

University Of Natal, Durban

*An Investigation of How Construction Skills Transfer Leads to
Sustainable Employment and Housing Improvements in
Incremental Housing Projects*

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Nkosinjani Agripper Mkhize

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Abstract

This research investigates the impacts of construction skills acquired by the beneficiaries who participated in the construction of housing in the three case studies used in this study; the housing policy also assumes such a connection. The study argues that the construction skills can assist training beneficiaries to acquire sustainable employment in the housing construction industry. The housing beneficiaries have however experienced the problem of being unable to make further housing completion due to various problems such as unemployment, low income, regulations and building standards. Therefore, the study also assumes that housing construction industry has a potentially pivotal role to play in providing sustainable employment to the training beneficiaries, which in turn allow them to generate income for housing improvements.

The study uses two core-housing approaches (incremental and enabling), which emphasises the importance of construction skills to the training beneficiaries and are relevant to the South African Housing Policy. This study argues that the Housing Policy has a crucial role to play in construction skills acquisition during the construction of incremental housing projects. This study investigates the relationship among skills, employment and housing improvements of Hambanati, Mshayazafe and Waterloo areas in KwaZulu-Natal.

A research in this study has been conducted for the purpose of highlighting realities regarding the impact of acquiring relevant construction skills through incremental housing projects. The research will enable the study to inform the government's current housing policy about the potential benefits of providing construction skills in the delivery of incremental housing.

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1.0 Introduction of the study

The South African construction industry is a potentially critical actor in post-apartheid reconstruction. The reasons include its linkages with other sectors, its growth-generating characteristics and its potential for adopting labour intensive techniques for a wide range of products. The release in 1998 of the South African Government's Green Paper on the construction sector has focused attention on the creation of an enabling environment for growth of the industry, the organization and working of the construction economy, and the sector's roles in national reconstruction. The building construction sector is also fundamental to housing delivery in urban reconstruction and in the economic empowerment of historically disadvantaged communities. In many respects, therefore, the construction sector is at the cutting edge of post-apartheid economic and social development. Apart from that, the Green Paper further points out that the construction sector can play a meaningful role in addressing the current unemployment crisis in South Africa (Rogerson, 2000).

Therefore, the main aim of this study was to investigate the impacts of the construction skills provided in incremental housing projects in helping training beneficiaries to acquire sustainable employment created in the housing construction industry in order to enable them to generate income for achieving housing improvements. Gwagwa (1995) points out that those housing improvements are mediated by the amount of resources available such as household economic activities, income and affordability by project beneficiaries. The issue of housing improvements is critical since people who were eligible for Government housing subsidy had low income for meeting the fundamental of incremental housing approach.

There are high employment opportunities where training beneficiaries would be able to acquire sustainable employment of generating income for achieving housing improvements since housing construction industry refers to both the formal and informal building (residential and non-residential) and civil engineering (construction works) sectors. However, there is a growing recognition that housing construction industry could be a more important generator of jobs and a source of managers and businessmen than had often been in the past. Furthermore, housing construction industry is the essential contributor to the process of development of roads, dams, schools, houses, hospitals and factories. Other construction works are the physical foundations on which development efforts and improved living standards are established.

The study looked at the various types of the construction skills provided to beneficiaries who participated in the construction of incremental housing projects at Hambanati, Mshayazafe and Waterloo in Durban Metropolitan area. The study has pointed out the necessary construction skills that would assist beneficiaries who participated in incremental housing construction process to be able to get sustainable employment in the housing construction industry or to any related construction industry. The sustainability of housing delivery to disadvantaged people would be able to help them to get sustainable employment by establishing small-scale construction enterprises. In this regard there is a great need of enough construction skills to be provided to participants.

Furthermore, the housing construction industry is particularly effective in providing employment to low-income groups. However, there is a need for an adequate and continuous supply of skilled workers, whose availability can be very influential on the efficiency of housing supply.

South African government has introduced the housing subsidy in order to support or provide the low-income people with houses and create more employment opportunities. This enabling approach required housing beneficiaries to make further improvements, while some of them were unemployed, and earned low income.

The Housing Code (1999) points out that the National Housing Policy is directed at developing housing in a manner that empowers communities and individual beneficiaries, through skills transfer and economic development. This situation points out by the housing code was expected to be achieved through participation of communities in the housing process, maximizing job creation and supporting programmes that included skills transfer and capacity building, supporting the role of small and intermediate enterprises and stimulating entrepreneurial development.

1.2 Research Problem

The research problem statement of this study is that during the construction of the case studies adopted in this study there was inadequacy of construction skills transfer to training beneficiaries who participated in incremental housing projects, which could equip them to get sustainable employment. The sustainable employment has the potential to give training beneficiaries enough income for achieving housing improvements through using their own construction skills. The provision of enough construction skills to training beneficiaries would be able to create other employment opportunities for other unskilled people by establishment of small construction enterprises. The construction skills that were provided led to unemployment after the project had ended and training beneficiaries were unable to use those skills for improving their own houses due

to insufficient time for training, which caused these skills into ineffective. Hence, incremental housing is a form of self-help since the government's enabling approach requires them to further complete their dwelling units. It is widely accepted that a skill shortage exists in South Africa and the skills shortage can be overcome by only massive programmes of skills training (Webster, 1995). Beneficiaries are lacking employment skills for acquiring job opportunities. The beneficiaries have many responsibilities to be fulfilling such as purchasing food, cloths and paying school fees for their children as well as expected to make further improvements to their dwelling units. There were housing projects such as Hambanati, Mshayazafe, Kwa-Dabeka and Waterloo that started by giving training beneficiaries construction skills before commencing housing construction. The South African Government encourages this strategy by introducing the skills development strategy in order to help the disadvantaged people to get jobs in the housing construction industry.

The construction skills provided in incremental housing projects are able to empower the communities to facilitate and to stimulate holistic development processes by enabled beneficiaries to eliminate dependency and to improve their quality of life through acquiring employment or creating employment by establishing small-scale construction enterprises.

On the other hand, South Africa's economic survival depends on its ability to train and develop its most available resources, which is the growing human population. South African education system has never been legitimate or appropriate. It has produced a post apartheid economy that is characterized by low levels of skill development and a low participation and productivity in the economic life of society by the majority.

There is a critical need to improve education and training levels in South Africa, if the construction and development challenges are to be met.

Education and training will generate opportunities for people to find employment opportunities in the construction labour market. Job creation and training are mutually important components to combat poverty and unemployment problem. Through appropriate training and empowerment of communities, increased participation in the physical reconstruction will be encouraged.

However, there is a great need for construction skills transfer to the beneficiaries who are participating in incremental housing projects to access different kinds of construction skills because incremental housing projects have the potential of creating employment opportunities. Hodgson's research (1994) points out that resources need to be devoted to training. Hodgson further points out that there is a need for both construction skills training and managerial skills training for small-scale contractors. At present, skills training access by the sector are not enough and the skills base of the whole construction sector is declining.

1.3 Research Question

Do the construction skills provided to beneficiaries participating in the construction of incremental housing projects actually assist them to acquire sustainable employment in the housing construction industry, which in turn allows them to generate income for achieving housing improvements?

1.4 Subsidiary Questions

- ❖ How were the construction skills transfer programmes organized?
- ❖ What construction skills were provided to the trainees who participated in incremental housing projects?
- ❖ What procurement procedures were used in selecting trainees who participated in incremental housing projects?
- ❖ What procedures were used in transferring construction skills?
- ❖ What obstacles limited training beneficiaries to get sustainable employment that could lead to housing improvements?
- ❖ Were training beneficiaries be able to obtain sustainable employment that helped them to achieve housing improvements?
- ❖ Did they use construction skills acquired from incremental housing training to improve their own houses without employing other builder?

1.5 Importance of the study

Housing delivery to the poor households in South Africa needs serious attention, since housing construction industry is regarded as one of the potential industries for creating job opportunities and contributing to the economic growth of the country. Therefore, this study is of great importance as it examines the construction skills provision in incremental housing projects for sustainable employment opportunities that can help the training beneficiaries to generate income for achieving housing improvements through utilizing their own skills. Information on construction skills transfer is very limited whilst at the same time it is in demand because housing beneficiaries are expected to improve their houses for themselves, yet some of them are unemployed due to lack of

employment skills that can help them to enter into the construction industry's labour market.

The housing beneficiaries are employed but they earn low income, which they cannot spend on housing improvements given other more pressing priorities. Furthermore, construction skills are imperative to give beneficiaries sustainable employment opportunities that emerge in housing construction industry to generate income and use their skills to improve their houses. So, a lack of such information is an obstacle to the successful implementation of housing policy. This study then is aimed at assisting in discovering other types of construction skills that are necessary to be provided to trainees for sustainable employment that can generate income for housing improvements.

1.6 Objectives of the study

In terms of academic research, construction skills transfer in incremental housing projects is an underresearched area. The major aim of the study is to examine whether the housing beneficiaries trained in the incremental housing projects are able to use those construction skills to get sustainable employment in the housing construction industry which in turn allows them to generate income for achieving housing improvements by using their skills; through investigating the following:

- ❖ The contribution made by construction skills transfer in incremental housing projects to assist training beneficiaries to get sustainable employment opportunities.
- ❖ To look at the current economic status of the training beneficiaries.
- ❖ The obstacles that limit training beneficiaries to utilize their skills.

- ❖ The housing improvements that are made by training beneficiaries to their homes using their own construction skills.

The main purpose of the study is to contribute to practical ideas that might assist, influence and shape a meaningful National Housing Policy to provide construction skills to beneficiaries participating to the construction of incremental housing projects. The beneficiaries would be able to acquire sustainable employment, which in turn allow them to achieve housing improvements.

1.7 Hypothesis

The construction skills provided to beneficiaries participating in incremental housing projects were insufficient in assisting training beneficiaries to acquire sustainable employment, which in turn allow them to achieve housing improvements.

1.8 Concept Definitions

1. Incremental Housing is the type of housing that provides people with a basic dwelling unit and where people are encouraged to manage the rest of the provision themselves (Dewar, 1993). It is usually a house, which is minimal in its level of services, finishes and /or size, but specifically provides for upgrading of these aspects (CSIR, 1997).

2. Construction skills transfer is a training process that gives beneficiaries who participate in the construction of incremental housing projects manual skills and technical knowledge. A manual skill is the ability to perform quickly and effectively complex actions, which necessitate the co-ordination of perceptual and motor activity.

An example is the ability of a carpenter to saw a straight edge. The skills of the carpenter means the combination of exercising manual dexterity at sawing, hammering or planning together with a knowledge of different types of woods, what joints and glues to use when constructing a piece of furniture, how to polish or varnish the finished product and so on (Webster E.C and Leger JP, 1992). Therefore, there were three categories of construction skills referred to in this study i.e. skills for actual physical building such as bricklaying, blocks making, plastering and carpentry; managerial skills, e.g. to become a contractor and how to tender.

3. Employment is the giving of work to somebody, usually for payment.

4. Housing improvements have two components:

- (a) Internal improvements
- (b) External improvements

In this study internal improvements refer to the investments made inside the house. For example, buying furniture such as fridge, chairs, tables and stove in a house. External improvements relate to structural building improvements that result in the improved appearance of the building or house, for example, in the form of adding extra rooms, painting, fencing and putting water and electricity on site.

5. Sustainable Employment in the context of this study refers to the ongoing earning of income in the housing construction industry, which allow the training beneficiaries to achieve housing improvements.

6. Training Beneficiaries in this study refers to beneficiaries who acquired construction skills during the construction of incremental housing projects used in this study.

1.9 Sustainable Employment Indicators

There are four important indicators of sustainable employment employed in the study with an aim establishing whether sustainable employment does actually occur in the housing construction industry, which training beneficiaries expected to achieve:

- The continuous earning of income from the housing construction industry.
- The training beneficiaries must not do casual jobs (piece-job). The individual must be permanently employed.
- The training beneficiaries must work continuously in their contracts, no break of more than two years.
- The incremental housing projects must have at least five years since initiation to examine sustainability to beneficiaries who acquired construction skills in the construction of incremental housing projects.

1.10 Research Methodology

The research methodology section is a discussion of how the research was conducted. It explains the sources of information and methods of data collection that were used during the research. It is also a discussion of how the data was analyzed and interpreted. The case study areas of this research were Waterloo, Mshayazafe and Hambanati incremental housing projects. Waterloo housing project is situated in the Northern part of Durban. Mshayazafe is situated at Inanda in Northern part of Durban and the Hambanati housing project is situated in Tongaat. All of these housing projects are within the boundaries of Durban Municipality. The basis of selecting these incremental housing projects was that they had

preliminary training programmes before and during housing construction. These incremental housing projects contributed to the research question of this study by determining whether the training beneficiaries were actually able to get sustainable employment using the skills they acquired from training after the projects were completed.

Furthermore, the sustainable employment that can generate income, which in turn allow them to make housing improvements through using their own construction skills.

1.11 Preliminary Information of Identifying Training Beneficiaries

The researcher visited the Project Managers who facilitated housing delivery of the three mentioned case studies at Metro Housing at Durban and North Local Council. The aim behind this visit was to get information about how the researcher could access beneficiaries who were trained in the aforementioned incremental housing projects. The Project Managers referred the researcher to Local Representatives to ask whether it would be possible to get some of the training beneficiaries that participated in construction of incremental housing projects. With regards to Mshayazafe the researcher was referred to Mr. Simon Mngayiwho was the local representative. In the case of Waterloo the researcher was referred to Mr. Nerm Panday and he referred the researcher to Mr. Linda Mngadi who was in Waterloo Development Committee to find beneficiaries who acquired construction skills from B.G.M Condev during the initial construction of houses at Waterloo. Mr. Mngadi also promised the researcher to identify those training beneficiaries. In the case of Hambanati Ms Lindiwe Nxumalo was the leader of Hambanati Development Committee was interviewed. The local community representatives identified the training beneficiaries' homes.

All the local representatives of the three case studies assisted the researcher during information gathering to identify the homes of the training beneficiaries. The aim of accessing these training beneficiaries was to find out if they were able to get sustainable employment after the projects have ended using the construction skills acquired from training to achieve housing needs.

