighbours (n=42) and 36 respondents felt more at

home than they had felt previously. However, 45 respondents indicated that there were now no play areas for children and 33 respondents indicated that they now did have enough privacy in their homes.

Table 4.27: Comparison of where respondents had lived previously with present location

Situation	Yes	No	Total
Are you further away from work than before?	24	26	**50**
Are you further away from town now than before?	20	30	**50**
Are you further away now from other communities that you frequently visited?	26	24	**50**
Are you further away from spaza shops, salons etc.?	7	43	**50**
Are the same people who were previously your neighbours also in the new neighbourhood?	14	36	**50**
Are you satisfied with your neighbours now?	42	8	**50**
Do you feel more at home here than previously?	36	14	**50**
Do you have enough privacy inside your house than previously?	17	33	**50**
Do you have privacy from your neighbours now?	8	42	**50**
Compared to where you lived previously, do you have more rooms now?	6	44	**50**
Compared to where you lived previously, does the complex have walkways that you can use to access other areas?	44	6	**50**
Are there now open areas or play areas for children?	5	45	**50**
Do you now feel safe in the complex?	24	26	**50**
Is easier for you now to get a taxi to go to town?	16	34	**50**
Compared to where you lived previously, do you currently have adequate access to running water?	49	1	**50**
Does the water now run daily?	49	1	**50**
Do you have any water leakage in your house now?	35	15	**50**
Do you have adequate electricity outlets in the house now?	43	7	**50**
Is the garbage collected weekly now?	43	7	**50**

In Question 30.20 respondents had to indicate what happens when garbage is left behind after collection. Eighteen of the 50 respondents were of the opinion that garbage was not left behind after refuse collection, although seven respondents indicated that it was left behind and then collected the following week. Three respondents did not know what happened to garbage that was left behind after collection.

Respondents identified what comes to mind first when they think about the housing complex (Question 31). They could name more than one thing. The results are summarized in Table 4.28. Improving the structural finishes of the house (n=36) and creating play areas for children (n=24) are some of the thoughts respondents indicated had come to mind first when they thought about the housing complex. The need for amenities in the complex that six respondents mentioned included business centres, a taxi rank, a community hall and a pre-school facility. Improving the environment (n=5) included beautifying the complex, planting trees and paving sidewalks.

Table 4.28: What comes to mind first when thinking about the housing complex

Thoughts	Number of respondents
Improve structural finishes of the unit	36
Need for play areas for children	24
Need for amenities in the complex	6
Improving the environment	5
Need for parking for cars	4
Need for safety features	3
Improve cleanliness and sanitation	2
Remove bungalows	1
Need for social interaction areas	1
We didn't get the same housing opportunity as previous people	1
Remove shebeens	1
I don't know	4

4.2.4 Satisfaction with the community

Section D (Addendum 2) gathered information on the respondents' levels of satisfaction with the community. Respondents were asked to indicate their levels of satisfaction with elements of the community (Question 32). Respondents were satisfied (very satisfied and satisfied) with the availability of water (n=49) and roads (n=45), spaza shops (n=41), routes to Kayamandi (n=40), postal services, waste removal and electricity supply (n=36), churches (n=33) resource centres (n=31), garbage collection (n=30) and the primary school (n=26).

Respondents were dissatisfied (very dissatisfied and dissatisfied) with sanitation (n=42), clinics (n=32), storm water drainage (n=30), the skills development centre (n=29), street lights (n=28), community hall and the high school (n=26).

Table 4.29: Satisfaction with community

Characteristic of community	Very satisfied	Satisfied	Dissatisfied	Very dissatisfied	Total
Taxi service	3	21	15	11	**50**
Clinics	1	17	17	15	**50**
Churches	4	29	12	5	**50**
Community halls	1	23	22	4	**50**
Resource centres	1	30	14	5	**50**
Skills development centres	2	19	21	8	**50**
High school	1	23	19	7	**50**
Primary school	1	25	16	8	**50**
Spaza shops	8	33	7	2	**50**
Routes to Kayamandi	4	36	8	2	**50**
Roads	2	43	3	2	**50**
Street lights	0	22	21	7	**50**
Storm water drainage	0	20	16	14	**50**
Postal services	0	36	8	6	**50**
Water availability	3	46	1	0	**50**
Waste removal	0	36	11	3	**50**
Electricity supply	0	36	12	2	**50**
Sanitation	0	8	11	31	**50**
Garbage collection	0	30	11	9	**50**

Respondents had to indicate their levels of satisfaction in general with life in Kayamandi (Question 33). Thirty-three respondents were satisfied with life in Kayamandi and 17 respondents were dissatisfied with life in Kayamandi.

All the respondents had to give a reason for their levels of satisfaction with life in general in Kayamandi (Table 4.30). Respondents that were satisfied (n=33) mentioned the low crime rate (n=10) as a reason. Nine respondents indicated that they had everything they wished for in Kayamandi and had not experienced any problems. Six respondents mentioned the reason for their dissatisfaction with life in Kayamandi is a lack of progress. Sanitation (n=5) and that the present housing situation was the same as their previous living environment (n=4), were the reasons given by those who were very dissatisfied.

Table 4.30: Reasons for levels of satisfaction

Reason	Very satisfied	Satisfied	Dissatisfied	Very dissatisfied
Low crime rate	0	10	0	0
Have all I wished for	0	9	0	0
Length of stay in Kayamandi	0	5	0	0
Nowhere else to go to	4	0	0	0
Close to amenities	2	0	0	0
Opportunity to save	1	0	0	0
No reason	2	0	0	0
Lack of progress in Kayamandi	0	0	6	0
Sanitation	0	0	0	5
Lack of improved environment	0	0	0	4
Live elsewhere in Stellenbosch	0	0	0	1
Lack of transport	0	0	1	0
Total (50)	**9**	**24**	**7**	**10**

Respondents were required to indicate whether they thought the future for their families in Kayamandi was very good, good, bad or very bad (Question 34). Thirty-five respondents indicated that they thought the future in Kayamandi was good and 15 indicated that the future for their family in Kayamandi was bad.

In response to the question whether they would like to see their children live in Kayamandi (Question 35), 20 respondents replied in the negative and 30 were positive. The reasons given for this are summarized in Table 4.31. The most popular reason why respondents would like their children to live in Kayamandi was to be near their parents (n=18). Twelve respondents were of the

opinion that the standard of living in Kayamandi was low and they did not want their children to live there.

Table 4.31: Reasons for wanting children to live in Kayamandi

Reasons for living in Kayamandi	Yes	No
Live near parents	18	0
Low crime rate	5	0
I have a house in Kayamandi	3	0
Don't know	2	0
No children	1	0
Good education	1	0
Low standard of living	0	12
Bad influence on children	0	4
Unhealthy environment	0	2
Live in the Eastern Cape	0	2
Total	**30**	**20**

4.2.5 Satisfaction with housing process

Section E (Addendum 2) investigated the respondents' levels of satisfaction and expectations of the housing process. Respondents were asked to indicate, to the best of their knowledge, what had happened during the development of the scheme (Question 36). Although the respondents had signed an occupation letter (n=42), the layout of the unit had been explained to them (n=40) and a local negotiating group (LNG) had represented the community (n=35), they were of the opinion that they had not been given an opportunity to make suggestions (n=37) and suggestions had not been taken into account (n=45).

Table 4.32 indicates that 34 respondents agreed that a layout of the housing unit had been shown and explained to them, but 43 respondents indicated that they had not known how big the house would be and their needs had not been determined (n=39). They had not known about the responsibilities of being a home owner (n=37) and had not been given an opportunity to air their concerns to the developer (n=36). The houses had not been completed on the promised date (n=39) and they had not known what the completed house would look like (n=35). Thirty-five respondents did not know what a subsidy was and 39 respondents indicated that nobody had explained to them what a subsidy was. Forty-two respondents did not know what the subsidy was for which they

qualified, while 33 did not know the amount of the subsidy for which they qualified. Moving to this complex did not present more economic opportunities (n=31), but respondents had expected jobs when the housing development was being built (n=45). Respondents had expected more communication with the municipality (n=45).

Table 4.32: Responses with regard to the housing process

Housing process	Yes	No	Total
Were you asked what your needs were?	11	39	**50**
Were you encouraged to participate in the housing process?	13	37	**50**
Were you satisfied with the level at which you were allowed to participate?	16	34	**50**
Was the community involved in the process leading to the provision of houses?	27	23	**50**
Did the municipality explain the housing development to you?	33	17	**50**
Were you given an opportunity to air your concerns to the developers?	14	36	**50**
Were you given an opportunity to make suggestions?	13	37	**50**
Were these suggestions taken into account or used?	5	45	**50**
Was there a local negotiating group (LNG) that represented the community regarding the development?	35	15	**50**
Does this organization still represent the community in matters concerning the development?	19	31	**50**
Was a layout of the housing unit shown and explained to you?	40	10	**50**
Could you choose from different designs?	20	30	**50**
Was a layout of the housing complex shown and explained to you?	34	16	**50**
Was the position of the complex in the community shown and explained?	30	20	**50**
Did you sign a "happy letter" or occupation letter?	42	8	**50**
Were you told when the house would be finished?	25	25	**50**
Are you happy with the amount of time it took to finish the house?	19	31	**50**
Was the house completed the day you were told it would be?	11	39	**50**
Did you know what the completed house would look like?	15	35	**50**
Did you get enough information about the responsibilities of being a home owner?	13	37	**50**
Did you know how big the house would be?	7	43	**50**
Do you know what a subsidy is?	15	35	**50**
Did someone explain to you what a subsidy is?	11	39	**50**
Did anybody explain the specific subsidy you qualify for?	8	42	**50**
Did you know how much your subsidy was?	17	33	**50**
Has moving to this new house presented more economic opportunities to you?	19	31	**50**
Are your children close friends with other children in the complex?	37	13	**50**
Are there any organizations in the community like stokvels?	18	32	**50**
Do you belong to any of the organizations?	8	42	**50**
Do you have enough support systems in the community?	41	9	**50**
Did you expect to get jobs when the housing development was being built?	45	5	**50**
Did you expect more communication with the municipality?	45	5	**50**

Respondents had to indicate at what stage of the housing process they had been encouraged to participate (Question 37) and to indicate the stages they had been involved with (Question 38). Although they had been encouraged to participate in the planning stage (n=45), only 10 had been involved in this stage. The majority of the respondents (n=44) had been involved in the construction stage of the housing process. The 15 respondents that had been involved in the delivery stage had been only involved on the day the houses were delivered. Their contribution was to prepare food on the day that houses were handed over to beneficiaries. (see Table 4.33).

