

INFORMALITY AND URBAN AGRICULTURAL PARTICIPATION IN KWAZULU-NATAL: 1993 - 2004

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ABSTRACT

The aim of the study was to find out whether or not engagement in urban agriculture for individuals and households is a response to a lack of formal wage employment in the post-apartheid period. This period is characterised by changes in the economy of South Africa which led to an observed increase in poverty and unemployment and an increase in informal employment.

The study utilised both quantitative and qualitative methods to look at urban farming issues in KwaZulu-Natal. The quantitative data came from the KwaZulu-Natal Income Dynamics Surveys (KIDS), which carried out surveys in three waves spanning the period of democratic transition over a 10-year period in 1993, 1998 and 2004. This data was analysed using the statistical package STATA and employed regression modelling techniques to investigate the odds of engagement in urban agriculture, given certain individual and household characteristics, which is a particular nuance for this study. Because of its potential in food production and income generation, a smaller-scale *qualitative* farmer survey was undertaken in two different communities, comparing three different categories of home gardening, community gardening and market gardening in KwaZulu-Natal, using a semi-structured questionnaire. This component sought to document, in farmers' own words, their experiences and practice of farming in an urban environment and gave in-depth insights about the motivation of the people involved, the types of food crops grown, and so on. Key informant interviews were conducted with a community of professionals for illuminating their perspectives on the practice of urban agriculture in KwaZulu-Natal.

The key findings of the study are that urban agriculture is an activity that is undertaken by people seeking a survival strategy when their preferred activity (such as formal employment) is not available and it can be an activity undertaken by entrepreneurs for income generation. According to their main activity status, the types of people that engage in urban agriculture include those in wage employment and the unemployed, as well as the non-economically active. The contribution of agricultural income to total household income represents miniscule amounts, at an average of less than one percent. Regression modelling results, combining person level and household level variables, predicted *more likely* odds of farming for women, by a factor of 1.67. Increase in the

number of years of education *decreased* the odds by 0.90 times. If a person lost employment, this *increased* their odds of engaging in urban agriculture by 1.23 times. People in the age group 36-46 years predicted the *highest likelihood* for participation in urban agriculture, by a factor of 2.54. Larger household size predicted odds *more likely* to engage while poor households also predicted odds *more likely* to engage, by a factor of 2.07 times.

Urban agriculture is vastly heterogeneous and is undertaken by all income groups. It is a result of both push and pull factors. People engage in it neither as a survival strategy nor an entrepreneurial strategy only. It is, however, an activity in which the poor are disproportionately represented. The potential of urban agriculture to generate employment is linked to the nature of support received from government and non-governmental organisations.

Keywords: urban agriculture, poverty, unemployment, participants in urban agriculture, informal employment, regression modelling

DEDICATION


This research is dedicated to ‘my Baba’ LANGALIBALELE JAMES NDOKWENI. My boy, thank you for being flexible - moving schools, cities and countries and having to adapt to new and foreign situations and taking it all in your stride to help mom succeed in achieving her goal. You have had a lot of growing up to do, way beyond your eight years when I first started this project. You have been my rock and my inspiration throughout.

DECLARATION

I declare that this is my own unaided work, except the acknowledged assistance and referenced citations. It has not been submitted for any previous degree at any university.

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ABBREVIATIONS AND ACRONYMS

- ACAT African Co-operative Action Trust
- ADEQ Adult Equivalents

ANC	African National Congress
CDF	Cumulative Distribution Frequency
CPI	Consumer Price Index
CSAE	Centre for the Study of African Economies
CSIR	Council for Scientific and Industrial Research
DoA	Department of Agriculture
DPRU	Development Policy Research Unit
ENDA	Environment and Development Activities
FAO	Food and Agriculture Organisation
FSG	Farmer Support Group
GDP	Gross Domestic Product
GEAR	Growth, Employment and Redistribution
GPS	Geographic Positioning Systems
HSRC	Human Sciences Research Council
ICLS	International Conference for Labour Statistics
IDP	Integrated Development Plan
IDRC	International Development Research Centre
IES	Income and Expenditure Survey
IFPRI	International Food Policy and Research Institute
ILO	International Labour Organisation
IMF	International Monetary Fund
ISSER	Institute of Statistical, Social and Economic Research
JASPA	Jobs and Skills Program for Africa
KIDS	KwaZulu-Natal Income Dynamics
KZN	KwaZulu-Natal
LED	Local Economic Development
LFS	Labour Force Survey
NGO	Non-governmental organisation
NRF	National Research Foundation
OAP	Old Age Pension
PCC	Population Crisis Committee