There were 70 people who acquired training in Hambanati but the researcher managed to identify only 55 of them. In the case of Mshayazafe were 90 people who also acquired skills training and developing their skills but only 60 of them were identified, whereas at Waterloo 140 people were trained and only 50 were identified. The total number of training beneficiaries in the three case studies was 284, but only 165 were identified in the preliminary survey. However, there were 105 training beneficiaries. There were 30 training beneficiaries interviewed in Hambanati, 35 in Mshayazafe and 40 in Waterloo. The main reason of taking unequal respondents was based on the fact that the number of the beneficiaries acquired construction skills was not the same in these three case studies. From these selected training beneficiaries information was elicited regarding the types of construction acquired whether it provided them with sustainable employment and housing improvements.

1.12 Primary Sources

The aforementioned case studies assisted the researcher to investigate construction skills transfer acquired in incremental housing projects. The researcher visited the case study projects with an intention of eliciting information from the training beneficiaries. From the training beneficiaries' houses, the researcher observed and asked about whether training beneficiaries had managed to achieve external and

internal housing improvements such as plastering, fencing, extension, furniture, and appliances, mainly those who were working by using their construction skills acquired from the construction of incremental housing projects.

Furthermore, the researcher took photographs, which showed the housing improvements made to the houses. This was done because housing improvements were linked with employment and construction skills. This is based on the fact that if beneficiaries acquired construction skills they stood a good chance of acquiring sustainable employment after the project was completed that can generate income. The income would influence the form, cost, phasing of improvements of the house and also to improve the house internally by purchasing furniture.

The training beneficiaries could also use their own skills to make housing improvements. Furthermore, photographs were used to show housing improvements done by training beneficiaries through income they generated because of using the skills acquired from the training during the housing construction. The researcher elicited information from the training beneficiaries through questionnaires. The importance of visiting case studies was to gather as much data as possible that relate to how construction skills transfer impacted on getting sustainable employment after the construction of the project in incremental housing projects or construction industry which enabled the training beneficiaries to generate income that assisted them to achieve housing improvements.

(a) Project Managers

Face to face interviews were carried out with the Project Managers who facilitated these three housing projects. The major advantage of interview is its flexibility.

In an Interview one could probe for more specific answers and could repeat a question if the response indicated that the respondent misunderstood. The aim of using project managers as informants was to get reliable information. The information required from Project Managers was related to construction skills provided in the implementation of the projects so that the researcher would establish whether the time for training was adequate to enable the participant's beneficiaries to acquire sustainable employment after the construction of the projects in the construction industry.

(b) Training beneficiaries of Waterloo, Mshayazafe and Hambanati Projects

Out of the total number of the training beneficiaries the researcher would take 105 of 280 training beneficiaries for the three case study areas. It has been indicated that the number of the training beneficiaries interviewed was not equal or the same in numbers in the three case studies. There were 30 in Hambanati, 35 in Mshayazafe and 40 in Waterloo. The selected training beneficiaries of these areas were asked questions about the types of construction skills they acquired from training during the implementation of the housing construction, expenditure of their income, building materials used and feeling about the location of their area, their employment status and the level of housing improvements achieved by using the income generated from the construction industry. In asking these abovementioned questions was to determine whether these training beneficiaries managed to get sustainable employment after the construction of the projects through using the construction skills acquired. Questionnaires were used to elicit information from training beneficiaries.

The training beneficiaries were asked to fill in questionnaires as a way of eliciting information from them.

In the case of those who could not read and write, the researcher asked questions verbally, and filled out the questionnaires for them. Questionnaires comprised both closed and open-ended questions.

Close-ended questions (that needed 'yes'/'no' answers or for a respondent to choose the appropriate response from a list of given alternatives) were directed towards addressing matters such as financial status, type of skills, household expenditure, sustainable employment and house improvements cost. Open-ended questions (those that gave respondents freedom to voice out their views) were designed to collect information such as obstacles that limited them in utilizing their skills acquired from training in order to get sustainable employment that would enable them to generate income. It is assumed that the income would assist them to achieve housing improvements. These questions allowed respondents to freely voice out their problems and suggested ways of improving the current situation regarding construction skills that can provide them with sustainable employment. This information assisted the researcher to determine what types of construction skills were needed that were effective and relevant enough in obtaining sustainable employment which would assist trainees to generate income, the income that could influence the form, cost, number of rooms added in the house and internal investments.

(c) Professors From the School of Architecture, Planning and Housing

Face to face interviews were carried out with two Professors from the Department of Architecture, Planning and Housing of the University of Natal Durban. They were asked the information related to the potentiality of the construction skills provided by the developers during the construction of

incremental housing projects to provide training beneficiaries with sustainable employment. They were further asked information on the potentiality of the housing construction industry to provide sustainable employment opportunities to skilled beneficiaries, which generate income for achieving housing improvements.

1.13 Secondary Sources

For secondary sources, the study made extensive use of books, journals and other research articles and theses from the library. The books provided the study with valuable information about the enabling approach and incremental approach to housing improvements. Related local and international case studies were used to put the study in a broader context. Emphasis was also directed at the background of current training and skills legislation and Skills Development Act. Moreover, the skills training, post apartheid policies, the relationship between employment opportunities, skills, entrepreneurship and small-scale enterprises were also discussed.

The housing location, transport and related traveling cost and the problem facing small-scale enterprises. The housing improvements, sustainable employment, informal and formal sector as a source of generating employment for training beneficiaries were also part of the literature review. The information of the literature was used to link the study in a broader context, in both regional and international levels.

1.14 Data Analysis

The information that was collected from the three case study areas through the use of questionnaires and interviews conducted with Project Managers and Professors from the School of Architecture, Planning and Housing of the University of

Natal Durban as well as training beneficiaries was analyzed and interpreted. The secondary data assisted the author to develop an understanding of the subject matter, which also assisted in analyzing, and interpretation of the primary data. The primary data information that was collected was processed using both qualitative and quantitative method. The questions from questionnaires and interviews conducted enabled the author to provide the necessary data to answer the research question and to evaluate the hypothesis.

CHAPTER TWO: Theoretical Framework and Literature Review

2.0 Introduction

This section of the literature review discusses the incremental housing concept indicating its potential pivotal role in providing sustainable employment to training beneficiaries. The enabling and incremental housing approaches were discussed to make the importance of the construction skills provided in incremental housing projects clearly understood. The provision of construction skills has two functions. First function is to assist training beneficiaries to acquire sustainable employment. Secondly, to assist them to improve their own houses for themselves without employing other homebuilders. The study further discusses the potential of housing construction industry in terms of the relationship between skills, employment opportunities, and entrepreneurship and small-scale enterprises. The importance of community development and capacity building was to give community members employment in order to enable them to manage their household needs such as housing improvements among other things. The background of the current training legislation and Skills Development Act, are also part of the literature review.

Furthermore, the problems that face the emerging construction enterprises were pointed out in this study. The informal housing construction and income generation are also discussed as source of employment for the South African masses. Sustainable employment is the concept that is dependent on the types of construction skills beneficiaries acquired and availability of employment opportunities that allow the training beneficiaries to make housing improvements. The issue of the development of infrastructure and small-scale

enterprises producing building materials is discussed to demonstrate that beneficiaries who have got construction skills would be able to acquire sustainable employment in this sector and also be able to get cheap building materials for housing improvements using their income generated from the construction industry.

The training beneficiaries would be able to acquire sufficient experience during housing construction and the experience could assist them in acquiring other sustainable employment opportunities available in the housing construction industry for earning sufficient income, with which they could achieve housing improvements without using recycled building materials.

2.1 Incremental Housing and Its Principles

It has been established thus far that the concept of incremental housing is at the centre of current housing policy in South Africa. Incremental growth of housing assumes that the residents will be able and willing to gradually expand initial basic dwellings into more adequate homes, which can satisfy their needs (CSIR, 1997). The concept of incremental growth belongs in the broader concept of self-help type of housing. There are three typical formats that self-help normally takes, namely: firstly, site and service schemes, secondly, core housing schemes and thirdly, informal settlement upgrading. The three typical format of self-help need beneficiaries to make financial contribution towards their housing improvements to satisfy their housing needs.

The objectives of incremental approach are to include labour intensive methods, which in turn create jobs as emphasized in community participation. Furthermore, the incremental approach promotes participation of communities, maximizes job creation

through backward and forward linkages, improves economic linkages by purchasing building materials and after housing improvements through internal investment, promotes skills transfer, promote capacity building, promotes upward mobility through involving communities in the initial stages of the housing projects than "top down" approach and stimulates entrepreneurial development especially for the disadvantaged entrepreneurs.

Through incremental mode of housing delivery the government plays an enabling role of ensuring that the conditions are conducive for the delivery of housing. The government plays a supportive role in housing delivery to enable communities on continuous basis to improve their housing circumstances (CSIR, 1997). In essence beneficiaries are being called to make an active contribution to help themselves, by improving their housing incrementally towards an ultimate goal with assistance from the government in the form of an initial subsidy and ongoing support (CSIR, 1997).

Incremental housing approach is based upon the principle of increasing the responsibility of individual households and communities by encouraging decision making and responsibility of individual households or communities so that they take care of the aspects of housing for which they are in the best position to take (Dewar, 1993). There are many problems of training beneficiaries causing them not to achieve housing improvements such as low incomes, prioritizing other needs and unemployment. But, the study argues that the training beneficiaries have to be given construction skills that enable them to acquire sustainable employment which in turn allow them to generate income for housing improvements.

2.2 The Enabling Approach

The enabling approach incorporates the role of the poor in their own housing provision into state programmes, thereby reducing the governments share of the housing burden (Rodell and skinner, 1983) while allowing for a much larger body of the population to be catered for. Furthermore, enabling strategies seek to improve the functioning of markets, which supply the five major components in the housing process; land, finance, the skills of the labour force, infrastructure, and building materials; and to provide an appropriate regulatory framework (UNCHS, 1995). This approach therefore involves reducing state intervention in housing to that of an 'enabler' rather than provider of housing. Under the enabling approach, the government would set up a facilitating framework that could mobilize the resources of all non-governmental actors in housing provision, i.e. the formal and informal private sector, community based and non-governmental organizations, and individual households. The government on its parts would concentrate its efforts on those functions which non-governmental sectors cannot undertake effectively, in particular security of tenure, infrastructure and public services, community facilities, construction credit and a viable legislative framework (Adebayo, 2000).

The study used the enabling approach because the South African government is supporting beneficiaries to have their own houses. The main problem experienced by the housing beneficiaries was that they were unable to achieve the main objective of enabling approach because beneficiaries were earning low income, prioritizing on other things rather than housing improvements and some are unemployed due to lack of employment skills to enter into labour market. Therefore, the government has to create a suitable environment for enabling approach to work by giving beneficiaries construction skills,

so that they could be able to acquire sustainable employment opportunities created in the housing construction industry and even to other related construction industry for the purpose of earning continuous income. This income would also assist them in achieving housing improvements. These skills would also assist them in improving their own houses for themselves and be able to be employable in the construction industry or establish their own construction enterprises. Burgess (1987) argues that in a capitalist world, housing improvements is determined by money. Housing beneficiaries may wish to develop and improve their houses to satisfy their family needs but financial resources may restrict them. In South Africa for example, beneficiaries cannot improve houses to their satisfaction because they do not afford the costs of housing improvements because they are unable to afford costly building materials (Burgess, 1987, Lea, 1989).

Furthermore, housing improvements depend on the affordability and availability of resources to the household. It is evident that communities who are too poor and had no access to education and stable employment, reasonable wage levels and social security, benefits are not in a position to improve their houses (Lea, 1989, Rodell and Skinner, 1983).

2.3 Housing Construction Industry and Employment Opportunities

Construction is generally defined to encompass the creation of physical infrastructure, other civil engineering work, all building work, as well as the maintenance and repair of existing structures. Construction in South Africa is a large and important industry, totaling almost R 29, 000 billion in 1995. It constitutes roughly 35 % of gross domestic investment in the country. It is a large employer and has the advantage of being labour intensive (Allcock, 1999). The industry therefore has the ability to create many new jobs, and act as

an engine for growth (Allcock, 1996). Therefore, this study is based on the building industry. The issue of maintenance and repair of existing structures are important in trying to assist training beneficiaries to earn income for improving their quality of life. C.I.D. (1999) argues that the government vision about construction industry is that construction policy and strategy would be one that promotes stability, fosters economic growth and international competitiveness, creates sustainable employment and addresses historical imbalances as it generates capacity.

C.I.D further points out that the building industry is divided into two categories that is residential and non-residential building. The housing construction industry employed over 200, 000 workers in 1995, civil engineering industry another 150, 000 people. It can be argued that construction industry provides an income to roughly 400, 000 people. It therefore represents one of the most important industries in the country. The income earners of the housing construction industry are supporting a family of two or three, and then this demonstrates that South African construction industry support well over a million people in total. Moreover, building industry has a significant role to play in job creation. Therefore, the training of unskilled beneficiaries labour during the construction of incremental housing projects is the key to economic success (Allcock, 1996).

The above statement suggests that training beneficiaries would be able to acquire sustainable employment in the housing construction industry or related construction industry when there is a sustainable housing delivery, which is coupled with the investment in the infrastructure. There is a plenty of employment opportunities created in the housing construction, for example, the construction of roads, schools, market-

stalls, clinics and crèches that would benefit the housing beneficiaries to generate income.

2.4 Pillars of Sustainable Construction Industry

The issue of sustainable construction industry is important in this study for two reasons. Firstly, it provides construction skills to beneficiaries participating during the construction. Secondly, it further creates employment opportunities, which together with acquired construction skills enable beneficiaries to equip themselves with most necessary and needed experience. Therefore, training beneficiaries would be able to help them to acquire sustainable employment opportunities since they have skills and vast experience. Chileshe (1999) points out that there are three pillars of principles of sustainable construction. There is social, economic, and technical sustainability that need to be considered for construction. These pillars would also be able to provide sustainable employment to the training beneficiaries even in future generation since the structures of the construction industry.

The first pillar is based on the fact that construction should be socially sustainable by improving the quality of human life including poverty alleviation. Secondly, it should make provision for social self-determination and cultural diversity in development planning. Apart from that it should implement skills training and capacity and enhancement of disadvantaged people. The construction industry has the role to play in capacitating housing beneficiaries with construction skills for assisting the industry to be sustainable and assist them to acquire sustainable employment within the industry so that they could able to eliminate poverty and improve their houses.

The second pillar argues that construction should be economically sustainable to ensure financial affordability for intended beneficiaries and promote employment creation and, in some situations, labour intensive construction. The construction industry would be sustainable if potential funders make investment to the human resource of this industry. Therefore, the provision of construction skills is one of the way of making investment because the training beneficiaries would be able to acquire sustainable employment which allow them to generate income for achieve housing improvements.