Table 4.33: Participation during different stages of the housing process

Stage	Planning stage		Construction stage		Delivery stage		Throughout entire project	
	Yes	No	Yes	No	Yes	No	Yes	No
Encouraged to participate	45	5	11	39	9	41	16	34
Involved in stage	10	40	44	6	15	35	14	36

Respondents were asked to indicate their levels of satisfaction with the phases of the housing project (Question 39). During all the stages, except the delivery stage, more respondents were dissatisfied than satisfied with the housing process. Thirty-nine respondents were dissatisfied during the construction stage, 30 respondents were dissatisfied with the planning stage and 35 respondents were dissatisfied throughout the entire project. Twenty-nine respondents were satisfied with the delivery stage of the housing process. Table 4.34 indicates the results.

Table 4.34: Satisfaction levels of respondents with housing process

Stage	Very satisfied	Satisfied	Dissatisfied	Very satisfied	Total
Planning stage	4	16	24	6	**50**
Construction stage	0	11	32	7	**50**
Delivery stage	2	27	16	5	**50**
Throughout entire project	3	12	32	3	**50**

The responses to the question regarding the frequency of meetings to discuss the housing process (Question 40) varied greatly. Four respondents said meetings were held daily. Seventeen respondents were of the opinion that the community or community leaders held meetings once a month to discuss the housing process and one respondent indicated that they never met. Respondents who did not attend meetings (n=13) are indicated in the category "other" and one respondent indicated that the community did not meet. This is summarized in Table 4.35.

Table 4.35: Meetings during the housing process

Frequency of Meetings	Number of respondents
Daily	4
Once a week	7
Every two weeks	7
Once a month	17
Every three months	1
Did not meet	1
Other	13
Total	**50**
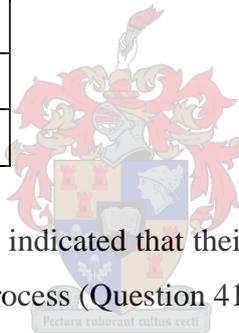
An equal number of respondents (n=25) indicated that their community had been disrupted and had not been disrupted during the housing process (Question 41).

Only six of the 50 respondents were willing to disclose their income before deductions (Question 42). Five earned an income of R0-R2 165 monthly and one respondent earned an income in the category R6 063–R6 495.

To the question with whom (population group) respondents mostly associated (Question 43), 47 respondents answered that they mostly associated with blacks. Only three mostly associated with coloured people. None of the respondents indicated that they mostly associated with Indian or white people.

To the question of what they would buy from a R500 lotto wining (Question 44), 23 respondents indicated that they would use this to improve their housing unit and 12 indicated that they would use the winnings to buy clothes and food. One respondent wanted to buy another house. The results are summarized in Table 4.36.

Table 4.36: What respondents would buy from lotto winnings

Winnings	Number of respondents
Improve housing unit	23
Food and clothes	12
Charity	5
Education	3
Save	3
Not sure	2
Buy another house	1
Transport	1
Total	**50**

Respondents were requested to indicate their level of satisfaction with life in general in Kayamandi (Question 45). Twenty-seven respondents were satisfied and 10 were very satisfied with their life in Kayamandi. However, seven were very dissatisfied and six were dissatisfied with life in Kayamandi.
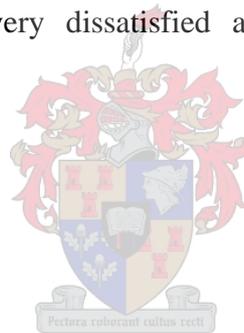
4.3 OBSERVATIONS

In order to evaluate the observable physical conditions of the state-subsidised housing units, the housing complex and the community, the researcher used observation checklists compiled from literature. The checklist for the housing unit (Addendum 3), housing complex (Addendum 4) and the community surrounding the complex (Addendum 5) were completed during walkthroughs. For the housing units, 50 observations were done. Nine observations were done for the housing complex and eight observations for the community surrounding the complex.

The results of the observations made during the walkthrough of the housing unit, of the complex as well as of the community are provided below. Reference is made to the photographs that are contained in Addendum 6.

4.3.1 The housing unit

Observable features of the housing unit included both interior and exterior aspects of the unit. The observer evaluated the following aspects of the interior of the housing unit: the finishing of the walls, ceiling and floors; visible cracks, mildew, damp, erosions on the floor; natural light and ventilation in the unit; orientation of the entrance; and comfort, livability and privacy of the interior. Improvements and extensions were also noted.

During the walkthrough the following aspects of the exterior of the housing unit were evaluated: the finishing of the walls and roof structure; cleanliness and maintenance; vegetable garden, garden, walls and fence; measures to increase safety; and parking for cars.

4.3.1.1 Interior Observations

The results from the walkthrough of the interior of the housing unit are described and tabulated (see Tables 4.37-4.43).

4.3.1.1.1 Interior finishing

The houses delivered by the Stellenbosch Municipality had no interior finishes (plaster or paint) on the cement block walls. The floor downstairs was made of concrete, while the floor upstairs was made of blockboard. The staircase consisted of both concrete (the first four steps) and wood (the rest of the staircase). The front and back door of the units were painted white and occupants could paint it whatever colour they wanted. The housing unit had no ceiling and the exposed roof trusses and the roof covering (fibre cement sheets) were visible. All the additional interior finishes were done by the beneficiaries themselves and not by the Stellenbosch Municipality. (See Addendum 6; photographs 6.1-6.4.)

Table 4.37 illustrates that 18 of the 50 houses were painted only but not plastered. Seventeen of the 50 houses had no additional wall finish and were neither painted nor plastered. In nine houses, all the interior walls were painted and plastered. The downstairs area of four houses was plastered and painted. The walls of the top floor of one house were painted only and the bottom floor of one house had been painted.

Table 4.37: Interior wall finishes

Wall finish	Number of units
Painted and plastered upstairs and downstairs	9
Painted only upstairs and downstairs	18
Neither painted nor plastered upstairs or downstairs	17
Painted and plastered downstairs only	4
Painted upstairs only	1
Painted downstairs only	1
Total	**50**

Forty-six houses had no ceilings upstairs and only four residents had added an additional ceiling. Seven houses had an additional ceiling downstairs that was attached to the underside of the blockboard and rafters of the top floor (Table 4.38). (See Addendum 6; photograph 6.5.)

Table 4.38: Ceilings in the units

Ceiling	Upstairs	Downstairs
Installed ceiling	4	7
No ceiling	46	43
Total	**50**	**50**

Cracks were found in the corners of the walls of 42 houses. The interior walls of eight houses with a plastered and painted wall finishing did not have cracks. (See Addendum 6; photograph 6.7.)

Forty-two units had cracks in the walls whilst eight did not have cracks in the walls. In 11 houses these cracks were in the shower walls. Twenty-one houses had cracks in the toilet bowls and therefore had leaking toilets. Other problems that were observed included two houses with blocked toilets and five houses with broken toilet handles so toilets could not be flushed.

Mildew was observed as a grayish-green colour found on the walls of the unit whilst damp was observed as a water stain or ring along the bottom or the top part of the walls. Mildew was present on the walls of 13 houses in the upstairs room and along the top part of the kitchen walls. This includes two of the four houses where an additional ceiling had been added. Mildew was present on the new ceiling. Damp was present in 26 units around the back door as well as on the new ceilings of two houses where a ceiling had been installed upstairs. (See Addendum 6; photograph 6.9.)

Table 4.39 indicates that the concrete floor finishing of all 12 houses where the floors were not covered, were badly eroded, especially at the entrance door. In 30 of the housing units, the occupants had taken the initiative to cover the floors downstairs with vinyl floor covering. Seven units were tiled downstairs. The staircase leading to the second storey was made from both concrete (the first four steps) and wood (the rest of the staircase). The cement parts of the entire staircase in all the houses had defects. Either very big chunks of the cement had fallen off (even in cases where the staircase had been painted) or the holes in the blocks used in constructing the staircases were visible. (See Addendum 6; photograph 6.10-6.14.)