PPP	Purchasing Power Parity
PSLSD	Project for Statistics on Living Standards and Development
RDP	Reconstruction and Development Programme
RUAF	International Network of Research Centres on Urban Agriculture and Food Security
SALDRU	Southern Africa Labour and Development Research Unit
SAP	Structural Adjustment Programme
SMME	Small, Medium and Micro-Enterprises
STATA	Data Analysis and Statistical Software
StatsSA	Statistics South Africa
TIPS	Trade and Industrial Policy Strategies
UA	Urban Agriculture
UKZN	University of KwaZulu-Natal
UN	United Nations
UNCHS	UN Centre for Human Settlements
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
WIEGO	Women in Informal Employment: Globalising and Organising

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CHAPTER ONE INTRODUCTION

1.1 Introduction

Internationally, there is growth in the number of people working in the informal economy, either self-employed or as wage workers. According to the International Labour Organisation (ILO), informal employment comprises one-half to three-quarters of non-agricultural employment in developing countries (ILO, 2002). Recent trends in informalisation indicate that self-employment represents 70 percent of informal employment in Sub-Saharan Africa (if South Africa is excluded, the share is 81 percent), 62 percent in North Africa, 60 percent in Latin America and 59 percent in Asia (Chen, 2006). These trends are not a developing country phenomenon only. The ILO reports that informal employment comprises 30 percent of overall employment in 15 European countries and 25 percent of total employment in the United States.¹

The informal economy is an important contributor to economic development in developing countries with reasonable growth rates, such as Brazil, India, Kenya and South Africa (Heintz, 2006: 23). In Kenya, informal wage work and own account workers account for 61 percent of all non-agricultural work that is counted when the gross domestic product (GDP) is calculated (Budlender, 2011a: 2). In Zambia, 80 percent of the country's workforce is in the informal economy (War on Want, 2007: 1). A national survey on Mozambique's informal economy found that 7.7 million workers were employed by 2005. In South Africa, more than a third of all employed people are informal workers (Budlender, 2011b: 2).

The existence of an informal economy and its persistence over time has been explained by a variety of reasons, motives and related causes. Evidence suggests that people get involved in the informal economy because there are no economic opportunities, or there have been economic crises. As a consequence of this, a lot of economic phenomena appear to happen, such as unemployment, which in turn influence the informal activities. Chen, Jhabvala and Lund (2001) state that the informal economy in countries undergoing economic transition has continued to

¹ This is the trend with non-standard or atypical work, of which the ILO distinguishes between three categories, *viz.* self-employment, part-time work and temporary work (ILO, 2002: 7).

expand so much that it has come to be recognised as a feature of economic transition. It is now not only a feature of economic transition, but includes all of informality, as it is manifested in industrialised, developing economies and the real world dynamics in labour markets today. This is particularly so with regards to the employment arrangements of the working poor.

Although not often considered as such, urban agriculture falls within the rubric of the informal economy (Jacobs and Xaba, 2008). Urban agriculture can provide supplementary opportunities to the underemployed, temporarily unemployed or chronically unemployed in cities where formal sector opportunities are few. Many of the world's urban poor create gardens of some kind, to help supplement the food that they have to buy (Mougeot, 2000). According to the Food and Agriculture Organisation (FAO, 2011), poor urban households spend 60 to 80 percent of their income on food. Urban agriculture thus helps improve the urban poor's economic access to food, when their household production reduces their food bills and when growers earn a living from sales. Globally, it is estimated that 800 million people engage in urban agricultural activities and, of these, 200 million engage for the market (Resource Centres on Urban Agriculture and Food Security (RUAF, 2011).

The same trends of unemployment, informalisation and urban agriculture falls are evident in South Africa. The rise in levels of unemployment and poverty can be related to the impact of the conservative macro-economic policies adopted by the state under the Growth Employment and Redistribution Programme (GEAR), between 1996 and 2000. Economic restructuring brought with it a host of problems, including unemployment and an increase in informal employment. As employment declined, there was a growth in the informalisation of work (Devey, Skinner and Valodia, 2004). Economic growth resulted in weak employment growth among highly skilled workers, while unskilled workers and those in poor households carried the adjustment costs of greater openness (May, Carter and Padayachee, 2004). Employment as casual labour increased, as did employment in agriculture. This was more so for African households (May and Meth, 2007).

Levels of unemployment in South Africa have almost doubled since 1993 and the broad consensus is that levels of poverty have correspondingly risen, despite the economic and political

reforms since 1994 (May and Meth, 2007). Notwithstanding the quality of the data, Budlender (1999) suggests that money-metric poverty may have increased between 1994 and 1998. This finding was supported by an official publication from Statistics South Africa (StatsSA, 2002). Van der Ruit and May (2003) tried to carefully manage some of the data quality problems and used a Purchasing Power Parity (PPP) adjusted \$1 a day poverty threshold. They concluded that the absolute number of people in poverty appear to have increased from 11.5 percent in 1993 to 19.8 percent in 2000.