Chileshe (1999) also argues that construction should be technically sustainable in order to construct durable, reliable and functional structures and pursue quality in creating the built environment, use serviceability to promote sustainable construction. This pillar emphasizes the point that once the training beneficiaries empowered with the technical skill this would make the construction industry to be sustainable. Therefore, this empowerment would also benefit the training beneficiaries to acquire sustainable employment in this industry.

2.5 Education and Development

According to Developer Prof. Beker (1992), education and development are crucial for the survival and growth of people. They are key issues in the reconstruction of society. Education is the acquiring of knowledge to enable positive development. Development is seen as a continuous process of improving the life conditions of citizens in a society. It should be perceived as a multidimensional process, involving both a physical reality and a state of mind. Empowerment is the process of realising the rights and capabilities of a

community to take meaningful decisions, which will affect their quality of life.

Developing appropriate educational systems are an essential part of the reconstruction and development of society, particularly to the disadvantaged communities in order to be able to take sustainable employment opportunities available in the housing construction industry. Sustained economic growth, increased distributions of income and opportunities and true democracy are a product of appropriate and effective education.

Therefore, the housing beneficiaries participating in their housing construction have to be capacitated with necessary skills so that they would be able to get sustainable employment available during the development of their area or elsewhere in the housing construction industry. So, if communities lack the right kind of education or skills they would not be able to develop their quality of life. Additionally, construction skills are needed too, as the government is enabling the disadvantaged communities with housing because they would be able to utilise those skills in improving their own houses and able to be employable in the housing construction industry or establish their own construction enterprises. However, the establishment of enterprises need some sound educational level because it needs a person to be able to network with different stakeholders to acquire sustainable employment opportunities, among other things.

Furthermore, development and education would also contribute to the sustainability of construction industry so that beneficiaries would be able to get sustainable employment opportunities. According the document found in the website

www.csir.co.za/akani/2001/july/agenda21.pdf), it pointed out that ignorance and a lack of information on sustainable construction issues and solutions are major obstacles that need to be overcome. To bridge this gap will require interventions at all three levels of education, continued education programmes for professionals and technicians, education and awareness raising programmes for government officials and politicians, and a concerted public education programme.

2.6 Gender equality

In many developing countries, women are still considered second-class citizens. It is important that the role of women as legitimate owners, users and producers of the built environment is recognized. Among informal sector workers, women doing construction work are some of the worst victims of discrimination and special efforts must be made to improve their skills levels and earning capacity, as well as to make the construction site more female-friendly.

Moser and Peak (1987) argue that the role of women is no longer only a domestic one, but they have other roles to play in the community and also in formal and informal job setting. If the needs of women are not catered for, their roles are affected in one way or the other and the construction industry would not be sustainable. The participation of women in the construction industry gives them a chance to earn income for housing improvements because some of the women are women headed household.

2.7 The Use of Local Building Materials

UNCHS (Habitat) (1994) argues that the Agenda 21 proposes active promotion of sustainable construction industry activities, recognizing that they are vital to the achievement of development goals. Thus it proposes that all countries should:

- Establish and strengthen the indigenous building-materials industry based, as much as possible, on inputs of locally available natural resources;
- Expand technical support and incentive schemes for increasing the capabilities and economic viability of small-scale and informal enterprises which make use of local materials and traditional techniques;
- Promote the use of labour intensive construction and maintain technologies which generate employment in the construction sector for the underemployed labour force found in most large cities, while at the same time promoting the development of skills in the construction sector;
- Develop policies and practices to reach the informal sector and self-help house builders by adopting measures to increase the affordability of building materials on the part of the urban and rural poor, through, inter alia, credit schemes and bulk procurement of building materials for sale to small-scale builders and communities.

Therefore, the building material industries need people who have got relevant skills of manufacturing building materials for incremental housing project beneficiaries and the housing construction industry as a whole. The beneficiaries who acquired skills would be able to acquire sustainable employment if they were given enough construction skills. Furthermore, UNCHS (Habitat) (1995) also argues that it is recognized that human resource development and capacity

building is essential for upgrading the capabilities of small-scale entrepreneurs and the operatives and supervisors in the construction and building materials industries.

2.8 Development of infrastructure and sustainable employment

The development of physical infrastructure such as shops, offices, factories, educational facilities, health facilities and market places as well as infrastructure facilities inter alia supply of electricity, water, sewerage, and telecommunication is vital in the development of Small Medium and Micro Enterprises (SMMEs). Infrastructure can ensure clean labour market place for training beneficiaries. They would be able to achieve sustainable employment, which would also enable them to generate income for achieving incremental housing goals. The sustainable employment would occur after the incremental housing projects through its major and minor works have been completed where these works need to be maintained by the local people. Hence, the training beneficiaries would get an opportunity to utilize their skills in maintaining the existing infrastructure. UNCHS (Habitat) (1995) points out that there is a recognition that Small Scale Enterprises (SSEs) and medium-scale enterprises possess an underutilized potential for implementing infrastructure works and providing services which are beyond the level of the community effort, while simultaneously generating employment.

Furthermore, the provision of infrastructure uses the labour-intensive methods, which results in an increased total volume of sustainable employment. The maintenance of urban services can generate a stream of sustainable employment opportunity depending on the technology used in its provision and that used in the maintenance task. For instance, earth roads will have relatively higher routine maintenance cost than gravel or tarmac roads and may create more long-term jobs.

The repair of the infrastructure can be carried out using sophisticated heavy equipment or the job can be done using more labor-intensive methods.

The labor-intensive method and infrastructure provision, improvement and maintenance's idea is argued by the International Labour Organisation (ILO) (1995) that Employment-Intensive Investment Programme (EIIP) has helped more than 40 member States of the ILO develop sustainable employment through infrastructure investment which was carried out by construction enterprises. Approximately 1 million direct jobs and close to 2 million indirect jobs have been generated by investment programmes in which the EIIP has been directly involved through demonstration and capacity-building activities.

However, in South Africa, there is a great increase in the number, variety and scope of Small Scale Enterprises (SSEs) in the field in which public works take place. They are in demand in response to policies to live off particular functions. Therefore, training participants in the housing projects would have great opportunities of achieving sustainable employment if they acquired relevant skills of producing building materials such as block-making and carpentry (windows, doors and their frames etc)

Therefore, this argument indicates that the training beneficiaries would be able to find employment in the construction labour market. The market place for generating income that influence them to decide how many rooms are needed in the house, what shape must the house look like and what other internal improvements are in the house etc.

Sustainable employment is dependent on the type of skills the training beneficiaries acquired during the construction. If they were given skills of digging trenches they would not have been able to establish small-scale enterprises that would carry out the maintenance and improvement of infrastructure. The skills needed in incremental housing projects are the multi-dimensional or multi-faceted construction skills so as to achieve sustainable employment. The building materials are needed during the housing improvement phase and building of educational, health facilities and commercial buildings as well as in the innovation of these buildings etc. Therefore, building materials industry has a potential to give training beneficiaries sustainable employment, which in turn allow them to generate income for achieving housing improvements. Sustainable employment in this case would be achieved through establishment of small-scale enterprises.

2.9 Building Construction Materials

Building construction materials is another crucial aspect that can provide sustainable employment to training beneficiaries who possess construction skills. The building material industry has the potential to give beneficiaries with adequate construction skills sustainable employment through establishment of small-scale enterprises that produce the bulk of building materials. Much of the activity in the sector takes place at a sub-industrial level through the work of artisans or groups of artisans. UNCHS (Habitat) (1995) points out that there is evidence that small workshops producing building materials are providing employment for a large number of people in the cities of developing countries. In Central America, the industrial production of building materials, relating to the wood chemical products, non-metallic minerals and metal products industries alone, may amount to 30 per cent of national industrial output.

Spence and others (1993) also take this argument further by pointing out that a similar amount of value that added in the commercial and services sector, and even more in transport. The housing beneficiaries who wish to improve their houses spend a lot of money paying delivery cost for building materials. The training beneficiaries who wish to improve their houses would use this building cost.

Therefore, beneficiaries who acquired construction skills from incremental housing projects may be able to establish small scale enterprises to generate these building materials at a local level so that beneficiaries can be able to get cheap building material to those who want to improve their houses. For example, in Chawama (Lusaka) the use of imported material arose from the shortage of local building materials. Hence, the reliance on imported building materials increased the material prices because the demand was high, although it is not the case in South Africa. Meffert and van Linden (1986) have argued that the prices of the imported building material rose more than the general price and income levels of households. The price increase in building materials made housing construction and improvement unaffordable to the poor.

Furthermore, it is also evident that sustainable employment can be achieved from building material industry for instance, Humama women's group in Nairobi identified their own needs as job training (for none had formal skills) credit to start up viable business, and secure land for their business, with a loan of about US \$ 56 000 from African Housing Fund (AHF). The women started the first phase of their building materials production by producing roofing tiles for commercial sale. The first phase involved organizing and training the members in various skills (e.g. business management, housing

construction, social organization and development) and setting up Humama business.

Within a year of its existence, the project had paid the women about ksh 900, 000 in salaries and had generated a net profit of about ksh 1 million which was used for the member's own housing (IUCN, 1991).

Furthermore, where labour-intensive technologies are adopted in the building-materials industries, jobs are created for a very large number of people. A survey of building materials production in Bangladesh estimated that approximately 180, 000 people may be employed directly in brick or blocks industry, more people than in the jute industry, which is generally considered the mainstay of the Bangladesh economy (Skat, 1991).

2.10 Community Development

Training beneficiaries from the construction of incremental housing projects largely understand the standards, norms and values of the houses to be built as well as the community needs. Therefore, when they compete with people who are not trained, training beneficiaries would end up being better offs because they have skills that are needed in the construction industry. Community development is aimed at empowering communities and strengthening their capacity for self-sustaining development. Community development must be an educative process; it must continuously improve the ability of the people to deal with the challenges confronting them. There are many ways in which people's participation in community development becomes a learning process.

Firstly, beneficiaries learn the construction skills necessary for them to be able to acquire sustainable employment for

achieving housing improvements. Moreover, they would be able to carry out community development projects where they would further be able to generate income for achieving housing improvements.

2.11 Capacity Building

The process of capacity building involves the acquisition by the disadvantaged of the knowledge and skills required to produce the goods and services which satisfy their needs (De Beer, 2000). On the other hand, Eade (1997) points out that capacity-building strengthening people's capacity to determine their own values and priorities, and to organize themselves to act on these, is the basis of development.

Therefore, the provision of construction skills to beneficiaries participating in housing construction projects would be advantageous to them because these skills would make them to be employable during housing improvements for other beneficiaries and elsewhere in the housing construction industry. These employment opportunities would help them to generate enough income for achieving their housing improvements and the skills they possess would assist them in adding some extra-rooms, fencing, and wiring, etc, for themselves.

2.12 The Reconstruction and Development Programme (RDP)

The ANC's Reconstruction and Development Programme (RDP) was a programme to mobilize the resources, human and material, to eradicate apartheid's social and economic imbalances and build a new democratic and non-racial society. RDP conceptualized the ANC government's policy for the transformation of South African society. Further education and training was seen as one of the vehicles to ensure that the majority of the

disadvantaged communities improve their skills and develop themselves.

The RDP promised to give priority to the training of workers to meet the challenges of the new political and economic conditions and facilitate the re-entry of South Africa to the world economy. The Housing Code (1999) points out that housing is one of the ways of mobilizing resources and empowering communities and individual beneficiaries through skills transfer. The construction skills transfer would be useful to training beneficiaries to acquire sustainable employment in the housing construction industry through establishment of the small-scale enterprises (SSEs). These SSEs would also create other employment opportunities for other beneficiaries.

2.13 Skills and Employment Opportunities in Housing

UNCHS (Habitat) (1995) points out that investment in housing has a significant impact on income and employment through multiplier linkages. First-round effects are the direct increments to income and employment generated by the construction activity. Estimates for Colombia suggest that the income multiplier for housing construction is about 2, and that about seven additional jobs are created for every US \$10,000 spent on the construction of dwelling units. This rate of employment creation in housing construction was higher than that for manufacturing and close to that for the economy as a whole. In Korea the income multiplier of housing is estimated at 2, and about fourteen additional jobs are created for every US \$10,000 invested in construction. Similar results have been found for Pakistan, India and Mexico.

Furthermore, the UNCHS (Habitat) (1995) emphasizes the point that there is employment potential in the process of housing provision.

In countries where labour is abundant, increased construction activity would be one sure way to increase employment. A study conducted by UNCHS (Habitat) (1989b) points out, and as a number of authors have suggested (UNIDO, 1969; Germidis, 1974) construction has the potential to be a very labour-intensive sector, particularly so when housing is concerned. An analysis of low-cost housing projects in Ghana suggests that 30 per cent of the construction cost can be attributed to labour utilized directly in the construction process and additional 11 per cent to labour utilized indirectly in the production of and distribution of construction materials. Furthermore, another study of UNCHS (Habitat) (1982) suggests that the share of labour in total cost of construction of core housing is probably around 25 per cent. Therefore, incremental housing projects can generate employment for the majority of South Africans. Pearce (1997) argues that incremental approach has a great propensity to the labour-intensive construction than capital-intensive methods. It is incremental housing that can stimulate direct employment. The employment effects of housing are creating a sustainable base for employment because beneficiaries would be trained on different kind of construction skills that assist them to acquire sustainable employment in the housing construction industry.

It is suggested that luxury housing has got higher total labour input compared to low-income housing because of the need for a variety of labour skills, as well as greater size. But, when all effects indirect and direct are considered as in studies of single family dwellings in Colombia, Mexico and Venezuela suggest, the employment generating capacity of housing investment by low-income households may in some circumstances be greater than similar spending by high-income households.

Other employment benefits are less tangible though not less real. Investment in housing is particularly well suited to absorbing labour resources whose alternative marginal product is low. Newly arrived rural migrants often work a few years in construction, which provides a springboard to other income-earning opportunity in the city. Construction of low-income housing in stages allows labour to be used gradually in line with availability.

In high-income countries and medium-income housing there is a tendency for parts of the work to be subcontracted. This subcontracted work requires skilled people trained in the managerial business. In addition, labour is mobile and there is less than full employment, an investment program in low-income housing can bring significant amount of unused or underused labour into production. Housing construction can also be used as an anticyclical policy instrument to take up slack in investment and employment (UNCHS, (Habitat), 1995).