Table 4.39: Floor coverings in units

Floor covering	Downstairs	Upstairs	Stairs
Floor covered in vinyl	30	0	0
Tiled floor	7	0	1
Carpeted floor	1	1	2
Floors not covered	12	49	47
Total units	**50**	**50**	**50**

The housing units had two windows downstairs and four windows upstairs (see Addendum 8 for a plan of the unit). All the windows in the units were opposite each other, thus allowing natural light and cross-ventilation (see Addendum 8). All the households leave their front doors open when they are at home.
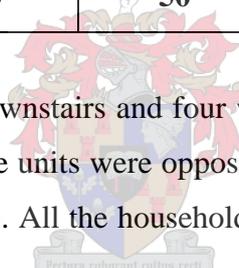
4.3.1.1.2 Orientation of the unit

Seventeen houses had a north orientation and 33 houses had a south orientation (Addendum 7).

4.3.1.1.3 Comfort and liveability

Comfort and livability were observed by evaluating the furniture arrangement in the kitchen/lounge area, or whether there was any furniture in the unit at all. In five units the kitchen/lounge was used as a bedroom. Fifteen households had only mattresses and crates on the floor. There was no other furniture inside these units. In 35 units with furniture, there was not enough space to move around freely inside.

4.3.1.2 Other observations

Extensions, improvements, deteriorations and safety features of the units will be described in this section. Table 4.40 indicates the extensions made by occupants to the interior and exterior of their housing units. Two housing units were extended downstairs (to the back of the unit) and one unit was extended both downstairs (a lounge) and upstairs (a bedroom). Six of the units had a bungalow (made from wood) added as a separate room in the backyard of the unit. (See Addendum 6; photographs 6.15-6.16.)

Table 4.40: Extensions

Extended	Number of units
Downstairs only	2
The whole unit	1
Bungalows	6
Total	**9**

Table 4.41 gives a summary of other improvements that residents had made to the interior of the housing unit. The majority of the improvements had been done to the bathroom. This included tiling the shower (n=10), adding a geyser (n=2) and replacing the shower with a bathtub (n=2). Improvements in the kitchen included replacing the plastic sink provided by the developers with a steel sink (n=5), adding kitchen counters and cupboards (n=2) and tiles on the wall behind the kitchen sink (n=3). (See Addendum 6; photographs 6.17-6.21.)

Table 4.41: Improvements to interior of unit

Improvements	Number of units
Bathroom	12
Kitchen	10
Extra lights in unit	5
Spaza shops	3
Partition in bedroom	3
Chandelier lights in bedroom	3
Extra light switches in unit	1
Concrete lounge seats	1

Several examples of deterioration were observed in the housing unit (Table 4.42). These included problems with sanitation and blocked drains as well as unstable kitchen sinks. (See Addendum 6; photographs 6.23-6.25.)

Table 4.42: Deterioration inside housing unit

Deterioration	Number of units
Blocked drains	12
Blocked toilets	6
Unstable kitchen sinks	4
Water pipe leaks in bathroom	3
Broken window handle	2
No kitchen sink	1
No bathroom sink	1
Peeling paint	1

Several security measures had been taken by occupants to improve the security of their houses, as the houses delivered by the Stellenbosch Municipality had no security features like security gates, burglar bars and the units all had the same keys for the front doors. At the time of the survey these housing units still all had the same front door key. The safety features are summarized in Table 4.43. (See Addendum 6; photograph 6.26-6.29.)

Table 4.43: Safety features in the units

Safety measure	Number of units
Covered banister	11
Security gate at front door	8
Burglar bars	6
Board on underside of stairs	4

4.3.1.3 Exterior observations

The following tables and descriptions are the results of the observations of the exterior of the housing units. These observations were done after every interview had been completed.

4.3.1.3.1 Exterior finishes

The exterior walls of the housing units delivered by the Stellenbosch Municipality had been painted but not plastered. Sheets of fibre cement were used for the roofing. The majority (34 of 50) of the

units were well maintained, but cracks were visible on the exterior walls of 15 units. (See Addendum 6; photograph 6.30.)

4.3.1.3.2 Other observations

Several improvements had been made by the occupants to the exterior of the housing unit. They are listed in Table 4.44. At the time of the survey only 30 of the 50 housing units still had the fences at the back of the unit that had originally been provided by the developers. (See Addendum 6; photograph 6.31-6.37.)

Table 4.44: Improvements to the exterior of the housing units

Improvements	Number of units
Painted front door	42
Wall/fences in front of the unit	33
Garden	15
Paved sidewalk	8
Numbering	7
Light outside unit	6
Parking for cars	5
Verandas along front of unit	4
Wooden picket fences in front of unit	3
Grass	2
Car ports	2
Trees in front of unit	2
Vegetable garden	2
Steps outside the front door	1
Concrete slab in front of unit	1
Mail box	1

Deterioration outside the housing unit included exposed drains in front of the unit (n=5) and broken down fences (n=20).

4.3.2 Observation of the housing complex

Nine observations were done of the housing complex. This was done once a day during the completion of the survey except for the last day when two observations were done. One observation was done early in the morning and another one in the late afternoon. The last day was a Saturday and the researcher wanted to observe whether there was a difference in the cleanliness of the complex at the beginning of the day and later on in the day.

The observations describe the following aspects of the housing complex: maintenance; cleanliness; fences around housing units; traffic congestion; parking for vehicles; street lights; and lights between the houses.

4.3.2.1 Maintenance and cleanliness

Although none of the sidewalks in the housing complex were paved as illustrated on the plan (Addendum 9), they were well maintained. The middle section of the complex was very sandy because no lawns, shrubs or trees had been planted and it had not been paved.

The roads in and around the complex were tarred and had been well maintained. They had no potholes or erosion. The streets were mostly used as a play area by the older children.
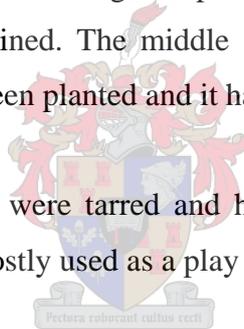
In contrast to the graphical representation of the complex (Addendum 9), there were no demarcated open areas for social interaction around the complex or in front of the houses. Only two residents of the housing units had planted lawns in front of the units. The complex only had three small trees and therefore did not provide enough shade for a sheltered play or social area. The complex did not have any benches where occupants could sit and socialize. Benches to sit outside were provided by occupants when they received guests. They were left outside permanently.

Although there was a play area that had been designated for children in the complex, the area was covered with sewerage water and there was no shade. The older children played in the streets. At the time of the observation an old carpet had been laid in one corner of the complex and the younger children played here.

There was no designated refuse area in the complex. The streets and pavements were littered with rotten food, empty chip packets and sweet wrappers. With the exception of a few households who had purchased bins, garbage was stored in refuse bags on the sidewalks, but by the end of the day, most of it was scattered in the streets. On the days of the survey that garbage bags were to be collected (from pavements) the municipal workers responsible for garbage collection were on strike. By midday the garbage had not been collected and was scattered along on the pavements. Refuse bags had been torn apart by dogs and chickens.

There is much stagnant water between the houses. The drains on the street are littered with food. On rainy days the drains are blocked and the street flooded. (See Addendum 6; photographs 6.38-6.39.)

4.3.2.2 Other observations

As a division between the houses, the municipality had provided a wire fence along three sides at the back of the units. Twenty of these fences had become broken down and have been removed by occupants.

There was no traffic congestion in the complex as most occupants did not own cars. The plan of the complex (Addendum 7) indicates designated parking areas that are paved. This was not the case. Occupants of five units had built parking bays and two households had erected car ports at the back of their houses. The houses in the middle and at the back of the complex did not have any parking space.

Although there were 12 street lights in and around the complex, only seven were working. The area between housing units was virtually dark at night, with the exception of six houses where lighting was installed in front and at the back of the houses.

4.3.3 Observation of the community

The community was observed once a day for the eight days (eight observations) from Saturday, 9 July 2005 to Saturday, 16 July 2005. The community surrounding the complex is the more affluent part of Kayamandi. This area consists of private houses and municipal flats rented mostly by employees of the Stellenbosch Municipality.

This observation aimed to describe the maintenance and cleanliness, fences around housing units, traffic congestion, parking for vehicles, street lights and lights between the houses of the community surrounding the housing complex.

4.3.3.1 Maintenance and cleanliness

The pavements and tarred roads were well maintained. There were open areas with lawn which needed to be mowed, but there were no trees in this community. There were no benches or play areas for children in open areas. These open spaces and the streets were littered. There were no refuse bins on the pavements, and residents used black garbage bags to store their garbage. The area surrounding the municipal flats was littered with garbage. There was no stagnant water and the drains were not blocked.

4.3.3.2 Other observations

There were no fences or walls around the other housing units in the community. There was some traffic early in the morning and around 17:00 when residents were going to or coming back from work. There were six street lights at the municipal flats and in the street behind the complex. At the time of the survey none of the lights in these areas were in working condition.

This chapter presented the results obtained from the context analysis, semi-structured interview questionnaire and observations. The next chapter will discuss the results and give an integrated comparison of the results from the various research procedures.

CHAPTER 5

DISCUSSION OF RESULTS

In the previous chapter the results from the context analysis, the semi-structured interview questionnaire and the observations of the survey of Project 5a, Kayamandi were presented. This chapter discusses these results and indicates how the results relate to literature and other research conducted on housing satisfaction.

5.1 CONTEXT ANALYSIS OF GEOGRAPHICAL AREA

The context analysis of the demarcated study area, Kayamandi, included a description of the geographical area and demographic composition of the area as well as the housing developments initiated by the Stellenbosch Municipality. Documents studied included the Stellenbosch Municipality Integrated Development Plan (2005), a socio-economic survey conducted by Arcus Gibb Engineering Consultants (2004) and documents of the developers (including the floor plans of Project 5a) (Dennis Moss Partnerships Inc., 2005).