Similarly, unemployment is a very serious issue in South Africa, affecting a quarter of the workforce (Davies and Thurlow, 2009). Rodrik (2008) identified the main causes behind rising unemployment to be the decline in manufacturing since the end of apartheid. This occurred particularly among the lower-skilled job-seekers. Formal sector job creation failed to keep pace with expanding labour force participation. As a result, it was expected that the unemployed would turn to the informal sector. Casale, Muller and Posel (2004) have confirmed this and reported that informal employment has accounted for most of the job creation in the decade after apartheid. Supporting these results, Hooegeven and Ozler (2005) have reasoned that the tendency towards outsourcing in the manufacturing sector accounted for the increase in the number of workers in the informal sector between 1995 and 2001.

The demise of the formal economy in South Africa is linked, in part, to the appearance of expanding levels of urban agriculture, a phenomenon similar to that observed in other parts of Africa (Rogerson, 1996). Rogerson (1993) points out that participation in urban agriculture is connected with failure to secure sufficiently well-paying jobs in the cities.

In South Africa, not much has been done by way of research in this field, especially using the lens of informal employment to understand the reasons for entry into and exit from urban agriculture. As a contribution towards filling this lacuna, the present study moves beyond the usual urban agriculture discourse, which focuses on the phenomenon instead of the actual individuals and households involved. Using panel data, this study explores the types of people who get involved in urban agriculture over time, when they get involved, why they get involved, how they get involved and the labour market conditions which may lead to the adoption of urban

agriculture as a survival and income generation strategy. This is supported by qualitative data on different types of urban agriculture participants, along a continuum from survival to entrepreneurial. This study therefore contributes towards the understanding of the magnitude and complexity of urban agriculture, particularly in the province of KwaZulu-Natal. The study uses the term urban agriculture to refer to crop production activities. These are those activities practised in urban areas for the purposes of providing food, income and employment. It analyses the contribution of this for both urban individuals and households, particularly in developing countries.

1.2 Objectives of the study

Worldwide, there has been an observed increase in the number of people participating in urban agriculture (UNDP, 1996). The hypothesis to be tested in this study is that the previously unemployed are more likely to participate in urban agriculture than any other group of people in the labour market. The availability of the KwaZulu-Natal Income Dynamics Study (KIDS), a three-wave panel household survey that collected data on urban agriculture in the final two waves, presents an opportunity to investigate this.

Urban agriculture has been shown to be an informal income opportunity, widely available to the poor living in urban areas of many developing countries. Some researchers hold that this activity makes an important contribution to employment and income generation (Nugent, 2000; Mlozi, 1996; House, Ikiara and McCormick, 1993). I propose, here, that urban agriculture can be an activity that is undertaken by entrepreneurs for income and wealth generation and it can be an activity undertaken by people seeking a survival strategy when their preferred activity (such as formal employment) is not available. Both may operate in the informal economy, and both are of interest in this thesis.

KwaZulu-Natal is the most populous province and has the second highest unemployment rate and third highest poverty rate in South Africa (StatsSA, 2001; StatsSA, 2003). Wide parts of KwaZulu-Natal essentially have the characteristics of urban agriculture. Many KwaZulu-Natal households engage in urban agriculture on a small scale in backyard plots and on vacant public land; many are poor and depend on state grants (Marshall-Smith, 2006). The question that I seek

to unravel in this thesis is whether, in the absence of formal, wage employment, people in the province of KwaZulu-Natal get involved in urban agriculture. This is against the backdrop of increasing unemployment and poverty trends in the post-apartheid era in South Africa following the opening up of the economy. In such a context, I examine whether or not urban agriculture becomes an informal employment opportunity for those unemployed in the formal sector.

The study aimed to explore the following questions:

- a) Who gets involved in urban agriculture? What are the demographic and socio-economic characteristics of urban agricultural participants and households in the province of KwaZulu-Natal? Are there differences between different forms of urban agricultural practice and, if so, what are the reasons for this?
- b) What are the motivations leading to participation in urban agriculture and do these differ by gender, age and social group?
- c) In what ways is agriculture in the urban areas of KwaZulu-Natal a response to the absence of formal wage employment? Why is it that some people are involved in urban agriculture and others not? And what happens when they get involved?
- d) Should urban agriculture be regarded as a sub-sector of the informal economy in the province of KwaZulu-Natal?

1.3 Structure of the thesis

This thesis comprises eight chapters. The introductory Chapter one outlines the objectives of the study with regard to the questions posed.