2.14 Skills, Entrepreneurship and Small-scale Enterprises in Housing

The terms skills, entrepreneurship and small-scale enterprises are interrelated because entrepreneurs need to have management skills to be able to establish small-scale enterprise. There are many housing project undertaken in South Africa that need people who have multi-construction skills. These housing projects would be carried out through the Reconstruction and Development Programme (RDP). The rapid expansion of the building industry does experience problems, the most significant of which must be the lack of management skills. Therefore, intensive training is paramount. To stimulate the RDP goal, Electronic Cost Systems donated nine Billcost computerized software systems valued at \$100 000, to Promatra

Training Services in order to advance the management skills of black building contractors.

Nkado (1999) points out that highly developed management and supervisory skills are crucial for the efficient execution of construction projects in developing countries, and enumerate the basic skills that a successful contractor should have. The factors that are associated with the lack of management skills are related to the lack of appropriate education, exposure to the marketplace and experience.

On the other hand, Mulenga (1996) argues that employment opportunities need to be accompanied by imparting technical skills to unskilled and semiskilled members of the community. To enhance the process, the developer and project teams need to transfer management skills and competency to the participants to enable them to enter the mainstream of the economy as contractors, subcontractors, managers or supervisors in the construction industry. Training of the various members of a contractor's site staff, for example a foreman or general foreman, will include the following key performance: materials, labour, utilization and output, planning and organization and job costs. Other key areas are site organization, quality and reliability, plant maintenance, safety, communication and relationship, discipline and control. The skills and entrepreneur development will encourage the community to take ownership of the housing initiative. This will ensure the project is completed on time within the budget and to the required quality.

Furthermore, this skill of management is enabling participants to become self-employed. BMI (1998) argues that the enterprises are widely accepted as an important part of the growth and success of the South African economy.

This fact has been recognized by the government in its Growth, Employment and Redistribution Strategy (GEAR), and in the promulgation of the National Small Business Act in 1996.

This statement also confirmed by the fact that the government in year 2000 met its target of 6% Gross Domestic Product (GDP) growth and 500 000 jobs. It is suggested that in South Africa, 700 000 construction and business enterprises provide jobs of almost half of the employed labour force. By providing employment, the enterprises empower individuals and promote a stable business climate. These employment opportunities would be sustainable employment to training beneficiaries who established their construction enterprises and be able to generate income for achieving housing improvements. However, Nkala (1999) also points out that the Reconstruction and Development Programme (RDP) of the government of South Africa expressly recognizes the important role of small-scale construction enterprises (SSCEs) by arguing that the development of small enterprises must form an integral part of the national economy and economic policy. Nkala further argues that enhancing the skills and capabilities of SSCEs is one way to increase the scale of delivery of affordable housing, and thus address one of the foremost challenges facing the new government of South Africa.

Therefore, there is a great need to provide beneficiaries participating during the construction of incremental housing projects with skills to be come small-scale construction enterprises, since construction enterprises are generating local employment opportunities. The provision of the social amenities are likely to give the training beneficiaries employment opportunities which in return allow them to generate income for achieving housing improvements.

The small-scale constructions enterprises (SSCEs) have a number of strengths, which include the use of labour-intensive methods. They have knowledge of local conditions, work within local neighborhoods where they can further acquire sustainable employment and can offer a service based on customer's special requirements. They can develop from a very small scale, often in the home, and can give sustainable employment to local skilled, unskilled and unemployed labour. They can use a variety of local materials and a minimum of imported inputs. (UNCHS (Habitat), 1995).

So, these construction enterprises stand a good chance if there are construction works that will be taking place in the community. However, the involvement of local enterprises works along with the goals of RDP of participation, capacity building and empowerment. So, this study is trying to point out the importance of empowering local training beneficiaries with managerial skills so that they can be able to fulfill incremental housing needs.

2.15 The Relationship between Employment Opportunities, Skills, Entrepreneurship and Small-scale Enterprises in Housing

Watermeyer (1994) points out that there is a definite relationship between employment opportunities, skills, entrepreneurship and small-scale enterprises. The strength of the relationships and links is, however, dependent on the strategies that are adopted to implement a housing programme. The relationships between these four areas can be compared to four gears. If the relationship of employment opportunities provided by the provision of houses, is engaged with the skills gear an enabling environment is created which turns the gear of entrepreneurship.

The gear of entrepreneurship in turn drives that for small-scale enterprises. If the gear of skills fails to engage with employment opportunities, entrepreneurship will turn very slowly and small-scale enterprises hardly at all. On the other hand, if employment opportunities do not exist or dry up, all the gears cease to turn.

So there is a need to maintain balance over these four gears. Beneficiaries should be given construction skills and places where they can utilize those skills so that there will be employment opportunities. The employment opportunities will be assisting other beneficiaries to be able to achieve housing goals.

2.16 Problems Facing Emerging Small-scale Enterprises in Housing

It is difficult for emerging contractors and self-build contractors to find sustainable employment if the housing projects are away from the Central Business Districts. The issue of the housing location was supported by John (1998) while arguing that self-built contractors and emerging contractor-built housing delivery on the urban fringe does not promote sustainable job creation because of the low levels of skills training. The skills that are available through the Housing Support Centers and the limited access that builders from these areas have to the areas where the bulk of commercial and industrial construction activity is taking place, these builders are unable to access those sustainable employment opportunities.

In a survey conducted in the Durban/ Pietermaritzburg and Johannesburg areas it was found that the potential for small-scale construction to contribute significantly to the output of housing in the construction sector is limited by the

internal constraints of deficiencies in skills, knowledge, and experience, as well as by external factors and ineffectiveness of the existing training/ support/ development infrastructure. Even the owners of these enterprises who were technically competent and had a sound educational background faced obstacles to succeed, the biggest constraint being difficulties with finance from financial institutions, which generally classify black builders as high-risk clients, regardless of their capabilities. Emerging entrepreneurs' internal constraints can be overcome through training and advice (Nkado, 1999).

Employing builders (training them to a higher level of skill), on long-term contracts for mass state driven housing projects would lead to more sustainable employment in the construction industry. At the same time establishing low-income residential developments nearer the cities would provide more sustainable employment in other housing construction industries as well as related construction industry and more viable opportunities for the informal sector as well.

2.17 Location of Housing and Transport and Related Traveling Cost

The problems associated with living far from the cities, especially in terms of job creation, are compounded by the low level of services available in urban fringe development: low service levels impact on job creation opportunities within residential areas as well. Current approaches to housing delivery also result in higher transport costs to the commuter (in this case, the poor) and costs to the economy as whole. As far as the economy is concerned, the greater the number of people living outside the cities, the higher the transport subsidies that will be required by the state: the majority of

the poor will not be able to afford the full costs of long distance commuting.

For the commuters themselves, these distances imply costs in both time and money to access employment and to access a range of city-level services (such as major hospitals, certain government facilities, most commercial activities, etc.). These transport cost do not only affect the commuters, but also the small businesses trying to survive within the poor townships as they too depend on access to the banks and office suppliers in cities, for instance.

However, the location of housing plays an important role to trained beneficiaries because housing close to the city is able to provide trainees with sustainable employment opportunities, particularly the installation, maintenance and building other city services. On the other hand, they spend a lot of money traveling long distance looking for places where they can use their construction skills. The traveling cost would be invested in the housing improvements (Sowman, M and Urquhart, P, 1998).

2.18 Informal Sector and Income Generation

The UNCHS (Habitat) (1995) points out that from developing countries there is an increasing proportion of employment and output, which is originating from "the informal sector". It is this sector in which more and more poor and new job seekers are finding opportunities to earn an income and many of these income-earning activities originate in and/ or continue to operate from residential premises. The income generated from this sector could be spent on the essential needs of the households, for instance housing improvements.

Besides providing employment and incomes to the poor, the informal sector has been a major source of human resource development since it serves as a training ground for millions and enables them to acquire productive skills at a low cost and without any public expenditure. Therefore, if the training beneficiaries have been formally trained in different construction skills there will be able to manufacture or produce building material which are in demand in the formal and informal sector. The building materials are a serious problem that experience by the housing beneficiaries because building materials are expensive them. They would be able to generate income for achieving housing improvements while little wage employment is being created in South Africa, especially relative to need. An acceptance of this status quo points to the need to strengthen the informal sector by creating new and better opportunities for the poor to participate and removing the myriad obstacles under which this sector operates (Adebayo, 1999).

Adebayo (2000) pointed out that the informal sectors role in poverty alleviation is now widely recognized. It is in this sector that more and more poor and new job seekers are finding opportunities to earn an income. Despite low-incomes, many informal workers have mobilized considerable savings both in cash and kind to develop their own business. Since all the capital investment in this sector is almost always financed through participants' own savings, there is little burden on the public sector and little public subsidy to the sector. Yet the sector has expanded tremendously. It has passed the market test of viability and it generates goods and services of value to the society (UNCHS (Habitat) / ILO, 1995). These merits if built on, hold the key to unlocking substantial income generation potential in South Africa (Adebayo, 1999).

2.19 The Background to the Current Training Legislation in South Africa

South African training legislation has gone through different stages, each being characterized by the political climate of the day. Prior to 1981, racial discrimination was still entrenched in training legislation, making it illegal for Blacks to be indentured as apprentices.

The current training legislation was laid by the work of a representative Task Team, under the auspices of the National Training Board, consisting of four constituencies, namely business, trade union, the state, and providers of education and training. The Task Team conducted its work in terms of the following vision: 'A human resources system in which there is an integrated approach to education and training and which meets the economic and social needs of the country and the development needs of individuals'. There are three new pieces of training legislation arising from the Task Team's report, which were developed and enacted by Parliament, namely the Skills Development Act, Skills Development Levies Act, and the South African Qualifications Authority Act (van Dyk, 2001).

2.20 Skills Development Act

According to the International Labour Organization there are two types of unemployed groups of people. There are those who are without jobs but are available for and actively seeking employment. On the other hand, there are those who are available for jobs but are lacking proper labour and employment skills (UNCHS-Habitat, 1995)

In response to this above -mentioned need of skills development programmes, South African Government established the Skills Development Act, which seeks to develop the skills of the people and thereby intensifying their ability to

generate incomes by among other things promoting self-employment. The Skills Development Act consisting the following elements, the National Skills Authority, National Skills Development and Skills Development Levies Act. The three pieces of the Skills Development Act represent the legal expression of the Government's skills training policies. It creates a framework for the funding of skills programmes and the establishment of institutions to develop and maintain these initiatives (Van Dyk, 2001).

The housing development is a workplace of active learning environment, which allows training beneficiaries and beneficiaries who are developing their skills to get into South African labour market. The government-housing subsidy is enabling people who have insufficient income to build their houses for themselves. So, the housing construction industry is one of the other industries that have potential of employment opportunities where the training beneficiaries can acquire sustainable employment by establishing their own small-scale building enterprises or employed elsewhere in the housing construction industry since housing provision is define ad the holistic development of the community. Therefore, the study selected the relevant legislations of the Skills Development Act for discussion.

2.21 Housing Improvements

Housing consolidation has two components. There are external and internal consolidations. External consolidation relates to structural building improvements that result in the improved appearance, size and quality of the building or a house. For example, house extension in a form of adding extra rooms, painting, fencing and putting water and electricity on site.

Internal consolidation refers to the investments made inside the house. For example, buying furniture such as fridge and stove in a house.

According to Napier (1997), consolidation processes are building activities aimed at bringing starter house to a further stage of completion using either formal or informal construction. There is no time or restriction for when it should be carried out, but it depends solely on the resident's resources such as time, personal saving and labour. On the other hand, Jimenez (1983) sees housing consolidation as progressive development. That progressive development originates from the proposition that sites and services and squatter settlement upgrading projects, providing security of tenure and a range of basic services, would enable and encourage low income households to improve their housing through self-help financing and/ or construction. Improvements in living environments are expected to lead to growth in productivity and incomes over time. Progressive development, according to Jimenez, is related to Turner's definition of housing.

Turner (1972) came up with the concept that housing is a process and it changes according to the family housing needs, for example, family size or cycle. The family size change is often due to the birth of new members of the family. The rural-urban migration due to various reasons such as employment and schooling to tertiary institutions is another reason that changes the family size. Therefore the households are expected to make improvements to suit their family size. Many international studies of consolidation have focused on the link between consolidation and comodification.

In their study of consolidation in Caracas, Venezuela, Ramirez et al (1992) found that consolidation was essentially the transformation of non-monetary construction-based construction with industrially produced materials, in which housing becomes regarded as a commodity rather than being valued merely for its use-value alone. They found that houses developed from being precarious dwellings built of refuse materials; to being consolidated houses built with industrially produced material.

Therefore, the training beneficiaries participating in incremental housing projects have the role to play in manufacturing these building materials for housing improvements once they have been given multi-construction skills. This situation must be formally organized through arranging beneficiaries according to their skills. For example, beneficiaries who acquired bricklaying or plumbing skills can form groups in order to take any available jobs in the area.

*Housing improvement processes need to be supported by technical advice for households so that effective use is made of the materials used and time spent, and by training of small builders (BESG, 1998). This approach implies that if small builders were trained to carry out different kind of construction, this would help many beneficiaries to get employment opportunities since small-scale enterprises are powerful generators of income and employment. The small-scale enterprises are able to save money because there would be less capital investment per job created than larger enterprises. They are often the only types of enterprises willing and able to take on small construction projects. They have knowledge of local conditions, work within local neighborhoods and can offer services based on customers' special requirements (UNCHS, (Habitat), 1995).

2.22 Factors Influencing Housing Improvements

This section of the study addresses the structural or the physical improvements of a house. It will critically discuss factors such as income, housing subsidies and family size. The discussion will show how these factors impact on housing improvements.

2.22.1 Household Income

Households with stable incomes seem not to have a problem in housing improvements. Though these beneficiaries may not have building skills, as happened at Inanda in Durban, their income is sufficient to employ someone to build for them. In situations where households have construction skills, housing improvement is not a problem.

In addition to this, in most housing projects, where construction skills are provided to the beneficiaries, the level of improvements in housing increases. In Khayelisha outside Cape Town, a large number of households who made improvements to their houses were those that acquired construction skills from the construction and technical training workshops (Napier and Cathy, 1995).