Kayamandi has a population of 22 000 with an annual population growth of 10% (Stellenbosch Municipality IDP 2005:10). Residents of Kayamandi are living in a relatively small area. There is a great need for formal housing units in Kayamandi and the current housing backlog in Kayamandi is 3000 units (Penxa, 2005:1). A survey conducted by Arcus Gibb Engineering Consultants (2004:2) indicated that the informal housing units (2304), the traditional housing units (126) and the 45 hostels that have not been upgraded, by far outnumbers the formal housing units (912) and the nine upgraded hostels. The unemployed residents in this area by far outnumber the employed residents (Stellenbosch Municipality IDP, 2005:10).

Several housing developments have been built by the partnership between Stellenbosch Municipality and Dennis Moss Partnership Inc. (the developers) since 1996. However, the size and types of dwellings in the different developments differed and beneficiaries did not receive identical housing. Although subsidy amounts increase yearly, it will not be possible to have consistency in the size and type of dwelling because the building and construction costs increase at a faster rate

than subsidy increases. Therefore, it is not always possible to improve the construction and finishes of housing units.

None of the new low-income housing developments have been established closer to town than before. These developments are still, as during the apartheid era, on the outskirts of the town.

There are not sufficient public facilities in Kayamandi. The high school, with a teacher student ratio of 1:45, has 2 200 learners in only 15 classrooms and is therefore overcrowded. The clinic is understaffed with only eight nurses on duty at a time and no doctor. Residents who want to make use of neighbouring clinics are often turned away because they are not in possession of a letter of referral in order to be treated by nurses and doctors at other clinics. Results of the semi-structured interview indicated that respondents were dissatisfied with the clinic (n=32) and the skills development centre (n=29) (see Table 4.29).

The mission of the Stellenbosch Municipality is to provide sustainable municipal services to the residents within its jurisdiction. Furthermore, it is to provide greater access to municipal services as well as an appropriate infrastructure and adequate water supply, electricity, sanitation services and solid waste management (Stellenbosch Municipality IDP, 2005:10). However, the water supply for council-built hostels, namely one indoor tap in the kitchen and one in a bathroom for all 52 residents in a hostel, is inadequate. The water supply for prefabricated hostels, namely one outdoor communal tap, is also inadequate. In informal settlements the situation is even worse, with 1 117 dwellings that are served by a communal tap more than 200 meters from the dwellings. In some cases, there is only one tap in each zone. Sanitation in Kayamandi is inadequate and 207 households do not have any access to sanitation (Stellenbosch Municipality IDP, 2005:11). Sanitation is important for the health of households and of the greater community. When residents do not have access to sanitation, they tend to dispose of waste in their immediate surroundings. The results of the context analysis indicated that sanitation facilities were inadequate and did not serve all the households in Kayamandi.

The Integrated Development Plan (IDP) of the Stellenbosch Municipality is in line with the government's initiative to eradicate informal settlements by 2014. The mission states that the municipality will increase access to appropriate infrastructure and services. As mentioned previously, the library, high school as well as the community hall are too small to accommodate the residents of Kayamandi. The community hall can only accommodate 1 000 people and if more

people attend meetings, they have to stand outside the hall. According to Breaking New Ground (2004:12), sustainable housing settlements need to include more than only housing units. Adequate educational, religious and community facilities as well as economic opportunities and transportation services should be available to empower and sustain the community. New housing developments need to include a community hall, church, primary school and high school that can accommodate all the residents of that community.

Investments in Kayamandi may provide economic opportunities and help to eradicate poverty for the members of the community and will, in the long term, improve the quality of life of the community (Stellenbosch Municipality IDP, 2005:46). Observations of this research (see 4.3.2.1), revealed that Kayamandi does not have a clean environment. This may influence investors and visitors to the area. This contradicts with the mission of the Stellenbosch Municipality, namely to provide a clean and healthy environment that would attract investors and visitors.

5.2 SEMI-STRUCTURED INTERVIEW QUESTIONNAIRE AND OBERVATIONS

The following is the discussion of the results obtained from the semi-structured interview questionnaire and observations. It includes a discussion of the demographic and socio-economic information of the respondents as well as factors that influence levels of satisfaction with the housing unit (Project 5a), the housing complex, the community and the housing process (Objective 1.2.2). A discussion of the respondents' expectations of the housing unit, the housing complex, the community and the housing process (Objective 1.2.3), a comparison between these expectations and the housing experience (Objective 1.2.4) and the observations of the physical conditions of the housing units, the housing complex and the community (Objective 1.2.5) will be integrated into this discussion.

5.2.1 Demographic and socio-economic information

The demographic composition of the respondents indicated that there were more male-headed households (n=34) than female-headed households (n=12). All the respondents were over the age of 21. This is in line with one of the requirements of the South African government to qualify as a

beneficiary for a housing subsidy, namely that the beneficiary must be over the age of 21 (Department of Housing, 2002a:4).

It is further required by government that a subsidised housing unit should be registered in the name of the beneficiary who qualified for the subsidy (Department of Housing 2002a:7). The beneficiary is not allowed to lease this property. The survey results indicated that the housing units were registered in the name of 45 of the 50 respondents. Five respondents were not beneficiaries of the subsidy and the beneficiaries were not residents of these housing units. Two respondents rented the unit from the actual beneficiaries and three respondents indicated that the unit was registered in a family member's name and that they did not pay any rent.

The requirements to qualify for a housing subsidy further states that beneficiaries should be married, co-habiting or have dependants (children or elderly) (Department of Housing 2002a:4). The 12 respondents who indicated that they were single (see Table 4.12) were all beneficiaries of the housing subsidy. Nine of these respondents had dependants (children) and qualified as beneficiaries. However, three respondents had no dependants and did not qualify for a housing subsidy. They were therefore not supposed to be beneficiaries of housing subsidies.

To qualify as a beneficiary of a housing subsidy, the gross household income should be less than R3 500 per month. It was impossible to determine the average income of the respondents, as only six respondents revealed this information. Respondents might have felt that their privacy was being invaded or that disclosure of their income may indicate that they did not qualify as beneficiaries of a subsidy and were therefore not eligible to live in the housing development. In the case of five respondents, the gross household income per month was below R2 500 and respondents thus qualified as beneficiaries. However, one respondent earned more than R6 500 per month. It was not determined what his income was at the time he had applied to be a beneficiary of a housing subsidy.

A total number of 206 people usually sleep in these 50 housing units. The average number of people per household living in a unit in Project 5a was 4.12. The one-bedroom units of Project 5a are too small for households of four or more people. Households in this survey included, apart from own children of respondents (n=98), other adult family members (n=44), children of other adult family members (n=13), as well as one friend who resided with one of the respondents. A large population of children were living in housing units of Project 5a. The results of the age of members of the

household (see Table 4.6) indicated that 73 children were under 16 years old. This is almost half of all the people living in these units, excluding the respondents.

The adults who participated in this survey had a low level of education. The majority of the respondents (n=33) had not been educated further than Grade 10. Twenty of the other adult members of the household also had a low level of education (below Grade 11). This influenced employment opportunities and it is possible that the low level of education was the reason why all members of the household except one respondent, had low-income jobs. The respondents with a teacher's diploma and the Technikon diploma respectively, had higher paying jobs. One of them made improvements (added a geyser and bathtub) and extensions to the housing unit (see Observation 4.3.1.2).

Ninety-four of the adult members of the households were employed (46 respondents, 48 adult family members). The majority of the respondents (n=38) worked in and around Kayamandi and the Stellenbosch area. The contributions by all members of the household towards household expenditure were negligible. All the members of the household including the respondents made an average monthly financial contribution of R400 towards household expenses. Respondents indicated that with a lotto winning of R500 they would improve their housing unit (n=23), buy clothes (n=12) and give to charity (n=5). This gives an indication of the priorities of the respondents. It is interesting to note that although respondents did not have large incomes, some of them stated that they would use their lotto winnings to help other people (give to charity).

The respondents had previously lived in informal dwellings or hostels or shared houses with relatives or rented a room in a backyard. At the time of the survey, they had been occupants of the present housing unit for between three months and more than two years. The majority of respondents (n=43) indicated that moving to the present housing unit had been good for the family because of a better living environment.

5.2.2 Levels of satisfaction with the housing unit

With regard to the satisfaction of respondents with the housing unit, the results indicated that respondents were satisfied (very satisfied and satisfied) with the number and position of doors (n=38; n=34), number and position of windows (n=42; n=41) and number of lights (n=38) in the

unit. The position of the windows in the unit (see Addendum 8) allowed for cross-ventilation, but observations revealed that doors were left open during the day. This was possibly to allow more natural light and air to enter the unit (see 4.3.1.1.1). Doors and windows influence natural light and air circulation in the unit. The presence of natural light may reduce electricity costs. Residents who live in units with sufficient natural light and adequate ventilation can therefore benefit greatly.

Although the respondents were satisfied with the number and position of doors and windows in the units, respondents were dissatisfied with the climatic conditions (n=46) and ventilation (n=32) inside the units. The lack of interior finishes in the housing unit may affect the climatic conditions in the unit. The lack of insulation (no ceiling and unfinished walls) affected the temperature inside units. Units were hot inside in summer and cold in winter. Respondents expected a housing unit that would protect them from the elements and especially the harsh, cold winters. Turkoglu (1997:55) identified climatic control of the dwelling as an important factor that influences levels of satisfaction with a housing unit.

The majority of the respondents (n=46) were dissatisfied with the interior finishes of the units delivered by the Stellenbosch Municipality (see Table 4.18). Units were neither painted nor plastered. Since there was no visible paint or plaster in the interior of the unit, the aesthetic quality of the interior was low. The colour of unfinished walls (cement colour of concrete blocks) and the absence of ceilings influenced lighting levels inside the unit and this was observed to be low during daytime. Walls painted white or light in colour may improve lighting inside the housing unit (Winston & Turner, 2001:65). Observations of the interior finishes of the housing unit indicated that the majority of occupants did not make changes to the lack of finishes inside the housing unit. The interior walls of only nine units had been painted and plastered by the occupants. The majority of the interior walls in housing units had no finish. In housing units without ceilings (n=46) the roof trusses as well as the roof sheets and even openings between roof sheets were visible. In four units a ceiling had been installed upstairs and in seven housing units a ceiling had been installed downstairs.

The lack of interior finishes in the housing units influenced the satisfaction levels of the respondents (see 4.2.2). Although 44 respondents indicated that what came to mind first when they thought about their housing unit was to improve the structural finishes, only 14 respondents mentioned that they would improve the structural finishes if they could change anything in the unit. Furthermore,

the lack of finishes on walls may influence acoustics and comfort inside the unit (Winston & Turner, 2001:65).

The interior observations revealed that the walls of 42 housing units were cracked. This included one of the housing units with an additional plastered and painted wall finishing. In 11 houses these cracks were in the walls of the shower. Winston and Turner (2001:65) state that walls act as a support system for the roof and should be constructed from good quality material otherwise the walls will not be strong and will crack. Cracks in the wall were part of the structural defects in the housing units which respondents did not expect to find in the unit. There were also defects which came to mind first when they thought about the housing unit.

According to The World Health Organization (2004:1), the quality of a house plays a vital role in the health status of residents. Most health problems experienced by residents are directly or indirectly attributed to the materials used in the construction of the house, and to the size and structure of the house. The indoor air quality, humidity, low temperatures and overcrowding in a house pose threats to the health of residents (The World Health Organization, 2004:5). Mildew and damp in the houses affect the well-being of occupants because these conditions place residents at risk of respiratory illnesses such as asthma, eczema, tuberculosis (TB) and nasal allergies. The Western Cape has the highest incidence of TB in South Africa. Water leakages experienced in housing units stimulate the growth of mildew and this influences the air quality in the house (Chapman, Terr, Charlesworth & Bardana, 2003:224). This study did not evaluate the impact of housing on the health of occupants, but observed mildew and damp in the housing units.

Mildew was observed on the walls of kitchens (n=6), bathrooms (n=3) and the bedrooms upstairs (n=4). It was also present on the top storey ceiling in two of the units. Damp was present around the back door of housing units (n=26) as well as on the ceilings of two housing units. Leakages may damage the structure of the house and the contents inside (Winston & Turner, 2001:65). The presence of mildew and damp may be worsened by poor ventilation in the housing unit.

In the majority of the housing units (n=38) the occupants installed an additional floor covering. Observation revealed that the original concrete floors in the units were eroded (n=12) especially at the front entrances of units and in the cement parts of the staircases. Respondents indicated that they would like to improve these structural defects in the housing units.

Proper exterior finishes protect the inside of the house from rain and wind. Respondents were dissatisfied with the exterior finishes of the housing units (n=39). Walls of units had a coloured waterproof cement finish but were not plastered on the exterior. Observations (see 4.3.1.3.1) revealed that the exterior wall finishes of the housing units were well maintained, but the walls had structural defects. Several units had cracks in the exterior walls (n=15). The lack of a plaster finish on the exterior walls, as well as poor quality material and poor construction, may cause units to leak during rainy seasons. Compared to where they had lived previously (see Table 4.27), 35 respondents indicated that they now had water leakage in the house.

The roofs, manufactured from fibre cement sheets, were poorly constructed. Gaps were observed between the fitted roof sheets, and the nails that secured the roof sheets made holes in the fibre cement sheets. This caused further leakage when it rained. The holes should have been closed.

Respondents (n=39) indicated that they did not have privacy inside the housing units because the units were too small and had only one bedroom (Table 4.18). They had expected bigger units with more bedrooms, or housing units such as those in Snake Valley, which had an additional 18 m^2 foundation slab in order to make extensions to their units possible. A considerable number of respondents (n=22) also indicated that what came to mind first when they thought about their house was to extend the unit. However, when asked directly what changes they would make to the housing unit, only three respondents indicated that they would like to extend the unit in order to create more space and increase the size of the unit. Compared to where they had lived previously (see Table 4.27), respondents indicated that they had less rooms now (n=44) and did not have enough privacy inside the housing unit (n=33). They also indicated that compared to where they had lived previously, they now did not have privacy from the neighbours (n=42). According to the Department of Housing (2002a:1), a house should increase a household's privacy so that their quality of life may improve. This is contrary to the situation in units in Project 5a. Little privacy was observed inside the housing units. To increase privacy three occupants had partitioned the bedroom. Bedroom extensions to the housing unit were made to increase privacy in three households. Other extensions included extra rooms to increase the size of the units. According to the Department of Housing (2003:3) and Van Vliet (1999: xix) housing should provide privacy for occupants to perform their daily activities.

The size of the housing unit affects perceived comfort in the unit and this influences the levels of satisfaction (Turkoglu, 1997:65-66). The respondents indicated that the housing unit lacked space

(n=38) and that the size of the units (n=36) was too small. They had expected bigger housing units with more rooms and more than one bedroom and housing units with a foundation slab for extensions. They had also expected more comfort than what they had had in their previous living environment. Observation revealed that housing units with furniture were not comfortable inside as there was inadequate space to move around the unit. Units were too small to accommodate all the furniture.

Respondents were dissatisfied with the layout of the units (n=27), especially with the position of the bathroom/toilet (n=35) that leads directly from the lounge/kitchen area. They were also dissatisfied with the bedroom upstairs (n=28). Half of the respondents (n=25) mentioned that if they could change anything in the house, they would like to change the layout of the unit. Eleven respondents indicated that they had expected a double storey unit with the stairs on the outside of the units. Two respondents also expected the toilet to be outside the unit. Eight respondents mentioned that the thought that came to mind first when they thought about the house was to change the layout of the housing unit.

Thirty respondents were dissatisfied with the noise levels inside the units. Noise levels inside the units may be attributed to the blockboard bedroom floor upstairs. Acoustics can be improved by wall finishes (Winston & Turner, 2001:65) and the lack of finishes in these units may contribute to noise inside the units.
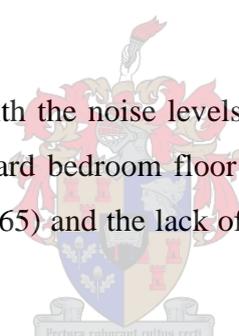
Twenty-seven respondents were dissatisfied with safety in the housing unit. All the housing units have the same front door key and this influences the safety situation. Results of the observations (see 4.3.1.2 & Table 4.43) indicated that eight respondents had installed a security gate at the front door and six had installed burglar bars. According to the Department of Housing (2002b:3) occupants need to feel safe inside their houses. A house is supposed to protect all the occupants from outside elements. Twenty-seven respondents indicated that they did not feel safe in the unit but only one respondent indicated that improving safety came first to mind when they thought about their housing unit. It is important for low-income groups to feel safe because unlike more affluent groups, they cannot afford extra safety features such as alarm systems and electric fences. According to Bennett (2003:234), safety reinforces the self-esteem and attitudes of low-income groups.

Apart from the extensions made to the housing unit, other improvements observed were made to increase the comfort of the housing unit. These included improvements made to the bathroom (n=12) and the kitchen (n=10), and extra lights in the units (n=5). Improvements to the exterior of the units were made in order to increase the safety (walls, fences and lighting outside), to personalise the exterior of housing units (painted front door, numbering, picket fences) and to beautify and increase the comfort of the environment around the unit (garden, paved sidewalks, parking areas, veranda, concrete slab, grass, trees and vegetable garden).

The majority of the respondents (n=43) indicated that moving to the housing unit had been good for the family. Reasons respondents gave was that their living environment had improved and that there was now a lower risk of fires. Only seven respondents were of the opinion that moving had been bad for the family. Reasons respondents gave for this was that the housing unit differed from the graphic presentation shown to them by the municipality and developers.

5.2.3 Levels of satisfaction with the housing complex

The results on the satisfaction of respondents with the housing complex indicated that the majority of the respondents (n=34) were satisfied with the location of the complex especially with regard to accessibility to shops (n=47) and other communities (n=37). Compared to their previous living environment, the present location was closer to spaza shops and salons (n=43). Respondents still had contact with previous friends and social ties had not been influenced by moving to this housing complex. Compared to where they had lived previously, they were satisfied with their neighbours in the housing complex (n=42). Respondents (n=41) indicated that they had enough support systems in the community and that their children were close friends with their neighbours' children in the complex (n=37). This is important because the neighbours and support systems of their previous neighbourhood were probably no longer part of their lives in the current housing complex. This is in line with the research of Turkoglu (1997:55) that describes the importance of accessibility of other neighbourhoods and amenities to increase satisfaction of residents with a housing complex. A good location of a housing complex may improve occupants' access to certain resources which might not have been available to them previously. These resources include open public spaces and green spaces as well as a better chance for employment and economic opportunities. Residential satisfaction is positively influenced if a housing complex is located close to amenities (Turkoglu,

1997:65-66). According to Irurah et al. (2002:10), costs for residents can be minimised through the appropriate location of housing developments.