2.22.2 Households Size

Aramiah (1997) has suggested that housing improvement is linked to the characteristics of the family. Aramiah argues that changes in household size and a shift from a couple to family with children change one's housing needs. It is further maintained that external improvement of a house is largely determined by number of children in a household. For, example, at Inanda in Durban and Khayelitsha outside Cape Town families with more young adults in the 15 to 24 age group have made more extensions than those with younger children because large families require big space (Napier and Cathy, 1995).

Moreover, families with grown up children, who earn income and contribute to the household resources, have been found to be in a better position to improve their houses.

2. 23 The Factor Hampering Housing Improvements

2.23.1 Building Regulations and Standards

It is understood that in regulating the building of houses, the local authority undertake certain administrative functions such as plan approval, connection of services (such as water and electricity) and building inspection to ensure health and safety of the occupants. However, building regulations and the standards applied in self-help housing projects are not affordable to the majority of the low-income households. In Tanzania, unaffordable prices left sites and services projects with a large proportion of plots without any houses, loans allocated to buy material remaining unused and a large number of houses standing half finished because of the costs of building materials required by the standards (Skinner and Rodell, 1983).

In some projects, building regulations required the use of prescribed materials and specific housing construction techniques, which are costly. These regulations made housing improvements impossible for the poor communities to afford. In Kenya, for example, fully serviced sites stood vacant for years because the beneficiaries did not have the money to build the house called for in the project plan (Pama et al, 1977). Other regulations like giving people limited time to construct houses is an obstacle in housing improvements in that residents may lose interest. The evidence from different developing countries has shown that the building by-laws are an obstacle in housing improvements for low-income group. Seeing these limitations, the Lusaka City Council modified and minimized its building standards so that they would be in line

with culturally prevailing standards. The Building Regulations Act permitted the multiple uses of building materials, so that a house could also be used as workshop (Ward, 1982).

2.24 Concluding Remarks

The literature review has shown that construction skills are important in housing construction industry since housing construction industry has got a potential of creating sustainable employment opportunities during construction and after construction. The sustainable employment opportunities created after the constructions are those related with the maintenance and repairing services provided in the area. Other sustainable employment opportunities are also created during the housing improvements phase. It is argued further that skill; employment opportunities, entrepreneurship and small-scale enterprises are interdependent. All these four gears need to be balanced in order to achieve the Reconstruction and Development Programme objectives of empowering local disadvantage communities. It is also further argued that there are problems that limit training beneficiaries in acquiring of sustainable employment namely location of housing, poor services and transport related travelling cost. Moreover, the literature in the study has discussed factors influencing housing improvements and the main factor hampering housing beneficiaries to achieve housing improvements.

Chapter Three

Historical Background of the Case Study Areas

3.0 Introduction

This section discusses a brief historical background of the case study areas of Hambanati, Mshayazafe and Waterloo incremental housing projects. The project funding, and the historical background, which includes the reasons why these incremental housing projects were selected, and their location were discussed in this section. It is important for training to be provided during the subsidy project.

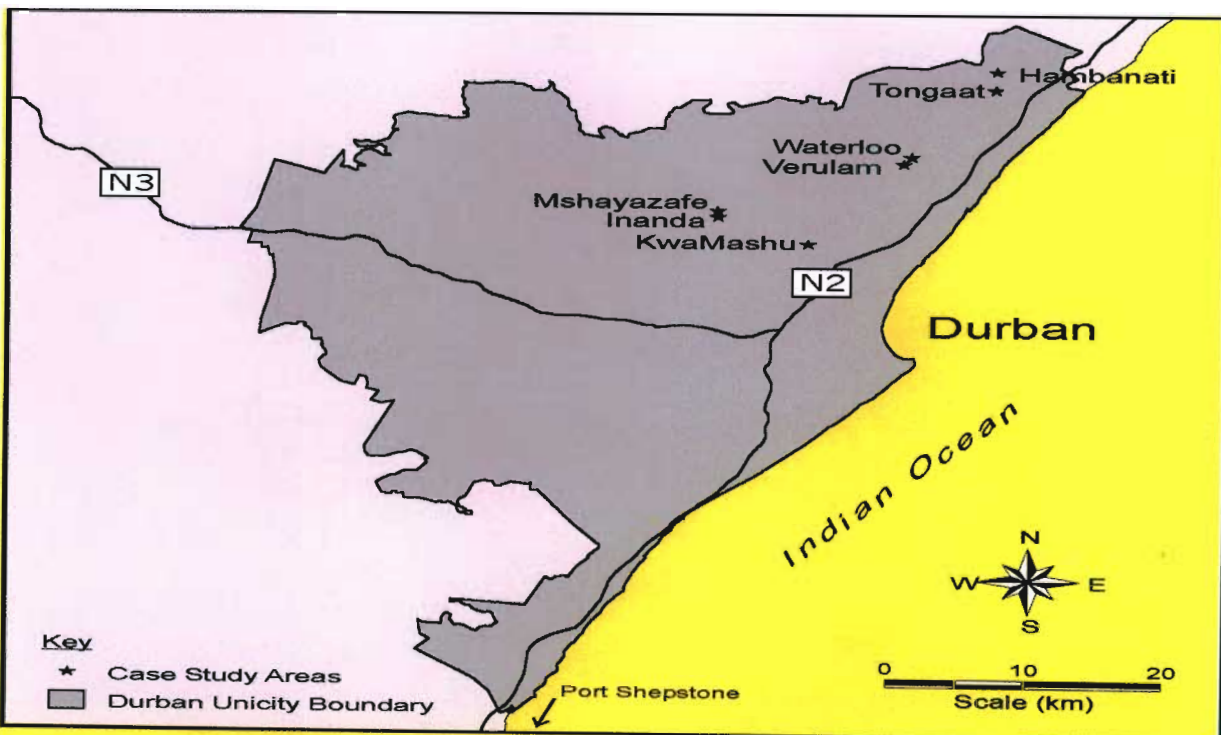
3.1 Reasons for Selecting the Case Study Projects

Hambanati, Mshayazafe and Waterloo incremental housing projects adopted skills training programmes before and during housing construction. There were three broad forms of training programmes that these three projects used. It was structured training, on site training and on-the job training programmes. It is well known that in South Africa there is a shortage of skills to help its people to enter into labor market in order to be able to generate income of purchasing houses for themselves without any interference of the government. Sunday Times (2001) argues that South Africa's serious shortage of technical and professional skills is commonly described by economists as the single most material barrier as the country focuses on achieving good levels of economic growth during the next decade. Therefore, there is a need to investigate skills training taking place in housing delivery in order to understand its potential to benefit the disadvantaged training beneficiaries towards sustainable employment created in the housing construction industry, which in turn allow them to generate income for housing improvements, among other things.

3.2 Brief Historical Background of Hambanati Housing Project

Hambanati housing project was started in 1998. This housing project is located in Tongaat. It falls under the North central of Durban Municipality. Hambanati housing project was a green field project. There were 25% of the people employed in the factories and sugar farms in and around Tongaat (BESG, 2000). However, 50% of the beneficiaries were self-employed in different ways. 15% were generating income through Home Based Enterprises. Seventy trainees got training from Khuphuka, a building skills training and development centre. Khuphuka is a non-governmental, non-profit organization that has been established to assist in the development of disadvantaged communities within Durban. Khuphuka was also responsible for supervising housing construction (Field survey, 2001). Map below shows the locality of Hambanati, Mshayazafe and Waterloo incremental housing projects.

Map: Shows the Locality of the Three Housing Projects in Hambanati, Mshayazafe and Waterloo.



Source: Department of Geography, UND (2001)

The project was funded by the Metro Housing Unit of the Ethekewini Municipality with an aim of helping people who earned less than R3500 to get housing. Hambanati housing project is an old, well-established community and the majority of the houses developed as part of the subsidy project were allocated to the relatives of people who lived in the council housing in Hambanati. The services of the sites took place under the pre-1994 housing subsidy arrangements. The site serving costs were R 18 000 but the Provincial Housing Development Board (PHDB) agreed to write them down to R 7 500. The residual was R 7 000 and could be used to purchase a 23 m² completed system designed houses i.e. a new way of building houses, with a wet core, (usually includes a toilet, shower and tap/basin) or a partially completed houses. The partially completed house had a roof span of 36 m² and a completed portion, which measured 17 m². Included in the house was a wet core (BESG, 2000).

The skills training of beneficiaries who participated during the construction of Hambanati incremental housing project adopted a structured training and on site training through house construction. Khuphuka, a Non Governmental Organisation (NGO) was the developer and supervisor of training that combined skills training and house provision (BESG, 2000). The project manager expressed that trainees were trained at Khuphuka's premises and came back for further training throughout the house construction phase. In addition to that certificates were awarded to trainees when training was completed.

The certificates awarded to trainees were authorizing their participation in skills training during the construction of Hambanati houses.

There were 70 people who acquired construction skills during the construction of Hambanati houses. But the researcher interviewed only 30 training beneficiaries to investigate the impact of the construction skills. It was only this number of training beneficiaries available for interviews because other remaining training beneficiaries were not around during the interviews; the researcher was therefore compelled to take this number of training beneficiaries (Field survey, 2001).

3.3 Brief Historical Background of Mshayazafe housing Project

Mshayazafe housing project is located in Inanda. This area falls under the North Local Council of Durban. It is situated on steep land and is a densely settled. The area was an informal settlement in early 1980s, which had only one standpipe serving the whole community and the neighbouring communities. The Mshayazafe Community Based Organization developed the area through consulting Mr. Thulani Mthembu to assist them in accessing water. But Mr. Mthembu advised them by pointing out that it was important for them to apply for housing subsidies in order to get water, houses, toilets, electricity and roads, etc. The housing project was implemented in 1995, whereas the funding proposal was initiated in early 1980s.

But before its implementation took place Mshayazafe Community Development Trust was already formed to handle funding for different developments in the area. This Community Development Trust included the Mshayazafe community and external people of the area (Field survey, 2001).

Furthermore, the CBO performed the role of developer and a private sector consultant who particularly acted as their project manager at Metro Housing Durban. The main contractor was appointed to build the houses and local people were

trained to undertake specialized tasks, e.g. foundations, walls, etc under supervision of the Road Con Company the consultant of the project. On the other hand, Dave Slyn and Partners engineers supervised Road Con. A self-build option was also available but not many households opted for this approach (Field survey, 2002). Refer to the map at page 53 that shows the locality of Mshayazafe.

Mshayazafe housing project was funded through the government-housing subsidy under Metro Housing, whereas the funding proposal was prepared during the time of Durban Corporation. Only people who earn less than R3500 per month accessed the housing subsidy. The 10 000 serviced sites ranging between 100 m² and 400 m² were built on. It is the only area that has Ventilated Improved Pit (VIP) toilets and communal standpipes. Only 50% of the households have road access to their sites, the others have only footpath access. A standard 20m² houses were constructed on each site (BESG, 2000).

Mshayazafe adopted a different approach compared to Hambanati. It adopted the approach of on-the job training, which was being provided by main contractor or developer. The developer was the Road Con Company. The project manager said they did not provide certificates or certified documents to trainees who participated in housing construction. There were ninety people who acquired construction skills during Mshayazafe housing construction. There were forty training beneficiaries interviewed (Field Survey, 2002).

3.4 Brief Historical Background of Waterloo Housing Project

Waterloo is a housing development project located between Verulum and Umhlanga, North of Durban. It is about 30 km away from the centre of Durban. Since 1994, a sustained process of building low -cost houses has been underway in Waterloo.

The project was established as a site and services area first and followed with sites with top structure to accommodate the growing number of low-income and unemployed people in the region. Services, including waterborne sewerage, electricity, roads and water, have been provided since the inception of the project in 1991 (BESG, 2000).

The land for the low-cost housing was identified by the provincial government with an aim of allocating to people who earned less than R3500 per month. There were two racial groups; Africans and Indians occupied Waterloo housing project, but Africans dominated the area. The majority of black South Africans who occupied this area came from Canland near Verulum. Previously, Indians occupied the area of Caneland. The Africans were renting to the Indians who owned the houses. However, the initial intention of the project was to allocate all South African racial groups such as Indians, Whites, Africans and Coloured. But the majority of Indians who applied for housing subsidies changed their minds and cancelled their applications. The reason pointed out by the project manager was that Indians were afraid to live with Black Africans due to some social differences (Field survey, 2001).

Waterloo, a former farm that covers 330 hectares, is divided into 6000 housing sites. The development was planned to benefit an estimated 300, 000 people (Indians, Whites, Africans and coloured), 70% of whom were unemployed. The Waterloo Development Committee was the representative structure promoting the development needs of the community (Field survey, 2001).

Furthermore, one of the central principles of the Waterloo housing process was to offer residents and beneficiaries a

choice in the development of their homes. A Housing Support Center (HSC) was established in 1998 to provide the community with legal, technical and financial assistance in building. People who acquired building skills from phase two were also employed and trained on how to make earth bricks for building the Housing Support Center (Field survey, 2001). Refer to the map at page 53 that shows the locality of Waterloo.

Phase 1, 2 and 4 comprise of 1011 serviced sites, which ranged between 180 and 300m² and phase 3 was going to be implemented. Beneficiaries of the government-housing subsidy received the usual R15000, plus an additional R2 250 to compensate for the adverse geographical and topographical conditions. The service costs to each site was R9600, leaving the rest for the erection of a top structure. The residual was R5 400 and was disbursed in the form of a materials credit line at a supplier of the beneficiaries' choice. The beneficiaries organized the building of their own houses. Some people have built them themselves but most people have used builders. The house construction process was slow and only 50% of the sites have houses on them (BESG, 2000).

In 1995, a People's Housing Process (PHP) approach to housing construction began in Waterloo, which has resulted in the construction of more than 1000 homes built through the mechanisms of 'sweat equity', community savings schemes (stockvels) and bulk procurement of materials; owner-builders have been able to erect a range of relatively large house. The People's Housing Process (PHP) took place on phases 3 and 5 as well as in phase 7; PHP would also be employed in the construction of houses in April 2002. The North Local Operational Entity has approved a further 1500 plans. The researcher researched phase 1, 2 and 4 respectively (Field survey, 2002).

Waterloo has adopted a similar approach with Mshayazafe of using on-the job training. The skills training was provided by B.G.M. Condev who was the developer of phase one and two. 120 people acquired training during the construction of Mshayazafe housing houses. The project manager pointed out that there were no certificates awarded to the trainees (Field survey, 2002).