Thirty-six of the respondents were satisfied with the walkways in the complex. They could use walkways to access other neighbourhoods and to go to town. They also indicated that compared to where they had lived previously, they could now use walkways in the housing complex to access other areas (n=44). The majority of respondents (n=37) had previously lived in informal dwellings. Such dwellings are usually in areas that do not have infrastructure like roads, pavements and walkways. According to Abu-Ghazzeh (1999:61) walkways provide an opportunity to view the surroundings and the landscape and to get close to neighbours.

Maintenance and cleanliness of a housing complex impact on the health of its occupants. Observation of the maintenance of the housing complex revealed that the gravel sidewalks and tarred streets were well maintained but that the fences between houses were broken down and some had been removed by the occupants (n=20). The housing complex itself did not have a fence around it. There was a lot of sand in the complex because of the lack of paving. Although occupants were responsible for cleaning in front of and around their units, it was observed that the streets and sidewalks were very dirty. The drains were blocked and littered with rotten food. The majority of respondents (n=42) indicated that they were dissatisfied with sanitation in the housing complex. According to Rukwaro and Olima (2003:154) maintenance and management should be the responsibility of occupants. Amerigo and Aragones (1997:52) state that when the housing unit and housing complex are well maintained respondents' satisfaction will be high. It is important that the housing complex is clean and healthy, since a clean and healthy environment may attract visitors and investors to the community (Stellenbosch Municipality IDP 2005:46).

The 17 respondents who indicated that they were satisfied with the position of their housing units resided in units in the centre of the housing complex and in units that face each other. Thirty-two respondents were satisfied with the direction in which the houses faced. The reason they gave for this satisfaction was that the complex had a view of Stellenbosch. Respondents who were dissatisfied with the position of their housing units (n=33) resided in units that faced the forest and roads that bypassed the complex. The majority of respondents (n=28) were also satisfied with the layout of the housing complex. The layout of the complex may facilitate social interaction among residents (Abu-Ghazzeh, 1999:41). This however, was not evaluated in the research.

The majority of respondents (n=29) were satisfied with the appearance of the houses in the housing complex and and half of the respondents were satisfied with the exterior wall colour of houses (n=25). Research results on housing satisfaction in Istanbul, Turkey indicated that respondents had high levels of satisfaction because they were satisfied with the appearance of the complex (Turkoglu, 1997:55).

Respondents indicated that, compared to their previous living environment, they now had access to services, including adequate access to water which runs daily (n=49), adequate electricity outlets (n=43) and weekly garbage collection (n=43). The majority of the respondents had previously lived in informal settlements where they did not have access to basic services. In terms of services, Project 5a has improved the living conditions of occupants.

Forty-five respondents indicated that they were dissatisfied with the play areas in the housing complex. Observation revealed (see 4.3.2.1) that the designated play area was covered in stagnant water seeping from the manholes and it had an offensive odour. It was not healthy for the children to play there. A carpet that lay in one area of the complex (in a corner) was used by the younger children as a play area, but the older children played in the streets. Respondents (n=45) indicated that their previous living environment had play areas for children. According to Abu-Ghazzeh (1999:62) play areas are places of social interaction, not only for the children but also for the mothers who supervise them while playing. The need for play areas was mentioned by 24 respondents as what came to mind first when they thought about the housing complex.

Respondents indicated that they were dissatisfied with the lack of social interaction areas (n=37). The layout of the housing complex did not enhance social interaction. There were no parking lots and social areas with benches or trees and shade for occupants to sit outside and socialize. None of these areas were provided in the housing complex. The majority of the respondents did not own cars and the absence of congestion in the complex made it possible to move freely in and around the complex. According to Abu-Ghazzeh (1999:61) areas where social interaction usually takes place are open areas and shared parking areas. The research results of Abu-Ghazzeh (1999:62) concluded that social interaction in a housing development takes place in the street, in parking lots and in open spaces.

Residents (n=39) were dissatisfied that the complex did not have single or shared parking lots for cars. Contrary to the graphic presentation of Project 5a by the developers (see Addendum 9) parking

lots were not provided by the developers. Five parking lots and two car ports had been built by occupants (see Observations 4.3.2.2). Four respondents mentioned a need for parking areas for cars as the first thought that came to mind when they thought about the housing complex.

Although the majority of respondents (n=28) indicated that they were satisfied with the layout of the housing complex, respondents indicated that they were dissatisfied with the space in the housing complex (n=38), the size of the complex (n=34) and the lack of open spaces (n=33). The layout of outdoor spaces in a housing complex determines the patterns of use by residents and also influences social interaction. The amount of space between the houses in a housing complex also determines which residents interact with each other (Abu-Ghazzeh, 1999:41 & 43). Respondents who were dissatisfied with the size of the housing complex indicated that the complex needed amenities such as public telephones, shops and social interaction area. According to Martin (1983:55), the quality and availability of open spaces influence satisfaction levels of occupants.

Almost an equal number of respondents were satisfied (n=26) and dissatisfied (n=24) with the outside noise levels in the housing complex. Research indicates that outside noise levels, especially noise from the play areas, influence the levels of satisfaction with a housing complex (Abu-Ghazzeh, 1999:62). Respondents who were dissatisfied with outside noise levels indicated that children playing outside caused a lot of noise. They were therefore less satisfied with the housing complex. Although the housing complex in this research had no play areas, respondents who were dissatisfied with outside noise levels mentioned children playing outside and passing cars as the reasons for their dissatisfaction.

An equal number of respondents were satisfied (n=25) and dissatisfied (n=25) with the level of security in the complex. Respondents who were satisfied indicated that there were adequate police patrols in the complex, especially during the weekends. Respondents who were dissatisfied indicated that one of the spaza shops in the housing complex had been robbed. Only seven of the total number of 12 street lights in the complex were in working condition. Adequate lighting in all areas such as the roads, the premises and gates and external walls of the building would reduce crime by exposing potential offenders. Fences, lights between houses and street lights all contribute to the safety of the complex and community. According to Bennett (2003:234) security is important for occupants of low-income housing as it reinforces their self-esteem and attitudes towards their houses. Twenty-six respondents indicated that compared to where they had lived previously, they did not feel safe in the housing complex. According to Bennett (2003:234), when residents do not

feel safe they develop negative emotions that can cause them to withdraw from society. Sufficient street lighting as well as safety influences satisfaction levels of residents.

In this housing development 45 respondents had received legal ownership of the housing unit. The majority (n=37) had moved from unhealthy informal settlements to an area with infrastructure such as roads and services, but this housing development lacked social services (community centres, clinics, play grounds and open spaces). The Department of Housing (2005) describes the importance of providing infrastructure such as pre-schools, primary and high schools, churches, community halls, resource centres, social interaction areas, taxi ranks in the same proximity of the housing project and play areas for children for sustainable human settlements.

5.2.4 Levels of satisfaction with the community

"The community" refers to the area surrounding the housing complex, 200 m to the north, east and west of the housing complex (see Addendum 1). The results on the satisfaction of respondents with the community indicated that they were satisfied with some of the services delivered by the Stellenbosch Municipality. This included availability of water (n=49), postal services (n=36), waste removal (n=36), electricity supply (n=36) and garbage collection (n=30). During the building of new housing developments, services such as water supply, adequate electricity, garbage collection and sanitation should be provided in the community (Department of Housing, 2002a). As mentioned previously, 37 respondents had moved from informal settlements that had no services, to the present location.

The observation of the complex (see 4.3.2) and the community (see 4.3.3) revealed that the area was very dirty, despite the removal of waste by the Stellenbosch Municipality. The streets and pavements were littered and there were no refuse bins in the area. Garbage was stored in refuse bags on the sidewalks. A community or complex impacts on the health of its occupants, especially on the health of children, as they are more prone to disease and came into contact with unhealthy elements in the complex more frequently. Clean communities are important for the health of residents.

Forty-two respondents were dissatisfied with the sanitation as well as the storm water drainage in the community (n=30). The respondents mentioned that the drains were often blocked and that heavy rains flooded the community. It was observed that the area had poor soil drainage because there was stagnant water between the houses (see 4.3.2.1). New housing developments should

include management and maintenance of the environment and the surrounding area outside the housing structure, but people in the community need to take responsibility for the cleanliness and maintenance of their surroundings (De Bie, 2001:12).

Respondents were satisfied with the roads (n=45), spaza shops (n=41), routes to Kayamandi (n=40) and the resource centre (Kamavalethu centre were residents have access to resources such as computers and HIV counseling) (n=31). Respondents indicated that it was easy to move in and out of Kayamandi and that the roads were tarred with no erosion and pot holes as the reason for their satisfaction. It was observed that there were a number of spaza shops in the community. Respondents indicated that they were satisfied with the spaza shops because their prices were reasonable.

It was observed that the pavements and roads in the community were well maintained. Grass in open areas was unkempt. No provision was made to enhance social interaction in the community and there were no benches in existing open areas. As an ongoing process the role of housing is to provide social amenities and facilities that will promote resource sharing such as parks where children can play (Sowman & Urquhart, 1998:4). Proximity to social amenities contributes to levels of satisfaction (Rukwaro & Olima, 2003:154).

Respondents were dissatisfied with the services at the clinic (n=32) and the skills development centre (n=29). According to Martin (1983:55) social services enhance the well-being of the community. Social services encourage the establishment of sustainable communities (Ralegoma, 2004:83). As mentioned previously, the clinic was understaffed and there was no doctor (see 4.1.3).