3.5 Concluding Remarks

The three case studies that is, Hambanati, Mshayazafe and Waterloo have been discussed above. The types of skills training programmes have been discussed. The historical backgrounds of the three case studies have been discussed outlining when the projects were started and who were the developers as well as the funds were also covered. The aim of this background was to set the stage for the next chapter. The next chapter looks at the types of construction skills that led to sustainable employment after the construction of the project in the construction industry of generating income for achieving housing improvements through using construction skills acquired from housing construction. The next chapter discusses the types of construction skills that led to sustainable employment after the projects were completed.

Chapter Four: Analysis of Study Findings

4.0 Introduction

The communities of Hambanati, Mshayazafe and Waterloo incremental housing projects, which were the focus of this study, have been investigated for the construction skills that the training beneficiaries acquired during the construction of these three projects. The focus was on the impacts made by these construction skills in assisting them to acquire sustainable employment after the construction of the project. Sustainable employment in this study refers to the ongoing earning of income by the training beneficiaries in the construction industry, which in turn allowed them to invest in housing improvements.

The study further analyzed the housing improvements made by the training beneficiaries through the income generated from their employment using acquired construction skills. This information was analyzed through analyzing the responses of the training beneficiaries. The views of the Project Managers who were involved at the inception of the projects and planners were discussed in conjunction with the training beneficiaries' responses. An analysis of data was informed by the literature review discussed in chapter two of this study. Hambanati, Mshayazafe and Waterloo incremental housing projects comprised of low-income earning people who qualified for the government housing subsidy.

4.1 Construction skills in Hambanati Housing Project

Khuphuka was the NGO that provided construction skills to the beneficiaries who participated in the housing construction in Hambanati housing project. Khuphuka used structured and on job training approach through housing construction to empower participants with construction skills.

The skills training programme took place from the premises of Khuphuka and other from the site. This skills training programme was divided into two sessions: One session entailed theoretical modules in construction skills for a period of four weeks. Khuphuka provided training beneficiaries with bus fare from Hambanati to Khuphuka. The second session took place on the site where they were actually building houses from scratch, right up to the top-structure. The beneficiaries were trained on various types of construction skills: bricklaying, plumbing, roofing and concrete blocks making. Table 1 below shows the types of the construction skills acquired by the interviewed beneficiaries in Hambanati.

Table 1: Types of Construction Skills in Hambanati

Types of Skills	No. Of Training Beneficiaries	Percentage %
Bricklaying	8	26
Carpentry/Roofing	5	17
Foundation	5	17
Plumbing	6	20
Block making	6	20
TOTAL	30	100

Source: Field Survey (2002).

4.2 Post-Project Employment in Hambanati

There were 70 beneficiaries who participated in skills training programme in Hambanati. The researcher interviewed 30 beneficiaries. The aim was to elicit information on the impact of construction skills in getting employment after the project was completed. 70% of the training beneficiaries interviewed in Hambanati housing project agreed that they acquired employment after the completion of the project in the construction industry.

The data in the table indicated that, 100% of the training beneficiaries constructed houses during the construction of the project. Beneficiaries contributed in the construction of the houses in Hambanati according to their expertise, for example as shown in table, which one 26% engaged in bricklaying, 17% specialised in roofing and carpentry, 17% were responsible for foundation, 20% did plumbing and 20% specialised in concrete blocks making for the project. The above percentages indicated that, the training beneficiaries managed to acquire employment during the construction of Hambanati housing project (Field Survey, 2001). It has been mentioned earlier that the focus of the study was to find out whether the training beneficiaries managed to acquire employment after the project was completed. The research findings indicated that, 70% of the training beneficiaries of Hambanati housing project managed to acquire employment after the project was completed. 29% of the training beneficiaries who acquired employment after the project established small-scale construction enterprises (SSCEs). Under these SSCEs, training beneficiaries supply concrete blocks to other housing beneficiaries, they specialised in plumbing and bricklaying activities (Field Survey 2001).

The issue of establishing small-scale construction enterprises training beneficiaries proved to be a success due to their level of education. The study found that education enhanced training beneficiaries to acquire post employment. The training beneficiaries had a better educational level since 70% of the training beneficiaries fell between standard 8 and standard 10.

The research findings showed that educational level increased the chances of training beneficiaries in acquiring employment.

These training beneficiaries who had high level of education managed to establish and register their own small-scale construction enterprises through the assistance of Khuphuka Tender Advice Centre.

Khuphuka Tender Advice Centre offered non-financial support to small businesses in the following manner: market access opportunities, provided information and tender business opportunities, advice on tender regulations and procedures in filling in tender documents and registration of businesses (Field Survey, 2001). These findings proved that the training beneficiaries with better educational level were able to go out and negotiate employment opportunities with project managers and municipalities.

The remaining 47% of the 70% who acquired employment after the completion of the project was employed by the owners of the SSCEs to perform various kinds of duties in the housing construction industry. 24% of the training beneficiaries were employed in informal construction industry using their skills acquired from the construction of the project. This 47% of the training beneficiaries pointed out that they worked everyday from Monday to Sunday. The findings of the study further indicated that 70% of the training beneficiaries acquired post employment used similar type of construction skills acquired from the skills training and housing construction programmes such as plumbing and bricklaying. Figure 1 on the following page shows the house under construction. It was constructed by the established small-scale construction enterprises in Hambanati using acquired construction skills.

Figure 1: Work Done By SSCEs Using Acquired Construction Skills in Hambanati



Source: Field Survey (2001)

This above picture shows the house built by the members of the SSCEs using the construction skills acquired during the construction of Hambanati housing project. The training beneficiaries clearly indicated that they built houses for other housing beneficiaries who wish to make housing improvements to their incremental dwelling units within the area and outside of the area. There were 3 training beneficiaries specialised in bricklaying, 4 did carpentry (fitting windows and building top structure) and 6 dug trenches in this abovementioned picture of the house, which was under construction (Field Survey 2001).

70% of the training beneficiaries who acquired employment after the project were between the ages of 18 and 35. 29% of the 70% who acquired employment after the project of the training beneficiaries mentioned that they were able to get

tenders to people who fell in this age category for employment. Therefore, they clearly indicated that they managed to get tenders (Field Survey 2001).

Findings from the research conducted at Hambanati illustrated that there were both females and males participating in the training and construction of houses. Training beneficiaries were predominantly male by 65% and the remaining 35% of the total being females who also participated in the construction of Hambanati housing project (Field Survey, 2001). The above-mentioned information indicated that, the training beneficiaries of Hambanati housing project managed successful to acquire sustainable employment in the construction industry through using the construction skills acquired from the project.

The remaining 30% of the training beneficiaries mentioned that they were unemployed. They further mentioned that their construction skills acquired were unproductive to enable them to be employable in the construction industry after the project. The researcher asked them why they failed to acquire employment after the construction process was completed of the project. They pointed out that they acquired foundation construction skills whereas these kinds of skills were not competitive enough to get employment. This 30% of unemployed training beneficiaries mentioned that their age category, and educational level were not allowing them to acquire employment after the construction of the project. They further mentioned that they were waiting for government pension.

4.3 Sustainable Employment After Hambanati Housing Project

The research findings showed that the employment acquired by the training beneficiaries after the project was sustainable one in Hambanati housing project. 29% of the training beneficiaries managed to establish small-scale construction enterprises (SSCEs), 47% managed to get employment from the established SSCEs, and 24% of them employed in the informal construction industry mentioned that they generate ongoing income. Table 2 below shows the income category of the training beneficiaries in Hambanati.

Table 2: Income Category of the Training Beneficiaries in Hambanati

Training Beneficiaries	No. Of Training Beneficiaries	Income Per Month
Entrepreneurs	6	R2500-R3500
Training Beneficiaries Employed by SSCEs	5	R800-R1500
Training Beneficiaries Employed Informal in Construction Industry	10	R100-R800

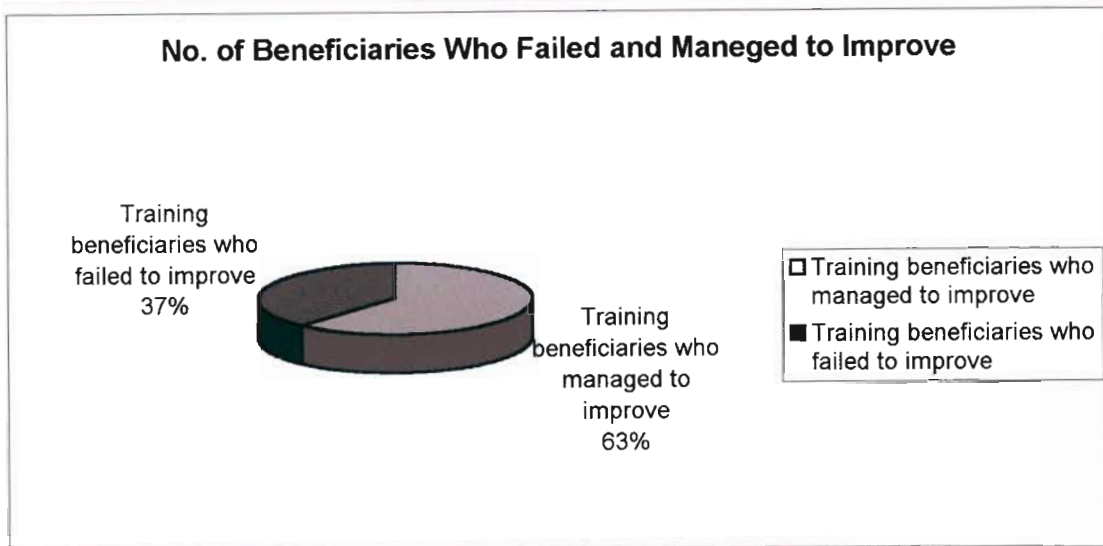
Source: Field Survey, 2001

The study findings showed that the employed training beneficiaries earned between R800 and R1500 per month, while the training beneficiaries employed by the small-scale construction enterprises earned between R100 and R800 per month. The training beneficiaries who established small-scale enterprises indicated that they were able to make income more than R3500 per month. The findings on income categories indicated that the training beneficiaries were able to acquire sustainable employment in the construction industry.

Income generation and employment creation are critical aspects on which housing improvements depend upon. The urban poor require money not only to live but also to improve and extend their houses and to pay for rates and services (Adebayo, 2000). Unemployment and low incomes have a negative impact on housing improvements and also on the improvements of beneficiaries' living standards and quality of life. The Housing White Paper (1994) argues that South Africa is characterised by large scale of unemployment in the formal sector of the economy. The increasing growth rate of the economically active population in conjunction with a declining or stagnant rate of growth of GDP implies that the level of unemployment is set to increase still further. This above information was found to be true in Hambanati housing project.

Figure 2 in the following page shows the number of the training beneficiaries, which was 21 out of 30 (70%), who failed and managed to make housing improvements through using income generated from the construction industry. These training beneficiaries were among of the 70% of the training beneficiaries who managed to acquire post-employment.

Figure 2: Training Beneficiaries Who Failed and Managed to Improve



Source: Field Survey, (2001)

The research findings in the above-mentioned pie chart showed that 63% of the training beneficiaries acquired employment after the completion of the project were able to make investment for their housing improvements to their original incremental dwelling units. This percentage of the training beneficiaries who made housing improvements showed that the training beneficiaries in Hambanati managed to acquire sustainable employment after the construction of the project in the construction industry.

The study in Hambanati housing projects showed that levels of investment in both external and internal housing improvements were directly related to income generated by the training beneficiaries in their place of employment. For example: in Hambanati 19 (63%) out of 21 (70%) of the training beneficiaries acquired sustainable employment have successfully achieved housing improvements, which showed that they acquired sustainable employment according to the definition employed in this study.

Figure 3a below shows the example of external housing improvements done by the abovementioned 63% of the training beneficiaries in Hambanati.

Figure 3a: An Example of Plastered, Painted and Fenced House in Hambanati



Source: Field Survey (2001)

Findings from the study in Hambanati incremental housing project were that, training beneficiaries have plastered and painted their houses. It further showed that only 2 out of 19 (63%) who improved their houses of the training beneficiaries interviewed have managed to fence their houses. These training beneficiaries pointed out that they have used their skills to improve their houses, which saved money for hiring someone to do the same task. The research findings indicated that the training beneficiaries have used concrete blocks, cement and asbestos to improve their houses.

Moreover, the findings showed that only 19% of the training beneficiaries interviewed used their own skills to improve their houses.

The research findings indicated that the training beneficiaries managed to make internal improvements. They mentioned that they purchased things like fridges, beds sofas and televisions. Figure 3b below shows the example of internal improvements done by the 62% of the training beneficiaries in Hambanati housing project using the ongoing income generated from the sustainable employment.

Figure 3b: An Example of Internal Housing Improvement in Hambanati



Sources: Field Survey (2001)

Therefore, in Hambanati 70% of the training beneficiaries who acquired construction skills managed to achieve sustainable employment after the project was completed in the construction industry. 38% of the 70% of the training beneficiaries acquired sustainable employment mentioned that they did not make housing improvements. When the researcher asked them why they did not improve their houses, they pointed out that they invested their income to the following human basic needs: education of their children, groceries, clothing, and health.

4.3 Construction Skills in Mshayazafe Housing Project

It has been mentioned that Khuphuka was actively involved in providing construction skills that helped 70% of training beneficiaries to acquire sustainable employment in the construction industry, but the case of construction skills in Mshayazafe housing project was totally different. The study pointed out earlier on that Road-Con Construction Company provided the construction skills in Mshayazafe training beneficiaries. This developer provided construction skills on the site of the project. By on-site training, training beneficiaries were trained while they were building the actual houses of the project. The training beneficiaries pointed out that they acquired the following construction skills during the on-site training: bricklaying, carpentry/roofing and foundation to all different respondents (Field Survey, 2001). Table 3 below shows the types of construction skills and the number of training beneficiaries who acquired those construction skills.

Table 3: Types of Construction Skills in Mshayazafe

Types of Skills	No. Of Training Beneficiaries	Percentage %
Bricklaying	8	23
Roofing	2	6
Foundation	22	51
Plumbing	7	20
TOTAL	35	100

Source: Field Survey (2001)

4.4 Post-Project Employment in Mshayazafe

The research findings showed that these construction skills acquired by training beneficiaries of Mshayazafe project assisted them to get employment during the housing construction process.