Respondents were dissatisfied with street lights in the community (n=28). The observation revealed that none of the street lights in the community (see Addendum 1) were in working condition and the area was not well lit at night. Street lighting as well as lights between houses contributes to safety in the community. Adequate lighting in all areas such as the streets, the gates and external walls of the buildings would reduce crime by exposing potential offenders (Rukwaro & Olima, 2003:154).

Despite the respondents' dissatisfaction with certain elements of the Kayamandi community, 33 respondents were satisfied with life in general in Kayamandi. The low crime rate in Kayamandi (n=10) was the most popular reason for their satisfaction with life in general in Kayamandi. Nine respondents mentioned that they had all they wished for. The reasons for dissatisfaction with life in

general in Kayamandi were a lack of progress in Kayamandi (n=6) and poor sanitation (n=5). The majority of respondents (n=30) also indicated that they would like to see their children live in Kayamandi and the most popular reason for this was that children would be near their parents (n=18). Although 35 respondents indicated that the future for their families in Kayamandi was good, 20 respondents indicated that they would not like to see their children live in Kayamandi. Twelve respondents were of the opinion that the standard of living in Kayamandi was low.

5.2.5 Levels of satisfaction with the housing process

During the housing process, according to the procedure and objectives set by the National government in providing housing, there should be consultation between the local authorities and the community members. According to The World Bank Group (2001:2), community members should be included in all the stages of the housing process. Community participation is a vital part of the housing process because it impacts on the success or failure of the implementation of the housing development. The community should be consulted on every aspect of the development because they can reject or accept the housing development (Banes & Madonsela, 2000:41). Consultation is important because this helps to determine the needs of the community. The community knows their problems better than anyone else. Involvement of the community will give them a sense of ownership and when communities support projects, there will be continuity and sustainability. This will empower the community (The World Bank Group, 2001:2).

A local negotiating group (LNG) that is responsible for accepting proposals from consultants as well as for briefing the consultants about the objectives of the programme, should consist of community members, local authorities and the developers. Together they make decisions and accept proposals from consultants. They also identify the needs and goals of the project and draw up a budget (Department of Housing, 2002c:16). Respondents indicated that there had been an LNG during this housing process (n=35).

Forty-five respondents had signed an occupation letter and were therefore in possession of the title deed of the housing unit they resided in. Thirty-nine respondents indicated that their needs had not been determined during the housing process. The majority of respondents were of the opinion that they had not been given an opportunity to make suggestions (n=37) or encouraged to participate in the housing process (n=37). Suggestions that had been made, were not taken into consideration (n=45). The community had been involved in the process leading to the provision of houses (n=27)

but they were dissatisfied with the level at which they were allowed to participate (n=34). The correct procedures during the housing process had not been followed.

Respondents indicated that the municipality had explained the housing development to them (n=33), but despite this respondents had little knowledge of the design and layout of the housing unit and housing complex. Despite the fact that the majority of respondents (n=40) indicated that the layout of the housing unit as well as the layout of the housing complex (n=34) and the position of the complex in the community (n=30) had been shown and explained to them, they did not know how big the houses would be (n=43) and what the completed houses would look like (n=35). Respondents had different expectations with regard to the size and layout of the housing units and housing complex. Had these elements been discussed in meetings with community members, respondents would have been better informed on this development.

Respondents had expected more communication with the municipality (n=45). Community participation is important for the successful implementation of a housing project. The community must be consulted on the project concept and plan which has been developed, so that they are in a position either to accept or reject the plan (Banes & Madonsela, 2000:41). According to The World Bank Group (2001:2) the community knows their needs and problems better than any outsider. Getting their input and views will determine the success or failure of the project. It will give them a sense of ownership and participation and this will empower the community. With the backing of the community the project is guaranteed continuity and sustainability.

The respondents in this study indicated that they had been excluded during the housing process (n=35). As required by National government, the Kayamandi community members were encouraged to participate in the planning stage of the housing process, yet only 10 chose to participate in the planning stage. Forty-four respondents indicated that they were involved in the construction stage, but they indicated that they had not been encouraged to participate in the delivery stage (n=41). However, the delivery stage entailed the handing over of keys to respondents. All the respondents had received letters from the municipality prior to the hand over of keys to them. This indicated that the respondents had been encouraged by the municipality to participate in the delivery stage. Community participation in all the various stages of the project clarifies roles, which in turn promotes an understanding between the community and the local authorities (De Bie, 2001:2). The lack of involvement of respondents during the housing process may be attributed to the ignorance of respondents regarding the meetings held during the housing process. Responses on

126

frequency of meetings varied greatly. This may be due to the fact that respondents had not known about the meetings, had only attended the first meeting or had not attended any of the meetings.

Sustainable human settlements should create economic opportunities for community members (Sowman & Urquhart, 1998:4). Despite involvement during different stages of the housing process (see Table 4.33), the majority of respondents in this survey (n=31) indicated that moving to this housing unit did not present more economic opportunities to them and only nine respondents had established businesses. Respondents had expected more jobs when the housing development was built (n=45).

Housing education is an important part of the housing process and housing provision for low-income groups (Department of Housing, 2002a:4). Beneficiaries were supposed to have received education on the responsibilities of being a home owner, subsidy types, criteria to qualify for a subsidy as well as subsidy amounts. The results of this survey indicated that 35 respondents had little knowledge of housing subsidies. They were of the opinion that nobody had explained to them what a subsidy is (n=39). The majority of respondents did not know the specific subsidy they qualified for (n=42) and 33 respondents did not know how much the subsidy amount was that they qualified for. Respondents further indicated that they had not received enough information about the responsibilities of being home owners (n=37).

An equal number of respondents indicated that their communities had been disrupted and not disrupted during the housing process. According to Sowman and Urquhart (1998:74) there should be as little disruptions as possible in communities where new housing developments are underway. The respondents who indicated that their community had not been disrupted mentioned that their social networks were intact. Respondents who were of the opinion that their community had been disrupted, indicated that their support systems had been destroyed.

This chapter discussed the results of the survey research. In the next chapter the conclusions and recommendations of the research are discussed in relation to the objectives of the study.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

The goal of this research was to conduct a post-occupancy evaluation and to determine the levels of housing satisfaction of occupants in Project 5a, a state-subsidised housing project in Kayamandi, Stellenbosch. In this chapter the conclusions and recommendations of the research study are presented and discussed in relation to the objectives of the study. This includes recommendations for the Stellenbosch Municipality in implementing measures to increase housing satisfaction with state-subsidised housing (Objective 1.2.6).

6.1 CONCLUSIONS

The documents studied indicated that the Stellenbosch Municipality's mission was to provide sustainable municipal services and infrastructure to all residents of its jurisdiction. The findings revealed that not all these services were delivered to residents. There have been many initiatives to improve the living conditions of the residents in Kayamandi, but the infrastructure that is in place in the community is not sufficient and does not accommodate the entire community. Municipal services such as running water and electricity are available on a prepaid basis in most households. However, in the informal settlements, water taps are provided at some distance, often as far as 200m from the homes. A total of 207 households have no access to sanitation.

The results from the semi-structured interview questionnaire and the observations were used to draw conclusions with regard to levels of satisfaction with housing units, the housing complex, the community and the housing process. The demographic composition of the households in this survey indicated that there were too many people living in a one-bedroom unit. Respondents had a low level of education and mostly earned low incomes of less than R2 500 per month. With regard to income, one respondent was earning more than R3 500 per month at the time of the survey. Five beneficiaries of the subsidy were not residents of housing units and two of them were letting the housing unit. This is illegal. Three respondents had no dependants and were not supposed to be beneficiaries. Better control measures should be implemented to ensure that only people who fulfil the criteria set by the Department of Housing (2002a:4) receive a housing subsidy. The low income of respondents resulted in their being unable to afford improvements to the housing units or

128

furnishing for the housing units. Housing developers need to take this into consideration and provide beneficiaries with houses that have better finishes.

Project 5a in Kayamandi was funded by the hostels' redevelopment programme of the National Housing Subsidy Scheme. The Stellenbosch Municipality's aim along with that of national government is to eradicate all informal settlements by 2010. Project 5a is a step toward eradicating informal settlements in Kayamandi. The occupants of this housing project were previously hostel and shack dwellers. The respondents had been moved from a previous living environment which did not have infrastructure and services to a better living environment with infrastructure and access to adequate services.

Findings on the levels of satisfaction of respondents with the housing units revealed that the respondents were dissatisfied with certain elements namely, space, size, interior finishes and position of the toilet/bathroom of the housing units in which they resided. It can be concluded that the Stellenbosch Municipality and the developers did not succeed in meeting and addressing all the housing needs of the occupants of Project 5a. With regard to the evaluation of levels of satisfaction with 22 different elements of the housing units, respondents indicated satisfaction with only six elements. This included the position of the unit, the number and position of doors, and the number and position of windows and lights in the unit. Respondents' dissatisfaction with the housing units were predominately centred on the lack of interior and exterior finishes, security and layout, and especially the position of the bathroom/toilet in the unit. Units were too small and they lacked space and privacy. This conclusion is supported by the observations made by the researcher.

Structural defects, for example cracked walls, may be attributed to poor workmanship and/or the use of poor quality materials. The Project 5a housing units were completed in 2003. Within the relatively short time of approximately two years these housing units already have defects and this may worsen over time. Despite the majority of the respondents' dissatisfaction with certain elements of the housing units, they were satisfied with moving to these housing units and they indicated that it had been good for their family.

A housing complex should have infrastructure (Martin, 1983:55), social services (Ralegoma, 2004:83) and be located in close proximity to amenities (Turkoglu, 1997:65-66). Further findings of this survey revealed that this housing complex was well located with regard to accessibility to shops and other communities. Respondents' social networks were intact because they could still keep in

touch with previous social networks in other communities. Support systems for low-income groups are vital because they do not have resources to pay for certain necessities such as child care. Further findings on the levels of satisfaction with the housing complex revealed that most respondents were dissatisfied with the lack of play areas for children, parking lots, social interaction areas and sanitation. It is required by national government that play areas for children and social interaction areas should be integrated in the development of housing for low-income groups (Breaking New Ground, 2004:13). This indicates that the Stellenbosch Municipality and the developers of Project 5a did not provide all that is required by national government. Although respondents were dissatisfied with sanitation in the housing complex, they indicated that they had moved to a better environment in terms of services and infrastructure such as roads and walkways.

Satisfaction with certain elements of the community was related to the provision of municipal services (water, postal services, waste removal and electricity) and infrastructure (roads, resource centre, routes to Kayamandi and shops). These services and infrastructure had previously not been available to the respondents. Findings revealed that the Stellenbosch Municipality had provided adequate infrastructure and services for this housing complex but not necessarily for the rest of the Kayamandi community. However, respondents were dissatisfied with services at the clinic. When services are in place the occupants are happier in their living environment and quality of life is improved (The right to adequate housing, 2002:3).

The findings further revealed that, apart from dissatisfaction with sanitation in the housing complex, respondents were dissatisfied with sanitation and storm water drainage in the community. If the Stellenbosch Municipality would like to attract investors and visitors to Kayamandi, especially to the new tourism centre, then there has to be an improvement in the sanitation and storm water drainage in the community. It was evident from the results of observations by the researcher that this community was dirty and it is likely that at present it will not attract visitors and investors. However, despite dissatisfaction with certain elements of the community, the majority of the respondents were satisfied with life in general in Kayamandi and would like to see their children live there.

As required by government, this housing development had a Local Negotiating Group (LNG) that represented the community, the Municipality and the developers, but the correct procedure during the housing process was not followed. The housing process was not properly explained to the beneficiaries. It can be concluded that beneficiaries were ill-informed on the design of the housing

units and the layout of the housing complex as they indicated they expected a different design and layout. They were further ill-informed on all aspects relating to housing subsidies. The results further indicate that the housing process had not been properly explained to them and that they did not have enough communication with the Municipality. Education of the beneficiaries of housing subsidies is of utmost importance as this forms part of the process of being housed. The housing process goes beyond receiving a house, it also includes education of housing consumers (The World Bank Group, 2001:2).

Beneficiaries are supposed to participate in the housing process. During this participation processes beneficiaries must be given an opportunity to air their views and concerns about the housing development and this should be taken into consideration by the local authority and developers. This participation of the community promotes ownership and empowerment of the community (The World Bank Group, 2001:2). The Municipality did not afford the community enough opportunity to make suggestions and raise concerns and views and therefore did not allow the community to participate in enhancing their own lives. More participation should have been initiated by the Stellenbosch Municipality but they failed to do so and therefore did not give the community a say in what happened with regard to this development.

The expectations of respondents regarding the housing units and jobs had not been met. They had expected bigger housing units despite having been shown the plan of the units and layout of the housing complex. This may be attributed to the respondents being ill-informed and perhaps not understanding what had been explained to them. They had also expected units with interior finishes and this lack of finishes influenced their satisfaction. Despite their involvement during the housing process, moving to this housing development had not provided more economic opportunities to the residents of this housing complex. When the housing development was being built they had expected to get jobs. Their exclusion during the housing process might have played a role.

6.2 RECOMMENDATIONS FOR THE STELLENBOSCH MUNICIPALITY

The following are recommendations in view of Objective 1.2.6, namely to make suggestions and recommendations to the Stellenbosch Municipality in implementing measures to increase housing satisfaction with state-subsidised housing. In future developments, the implementation of these measures may contribute to increased satisfaction of occupants with state-subsidised housing units.

The results of the semi-structured interview questionnaire indicated that the housing needs of respondents had not been met. It is therefore recommended that the Stellenbosch Municipality and developers of low-income housing units in Kayamandi should conduct a complete and thorough needs assessment of the beneficiaries of a proposed housing development. Apart from identifying needs, the results of such an assessment will give an indication of aspects that need to be explained to beneficiaries. Follow-up meetings between the Stellenbosch Municipality, developers and the beneficiaries should take place and the results of the needs assessment be explained and limitations of the housing development need to be identified. For example, the beneficiaries may have indicated a need for a two-bedroom housing unit, but the subsidy amount and beneficiary contribution might only be sufficient to supply a unit with one bedroom. If beneficiaries have a better understanding of the limitations that the Stellenbosch Municipality and developers deal with, they will most likely be more willing to accept these limitations and decisions.

There should be more communication between the Stellenbosch Municipality and the beneficiaries. During this communication process the composition, function and responsibilities of the LNG should be explained. All the stages of the housing process, namely the planning, construction and delivery stages, should be explained to the beneficiaries and they should know what their responsibilities are. There should be communication between the LNG and the rest of the beneficiaries who are not part of the LNG. The LNG should report back to these beneficiaries on the progress of the development. This communication might help to resolve conflict. The importance of attending meetings should be stressed to the beneficiaries as well. During meetings the contribution of the beneficiaries should be acknowledged. Respondents should be encouraged and allowed to participate in the housing process leading to the provision of houses. This will reduce a feeling of anonymity of beneficiaries. Participation increases the sustainability of any housing development.

In a low-income housing development there should be different housing options available for consumers. This includes housing units of different sizes, for example bachelor units, single storey houses as well as houses with one or more bedrooms. These options will make it possible to accommodate the different sizes of households, different stages of the family life cycles and competencies of household members. The elderly, people with mobility problems and the visually impaired will be better accommodated in a single storey unit.

The Stellenbosch Municipality and developers should explain to all probable residents of a proposed housing development the planning, layout and design of the units and housing complex as well as the location with regard to the rest of the community. Three-dimensional models should be shown to beneficiaries to give them a clear picture of what to expect. The actual size of the housing unit should be illustrated. The beneficiaries need to understand proposed developments fully.

It is further recommended that housing education programmes should be provided for beneficiaries on a continuous basis. Education, especially on the responsibilities of being a home owner, housing subsidies, subsidy types as well as subsidy amounts, should be provided. This may give respondents insight into the monetary value of what they will receive. Perhaps once this is disclosed, respondents may assume greater responsibility and take better care of their housing units. This housing knowledge of beneficiaries should be evaluated to ensure that beneficiaries have understood what has been presented to them.

The Stellenbosch Municipality and developers of low-income housing developments should ensure that, as stated by national government, economic opportunities are created for beneficiaries. Employment during the construction of housing developments may provide skills to beneficiaries and lead to future employment on other construction sites. The developers should ensure that more permanent jobs are created for beneficiaries during the construction and after completion of the housing development. According to Cornelissen (2001:20), the housing process should also emphasize job creation and economic development.

The Stellenbosch Municipality and developers should conduct more post-occupancy evaluations of other low-income housing developments in Kayamandi. POE will help to identify problems with the design and layout of housing units and indicate shortcomings of the housing process. In the long run this will help the Municipality to address the needs of the beneficiaries.

## 6.3 RECOMMENDATIONS FOR FURTHER RESEARCH

More post-occupancy evaluation research should be conducted to evaluate the successes of low-income housing developments in South Africa. It is recommended that the researchers themselves are involved in conducting the evaluations and gain insight into the respondents' reasons for viewpoints. These evaluations will give the developers and national government more insight into the housing satisfaction of occupants in state-subsidised housing units. The research results of these

surveys should be widely published and made available to national government and local authorities.

The respondents of this research more than once referred to the houses of Snake Valley that differed in layout and design from those in Project 5a and they indicated that they preferred such houses. Therefore it would be interesting to do research that compares the levels of housing satisfaction of occupants that reside in state-subsidised houses with different designs and layout. Local authorities and developers need to be aware of the elements that influence levels of housing satisfaction.

It is recommended that research should be conducted on the participation of beneficiaries and the community during the housing process. This will identify the levels at which housing consumers are allowed and encouraged to participate. Shortcomings of the participation process will be identified and this should be avoided in any housing process.

Research should be conducted on the content and methodology of housing education modules or programmes that local authorities presently use for educating housing consumers. This will provide insight into the content and methodology of modules and it can be adapted to suit different housing consumers.
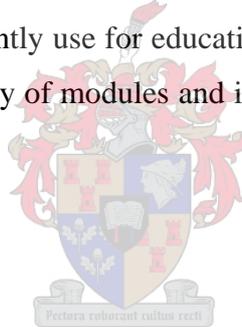
6.4 RESEARCH LIMITATIONS

A limitation to this research study was the fact that the questionnaire was administered in English to a group of whom the home language was isiXhosa. Despite the translation of the questionnaire into isiXhosa and the use of an interpreter that translated responses to the researcher in English, valuable information may have been lost. To avoid this problem in future a focus group technique should be used. A facilitator who is fluent in isiXhosa and English could help the researcher to lead the focus group discussions and transcribe the communication. In this way better insight into the reasons for levels of satisfaction will be gained.

Post-occupancy evaluation of low-income housing developments may help local governments and national government to gain insight into the housing satisfaction of beneficiaries. The results of these evaluations may identify the problems that should be avoided as well as successes that should be implemented in low-income housing developments in future.

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