In Mshayazafe housing project, 4 plumbers interviewed mentioned clearly that they were employed during the housing construction process to do Ventilated Improved Pit (VIP) toilets, of water and sewerage pipes and communal stand pipes. In Mshayazafe housing project, bricklayers also pointed out that, they were able to get employment as they were constructing the houses. The findings in the above table indicated that 23% of the training beneficiaries constructed houses at Mshayazafe and 20% specialized in plumbing. The study findings indicated that all the training beneficiaries managed to acquire employment during housing construction projects, which enabled them to earn income (Field Survey, 2001).

17% of the training beneficiaries acquired post project employment in Mshayazafe, through making concrete blocks and working in the surrounding construction enterprises. These training beneficiaries clearly indicated that they were able to working on continuous basis in construction industry. The study found that these training beneficiaries managed to acquire employment after the completion of the project in the housing construction industry. Figure 4 below shows the site of concrete blocks making and training beneficiaries who acquired post project employment.

Figure 4: Shows the Site of Concrete block making in Mshayazafe.



Source: Field Survey (2001)

The above four training beneficiaries on site for concrete blocks making in Mshayazafe housing project decided to make concrete blocks in order to generate income. They pointed out that they sell these building material products to surrounding communities at Inanda. These training beneficiaries interviewed pointed out that this kind of employment enabled them to generate income on continuous basis.

31% of the training beneficiaries in Mshayazafe housing project said that they were employed outside the housing construction industry. They further pointed out that they did not use their construction skills acquired during the construction of the housing project. 52% of the training beneficiaries were unemployed. According to this information, this percentage did not use the construction skills acquired during the housing construction process.

difficult to be employable in the place of employment. Since the certificates play an important role in proving the skills training programme attendance during housing construction process.

Moreover, the level of their education denied them to acquire employment after the project was completed since their educational level fell between standard 2 and standard 5, while their age fell between 40 and 65. In that, there was no tender advice centre to assist them to establish and register their own small construction enterprises as it happened in Hambanati.

4.5 Sustainable Employment After Mshayazafe Housing Project

The training beneficiaries from Mshayazafe did not enjoy similar incentives like 70% of the training beneficiaries of Hambanati housing project. The research findings showed that the post project employment acquired by Mshayazafe's training beneficiaries was not a sustainable one since they spend less on housing improvements. There were only 2 training beneficiaries out of 17% who acquired sustainable employment and managed to achieve both external and internal housing improvements. Figure 5 below shows the example of the external housing improvements done by these training beneficiaries in Mshayazafe.

Figure 5: An Example of External Housing Improvements including plastering, painting and extensions in Mshayazafe



Source: Field Survey (2001)

These improved training beneficiaries mentioned that they used their own construction skills to improve their house in Mshayazafe. They mentioned that they were able to save money by making housing improvements for themselves, rather than employing another person. The training beneficiaries who managed to get sustainable employment and able to improve their houses mentioned that they managed to generate income that fell between R900 and R2500 per month. They further pointed out that this income assisted them in achieving housing improvements.

There were 4 training beneficiaries out of 17% of the training beneficiaries who acquired sustainable employment pointed out that housing improvements were not their first priority. They pointed out that they owned two households, one from rural area and other one from urban area.

They further mentioned that they also invest their income to human basic needs such as education, groceries and clothing. Moreover, 52% of unemployed training beneficiaries in Mshayazafe were unable to get employment, which in turn assisted them to generate income for housing improvements. Figure 6 below shows the example of unimproved houses of these aforementioned training beneficiaries in Mshayazafe.

Figure 6: An Example of Unimproved houses in Mshayazafe

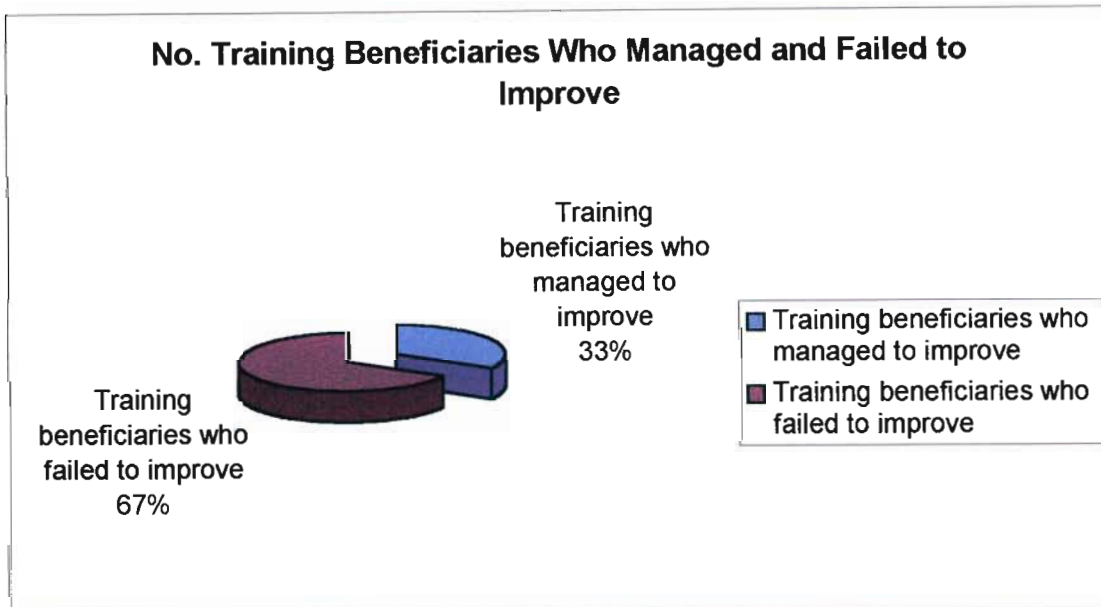


Sources: Field Survey (2001)

The study found that the unimproved houses of the Mshayazafe's training beneficiaries were like the above houses. The study research findings indicated that there was 33% of the training beneficiaries acquired sustainable employment that managed to make both external and internal housing improvements using the construction skills they acquired from the project. These training beneficiaries were self-employed through making and selling concrete blocks. They told the researcher that they also used blocks to make external housing improvements.

Therefore, the study findings showed that Mshayazafe's training beneficiaries did not manage to acquire sustainable employment since there were 17% training beneficiaries who actually acquired sustainable employment in Mshayazafe. Figure 7 below shows the number of 17% of the training beneficiaries who failed and managed to improve their houses in Mshayazafe.

Figure 7: No. Of Training Beneficiaries Who Managed and Failed to Improve



Source: Field Survey, (2001)

4.6 Construction Skills in Waterloo Housing Project

On the other hand, B.G.M. Condev provided the construction skills in Waterloo. The B.G.M. Condev used similar approach used by the Mshayazafe housing project developer of on-site training. The study found that, the training beneficiaries acquired the following construction skills: bricklaying, carpentry/roofing, plumbing and foundation making. See table 3 in the next page shows the construction skills acquired by the training beneficiaries in Waterloo.

Table 3: Types of Construction Skills in Waterloo

Types of Skills	No. Of Training Beneficiaries	Percentage %
Bricklaying	4	10
Roofing	6	15
Plumbing	3	7.5
Foundation	27	67.5
TOTAL	40	100

Source: Field Survey (2002)

4.7 Post-Project Employment in Waterloo

The above percentages indicated that the training beneficiaries managed to acquire employment during the construction of Waterloo. 10% of the training beneficiaries acquired post project employment in Waterloo. 25% of the training beneficiaries were employed outside the housing construction industry. They told the researcher that they did not use their construction skills acquired during the construction of Waterloo housing project in their place of employment. The remaining 65% of the training beneficiaries were unemployed. When the researcher asked them why they did not get employment after the project, they pointed out that their educational level, unavailability of employment opportunities and the approached used contributed to unemployment.

4.8 Sustainable Employment After Waterloo Housing Project

The post project employment acquired by the Waterloo' training beneficiaries was not sustainable one. The percentage of the training beneficiaries acquired employment after the construction of Waterloo was very low. They did not use their income for fulfilling the concept of sustainable employment, e.g. housing improvements. 100% of the training beneficiaries in Waterloo confirmed that they did not improve their houses.

Figure 8 below shows the example of the unimproved incremental houses in Waterloo.

Figure 8: An Example of Unimproved houses in Waterloo



Source: Field Survey (2001)

The research found that the training beneficiaries' houses at Waterloo were not improved. The findings showed the example of the unimproved houses at Waterloo through the above picture. 65% of the training beneficiaries clearly indicated that the main reason why they did not improve their houses was the fact that they were not employed. 25% of the training beneficiaries mentioned that they were employed outside the housing construction industry. They pointed out that they were not working in the construction industry. They further said that they were not using their construction skills acquired in the construction of Waterloo housing project. 10% of the training beneficiaries acquired employment after the project pointed out that housing improvements were not their first priority.

rooms; therefore, there was no demand to make housing improvements.

The findings from Waterloo housing project found that the training beneficiaries failed to acquire sustainable employment after the completion of the housing project, since 65% did not earn any income that generated by using the construction skills acquired from the construction of Waterloo project. Even the training beneficiaries who confirmed that they were employed using their construction skills in the housing construction industry were not using their income for achieving housing improvements.

4.9 Housing Construction Industry

The construction industry according to the literature has a potential of providing thousands of people with employment opportunities. For instance, in 1996 the building industry employed over 200, 000 workers and civil engineering industry another 150, 000 people (Allcock, 1996). According to Professor Adebayo construction industry has declined particularly housing construction industry because there was no much housing construction taking place in the Durban Metropolitan area right now. This statement confirmed the information collected from the field that there were no housing construction projects taking place in the three project areas. Almost 52 % of training beneficiaries in Mshayazafe and 65% of them from Waterloo were unemployed and those who have small-scale construction enterprises were also struggling to acquire sustainable employment in the housing construction industry.

Prof. Harber on his part pointed out that the only available solution to the government programmes was to provide agricultural and business skills to housing beneficiaries, not

only the construction skills. He further mentioned that these skills would assist them to achieve sustainable employment for housing improvements.

Moreover, Prof. Adebayo said housing construction industry and related construction industry has a potential of absorbing training beneficiaries who could be able to supply the industry with building components such as doors, concrete blocks, stones, window frames and doorframes, and furniture such as cupboards and tables that would be cheap for disadvantaged people. Therefore, sustainable employment would also be achieved through manufacturing these building materials and components. Prof. Adebayo further mentioned that the training beneficiaries have to be capacitated with managerial construction skills so that they would be able to establish their own small-scale construction enterprises.

4.10 Concluding Remarks

The main objective of this chapter was to analyze and interpret the findings of the study. The main aim of the research was to show the importance of the construction skills transfer in acquiring sustainable employment in the housing construction industry, which in turn allow them to generate income for achieving housing improvements. The aim of the chapter was to establish the relationship among the construction skills, sustainable employment and housing improvements.

The chapter clearly demonstrated that construction skills were important element for sustainable employment in achieving housing improvements. Construction skills in Mshayazafe and Waterloo did not enable beneficiaries to acquire sustainable employment. The study findings showed that project managers of the two case study areas (Mshayazafe and Waterloo) pointed out

that the construction skills provided by contractors or developers were not enough to assist training beneficiaries to acquire sustainable employment because they did not give sufficient or effective construction skills.

The approaches used to empower the training beneficiaries were not allowing them to acquire sustainable employment in the housing construction industry.

The site training exploits beneficiaries to accomplish the given work or task at a specified time. The site training only does not assist training beneficiaries to exploit employment opportunities that are available in the construction industry. The findings from Hambanati clearly showed that on site-training need to be combined with the theoretical modules. The government tries to increase allocation of funds for skills training during the construction of the housing projects. This increase of allocation of funds has been worked successful in Hambanati.

Furthermore, the planners in the field of housing construction industry mentioned that housing construction industry has a potential to absorb skilled beneficiaries. The construction industry's potentiality is prevented by its nature of working site to site. This industry is not sustainable because it is often fluctuating, which result skilled people failed to get sustainable employment. The industry has positive potential to stimulate economic growth through its strong backward and forward linkages.

Chapter Five: Summary, Conclusion and Recommendations

5.0 Introduction

In concluding this study, summary, conclusions and recommendations were made for housing policy and implementation of construction skills during the construction of incremental housing projects. The summary and conclusions on this chapter will be made based on the findings of the study that was conducted in the three case study areas, namely: Hambanati, Mshayazafe and Waterloo. There are lessons to be learned from these three case studies. The research findings have showed that construction skills provided have a pivotal role to play in developing beneficiaries' economic status.

This chapter will conclude by pointing out the problems that curtail the training beneficiaries from acquiring sustainable employment in the housing construction industry or elsewhere and make recommendations that may assist and inform the housing policy. The recommendations made herein are based on the implementation of the existing housing policy and it is imperative that the policy is informed by the tangible realities that exist in the grass root level.

5.1 Summary

The training beneficiaries in Mshayazafe and Waterloo were provided with construction skills during the housing construction. The findings of the study proved the hypothesis of this study (the construction skills provided to the beneficiaries in the construction of incremental housing projects were insufficient in enabling the training beneficiaries to acquire sustainable employment in the construction industry).

The findings showed that the training beneficiaries in both incremental housing projects (Mshayazafe and Waterloo) failed to acquire sustainable employment, through using these construction skills and having said that, it was difficult to acquire any form of employment, which meant that they were unable to make housing improvements. The study, therefore, shows the connection between employment, which permits generation of income, and housing improvements. The study found that there were 52% of the unemployed training beneficiaries in Mshayazafe and 65% of them in Waterloo. These training beneficiaries mentioned that they were unable to make any form of housing improvements.

On the other hand, there was a case study where the findings disagree with the hypothesis of this study. The research findings conducted in Hambanati indicated that 70% of the training beneficiaries managed to use their construction skills to acquire sustainable employment in the construction industry, and 62% of them managed to make housing improvements because they managed to save their ongoing income and used their construction skills to make housing improvements.

These findings allowed the study to summarise by pointing out that provision of construction skills to housing beneficiaries enable their ability to acquire sustainable employment in the construction industry. When they were able to achieved sustainable employment, their chances of making housing improvements are intensified. Based on the findings of the study, the hypothesis of the study has been tested and proven to be true and falsely in all respects. The training beneficiaries from Mshayazafe and Waterloo incremental housing projects were unable to obtain sustainable employment after their projects completion. The findings from Mshayazafe and Waterloo showed high level of unemployment, and unused of

construction skills in their place of employment among the training beneficiaries.

5.2 Conclusion

Through out the study it has been shown that construction skills have become an important element in the provision of incremental housing projects. The construction skills provided in Mshayazafe and Waterloo housing projects have not played a pivotal role in assisting training beneficiaries to acquire sustainable employment.

The findings of the study indicated that developers of these two incremental housing projects were unable to provide suitable construction skills by using appropriate methods like structured training approach used by Khuphuka. In Mshayazafe, there were 52% of the unemployed training beneficiaries, while there were 65% in Waterloo. The contributing factors identified by the study were the low level of education, age categories, unavailability of employment opportunities in the construction industry and the approaches used by the developers to empower these training beneficiaries. It was only 2 training beneficiaries in Mshayazafe who managed to make housing improvements through the income generated from the construction industry.

In Hambanati the study discovered that the training beneficiaries were provided with construction skills such as bricklaying, carpentry, roofing plumbing and concrete block making to intensify their ability to use these skills to acquire employment opportunities. The findings indicated that the training beneficiaries in Hambanati managed to use their construction skills to acquire sustainable employment. The findings showed that Khuphuka (Non-Governmental Organisation)

had appropriate Skills Training Programme for empowering beneficiaries participating in the housing construction.

The above findings assisted the study to establish the relationship among the construction skills, income and housing improvements. The relationship helped the study to demonstrate that empowering the training beneficiaries with construction skills could allow them to acquire sustainable employment that allow them to save for housing improvements among other things.

Furthermore, the project managers and other local representatives said that construction skills provided to the training beneficiaries from Mshayazafe and Waterloo housing projects were insufficient to enable them to acquire sustainable employment. The provision of skills was not based on the perspective of assisting the training beneficiaries to acquire sustainable employment, except the skills provided by Khuphuka, which were based on the notion of empowering beneficiaries participated in the construction of Hambanati housing project. The skills provided in Mshayazafe and Waterloo was based on completing the work of building houses of both projects. The study found that the training beneficiaries used their construction skills to improve their houses. Therefore, these training beneficiaries were able to save money, which would be pay to another person for doing housing improvements to their houses.

Professors from the School of Architecture, Planning and Housing said that housing construction industry and related industry have a potential of absorbing training beneficiaries in order to be able to generate income for achieving housing improvements.

The South African housing construction industry is declining due to some global economical fluctuation, which cause the country unable to allocate enough funds for construction industry.

5.3 Recommendations

At the center of current housing policy are the concepts of incremental housing approach and skills transfer. The incremental housing projects could be able to provide sustainable employment to the training beneficiaries and able to offset the housing backlog in South Africa. The training beneficiaries would be able to use the construction skills into two ways namely: acquiring sustainable employment and improving their own houses as the self-help housing approach envisaged.

The recommendations that are made in this study aim at contributing ideas that might help influence and shape a meaningful and more pragmatic National Housing Policy in the future. The National Housing Policy should not look at the provision of incremental houses alone. Incremental housing approach is targeting low-income people who earn less than R 3500 per month and zero income people. Hence, the zero income people are affected by high rate of unemployment and lack of employment skills, which would assist them to enter into housing construction industry's labour market or among other labour market for that matter.

The findings from Hambanati showed that the training beneficiaries managed to acquire sustainable employment through using the construction skills provided by Khuphuka. So, the study suggests the use of training institutions like Khuphuka in providing skills to housing beneficiaries participating in the construction of incremental housing

projects. It is important to use such training institutions so that they can be able to provide mentorship after the projects have completed. They would assist the training beneficiaries to establish their small-scale construction enterprises or to find employment opportunities elsewhere in the construction industry. The training beneficiaries are able to use these construction enterprises to acquire sustainable employment in the housing construction industry.

However, there is a great need for skills training stakeholders from the side of the government, institutions and NGOs that have holistic skills training programmes. The study found that there were unproductive construction skills in Mshayazafe and Waterloo that assist the training beneficiaries to acquire sustainable employment. The study recommends that the skills training for self-employment is essential. The training beneficiaries must have access to training of entrepreneurship skills. This has been proven in Hambanati where the training beneficiaries managed to acquire sustainable employment through using this kind of construction skills. This type of skills gives beneficiaries opportunities to compete on a much wider scale to acquire sustainable employment.

Multi-skilling is necessary in order to help training beneficiaries to compete on a wider scale once again. For example, if the training beneficiaries were employed for bricklaying, they should be able to be employed in other things such as roofing. This would enhance training beneficiaries to acquire sustainable employment. The study found that the training beneficiaries need to be given a platform to practice the construction skills they have acquired. A platform in this case would be a workplace, where the training beneficiaries were expected to add value through

their labour skills and generate income simultaneously. The training beneficiaries would become actual income generators and would be enabled to have their portion of their income being dedicated to housing improvements. One-way for example could be for the Government Departments through the Department of housing letting newly skilled beneficiaries to participate in housing projects being developed elsewhere through targeted allocation of projects, and through other departments, e.g. Local Government and public works. They could also participate in non-housing projects. The training beneficiaries would also be able to acquire sustainable employment, which in turn allow them to make housing improvements, while further honing their skills.

The study findings showed that the housing projects could benefit the training beneficiaries and create job opportunities for other beneficiaries in the communities. The findings from Hambanati and Mshayazafe indicated that the training beneficiaries could acquire sustainable employment within the communities. The training beneficiaries were making concrete blocks and improving other people's houses. Therefore, the study recommends that the training beneficiaries need to be given the following construction skills so that they could be able to obtain sustainable employment: physical skills such as carpentry or masonry, blocks making, plumbing, painting and plastering skills and managerial and entrepreneurial skills in the event that they want to run their own businesses. According to the study findings tendering, how to manage small building contractors, leadership and managerial skills need to be given to the training beneficiaries who have high educational level. These construction skills would assist the training beneficiaries to acquire sustainable employment in the housing construction industry or elsewhere.

Employment of local contractors and labour during the construction phase is essential to meet the RDP goals of participation, capacity building and empowerment. Involvement of the local community in this way will also promote a sense of ownership of the project. Where capacity exists, developers should be encouraged to sub-contract certain activities to local contractors, who can then take responsibility for employing people from the community and overseeing their activities. There is a need for these subcontracted enterprises to be registered to the Building Industries Training Schemes (BITS). This kind of training would be able to help people employed by sub-contracted firm to acquire suitable construction skills and using appropriate approach of training. A similar kind of appropriate approach used by Khuphuka of structured training in empowering Hambanati's training beneficiaries. To ensure that maximum benefits are gained from employing local people, skills training programmes should be developed and run in parallel with the development process. Training provided should equip beneficiaries to do the work proficiently, but also build skills and confidence that can be applied to other projects

Lastly, once the training beneficiaries have acquired construction skills ranging from project management to the actual building they can sustain the project themselves and be able to use those construction skills to acquire sustainable employment available in the housing construction industry or elsewhere. The findings indicated that the skills training were not funded in the two incremental housing projects. The study recommendation can then be allocating funds for training. They can also saving out the physical improvements and extension of their dwellings themselves, saving their money they would pay another person to do the same task.

Skills Training will allow training beneficiaries to enter into labour market of housing construction industry for generating income of achieving housing improvements.

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QUESTIONNAIR-TRAINING BENEFICIARIES

1. Gender

Female	
Male	
Other	

2. Age

18- 25	
26- 40	
41- 65	

3. Are you living in this area permanently?

Yes	
No	

4. If no, where are you living most of your time?

Rural area	
Urban area	
Other specify	

5. If yes, how long have you been living this area?

0- 2 years	
3-4 years	
5 and above	

6. What is your highest qualification?

0- STD2	
STD 3- STD 7	
STD 8- STD 10	
Tertiary/ vocational	

7. Did you have any skills before the construction of the project?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

8. Did you acquire skills during construction of this project?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

9. How were you selected to participate in the skills programme?

.....

10. From which training institution did you acquire those skills?

.....

11. What types of skills did you acquire from the project? Tick where appropriate

(a) Bricklaying skill	<input type="checkbox"/>
(b) Managerial skill	<input type="checkbox"/>
(c) Carpentry skill	<input type="checkbox"/>
(d) Wiring skill	<input type="checkbox"/>
(e) Plastering skill	<input type="checkbox"/>
(f) Other, specify.....	<input type="checkbox"/>

12. Do you think skills acquired were suitable enough to help you to acquire employment opportunities?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

13. Which skills do you think can be useful to help you to acquire employment opportunities?

.....

14. If not, why?

.....

15. How long did the training take place?

(a) one weeks	
(b) two weeks	
(c) three weeks	
(d) four weeks	
(e) Other specify.....	

16. Do you think the time above was sufficient for training?

Yes	
No	

17. If no, why?

.....

18. Did you obtain a certificate?

Yes	
No	

19. Are you currently employed?

Yes	
No	

20. What types of employment do you have?

Self-employed	
Formal employed	
Informal employed	

21. If you are employed do you use skills obtained from training?

Yes	
No	

22. What other skills do use in your employment?

.....

23. Did you acquire these skills from the training?

Yes	
No	

24. If not, from where did you acquire them?
.....

25. Would you have been able to access the current form of employment without them?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

26. How much do you earn or make per month?

R 100-R800	<input type="checkbox"/>
R 900-R1500	<input type="checkbox"/>
R1600-R2500	<input type="checkbox"/>
R2600-R3500	<input type="checkbox"/>

27. Is this money sufficient to improve your house?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

28. If no, why?
.....

29. If yes, have you done any housing improvement in your house?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

30. If you are unemployed, have you made any housing improvements?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

31. If yes, how did you manage to improve your house?
.....

32. On which category do you spend your income mostly?

Education	<input type="checkbox"/>
Grocery	<input type="checkbox"/>
Housing improvements	<input type="checkbox"/>
Clothing	<input type="checkbox"/>
Health	<input type="checkbox"/>
other	<input type="checkbox"/>

33. Have you joined any saving schemes or clubs that allow you to put monies together with other community members?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

34. How much have you put together in this way?
.....

35. Are you satisfied with the amount?
.....

36. If no why?
.....

37. Have you used such monies for housing improvements?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

38. If yes, how much of the saved funds have you used?
.....

39. To what other purposes have monies been put?

Health	<input type="checkbox"/>
Education	<input type="checkbox"/>
Grocery	<input type="checkbox"/>
Clothing	<input type="checkbox"/>
other	<input type="checkbox"/>

40. If no, how did you manage to improve your house?
.....

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

41. If you have not done any housing improvements what are the chances of your improving your house in the coming years
.....

42. Why?
.....

43. Which of the following external housing improvements did you do in your house?

Adding extra-rooms	
Paving	
Fencing	
Painting	
Water tap	
Plastering	
Other specify	

44. How much did you spend in the above external housing improvement?

.....

45. If you added extra-rooms how many are they?

One	
Two	
Three	
Other specify	

46. How much did you spend on adding extra-rooms?

.....

47. What kind of building materials did you use to improve additional rooms?

Bricks	
Blocks	
Mud	
Corrugated iron	
Other, specify

48. Is this your first choice of material or would you have used different had your resources been different?

Yes	
No	

49. Were you able to save money by doing some of the construction work yourself?

Yes	
No	

50. Did you acquire skills that help you in this regard?

Yes	
No	

51. How?

.....

52. Who built extra-rooms in your house?

Yourself	
Local contractor	
Other specify	

53. How much did you spend in adding extra-rooms in your house?

R1000- R2000	
R3000- R5000	
R6000- R8000	
R9000 and above	

54. Do you have these following items in your house?

Stove	
Fridge	
Kettle	
Iron	
T.v.	
Radio	
Bed	
Sofas	
Table and chairs	
Other specify	

55. Do you think the improvements that you have made are enough?

Yes	
No	

56.If no, what other improvements do you desire to make?

.....

57.What obstacles limit you in carrying out housing improvements in your house?

.....

58.How can people with skills provided in incremental housing projects be assisted to access employment opportunities?

.....

59.What other interventions do you think will assist you to gain employment?

.....

Sustainable Employment Questions

60.Do you work in a continuously basis in your place of employment?

Yes	
No	

61. How long have you been working in your place of employment?

1- 2	
3- 4	
5- 6	
7-8	
9 and above	

62.If you are self-employed, have you earn income continuously?

Yes	
No	

63. What type of self-employment are you doing?

Selling vegetables	
Civil engineering contractor	
Building contractor	
Other specify	

64. If you are a civil or building contractor where is your place of employment?

Local	
City	
Rural	
Other	

65. Are you able to afford maintenance of your house continuously?

Yes	
No	

66. Do you work in a casual job?

Yes	
No	

67. What do you think sustainable employment can be achieved?

.....

Thank you very much for your cooperation.

Project Managers' interview questions

1. How did you become the project manager of this housing project?
2. When did you become project manager of this project?
3. When did the project start?
4. What types of skills did the project provide? Why?
5. How were the skills training financed?
6. How did you select your trainees?
7. Do you think this procedure was fair? Why?
8. What was the duration of the training?
9. Do you think this time was sufficient to give trainees skills that would enable them to acquire employment opportunities?
10. What was the number of training beneficiaries?
11. How was this determined?
12. Did training beneficiaries obtain certificates?
13. Do those certificates correspond to South African Qualification framework?
14. What was the basic aim of providing local people with skills?
15. Did you achieve that aim? How?
16. Do you think that skills you offered are competitive enough to put training beneficiaries on the labour market?
17. How can beneficiaries with skills provided in incremental housing projects be assisted to acquire sustainable employment opportunities?
18. Do you think beneficiaries who are acquired skills from training would be able to get sustainable employment in the construction industry?
19. How?

20. How did you ensure that skills imparted would aid in acquire to sustainable employment by training beneficiaries participating in the housing projects?

21. Do you think that skills provided in incremental housing projects would help training beneficiaries to get sustainable employment?

Thank you for your cooperation

Interviews with Professor Adebayo and Harber from the School of Architecture, Planning and Housing

1. When did you start to research or write about the housing construction industry?
2. What was the motive behind it?
3. How can you define the housing construction industry?
4. Do you think housing construction industry is effective enough to provide sustainable employment to training beneficiaries?
5. If not, why?
6. Do you think the construction skills provided in incremental housing projects are sufficient enough to provide training beneficiaries with sustainable employment?
7. If not, what additional construction skills or other skills would be required to provide training beneficiaries with sustainable employment?
8. Do you think incremental housing projects can be able to provided beneficiaries with sustainable employment?
9. If not, what can be done to assist training beneficiaries to acquire sustainable employment in the construction industry?

Thank you for your cooperation