Chapter Two aims at providing a theoretical framework for the analysis of urban agriculture as an informal economy activity for individuals and households. The informal economy theoretical framework is employed to analyse the nature and trends of those who engage in urban agriculture. The question of what constitutes the informal economy and its contribution is discussed in this section. It includes a review of the literature on the evolution of the definition of the informal economy from the previous limited informal sector definition.

South Africa has a small but growing urban agricultural sector, which is poorly understood and not well documented. Chapter Three reviews some of the international literature about what an urban agriculturalist is. It looks at the concept of urban agriculture. The context within which the activity has developed is examined. The motivations for engagement are explored. Thereafter, a case for South Africa is presented.

Chapter Four is the methodology chapter, which uses quantitative and qualitative data methodologies. The quantitative KwaZulu-Natal Income Dynamics Study (KIDS) is outlined. KIDS collected data over a 10-year period in KwaZulu-Natal spanning the period of the democratic transition in South Africa, when high numbers of recorded unemployed were registered. The three waves of data collection were in 1993, 1998 and 2004.

Qualitative data methodologies which were also employed in the study are based on research conducted in KwaZulu-Natal. I used three categories of farmer groups to compare the level of production, location, product destination, motivations and benefits of involvement. These groups were purposively sampled in order to distinguish the motivation of practicing urban agriculture as a push or pull factor.

Chapter Five is a descriptive chapter. It presents the characteristics of individual participants from the analysis of the KIDS data in 2004 using a sub-KIDS sample of what I considered to be urban. The 2004 group was then linked to the same individuals in 1998 to analyse what these individual characteristics were. I postulated that being unemployed is probably correlated to being involved in urban agriculture. An analysis of what caused individuals to be involved in urban agriculture is therefore presented. This chapter also analyses the individuals' transitions into and out of urban agriculture from 1999 to 2004.

Chapter Six provides a description of the characteristics of household that were engaged in urban agriculture from 1993 to 2004 using the KIDS data. This time-frame corresponds to the period of democratic transition in South Africa from pre- to -post apartheid. The demographic and socio-economic characteristics of farming households are compared to those of non-farming households over time. I also ran a logistic regression model combining individual and household

characteristics to determine the odds of getting involved in urban agriculture, given certain characteristics. Chapter Six therefore provides the results of this analysis.

Chapter Seven uses the qualitative survey component to amplify on the quantitative findings. Three case studies of urban farming individuals and households in KwaZulu-Natal were used to support the argument that, depending on certain factors, some people choose to get involved while others do not.

Chapter Eight provides the summary and conclusion to the thesis.

CHAPTER TWO THEORETICAL FRAMEWORK: THE INFORMAL ECONOMY

2.1 INTRODUCTION

At one time, economists paid little attention to economic activities taking place outside the formal framework of the economy (Gërkhani, 2004). Urban migration was a growing phenomenon; and in the urban setting the gulf between “planned employment” and the visible reality was especially evident. The number of jobs being created was far too small in relation to the projected demand. There were many fewer “modern” jobs than there were people wanting to fill them (*ibid*). Furthermore, many people were often working outside the framework of their official or planned “work”. However, some who were officially “not working” were, in fact, economically active. This came to be called “informal employment”, in other words, economic activity which was outside the framework of the official plan (Bangasser, 2000). These activities took many forms, for example, “moonlighting” by poorly paid civil servants and cottage industry activities of persons officially “working” as collectivised farmers (*ibid*).

It was the anthropologist Keith Hart’s study on informal economic opportunities in Ghana that first brought the term ‘informal sector’ into academic literature (Hart, 1973). Hart observed that a significant part of the urban economy was untouched by waged labour. Increasingly, large numbers of people were economically active; but what they were doing did not appear in the plan and so, *de facto*, neither did they (Bangasser, 2000). Hart (1973) described the range of economic activities of the urban poor and the incomes derived therefrom, which escaped the bureaucratic gaze.

The informal sector concept was refined by a mission of the International Labour Organisation (ILO), within the framework of the World Employment Programme (ILO, 1972). Comprehensive employment missions were deployed to formulate their employment-oriented development strategies.² It was during the comprehensive employment mission to Kenya in

² These were the ILO country missions in Kenya (ILO, 1972), Columbia (ILO, 1970) and Sri Lanka (ILO, 1971).

1972 that the informal sector concept was further refined. This concept played a key role in the entire analysis of the employment situation.

The ILO broadened the concept and definition of the informal sector to incorporate certain types of informal employment that were not included in the earlier concept and definition. It related the growth of the informal sector to its positive effects on the labour market and the distribution of income. After numerous other studies of the informal sector were carried out by the ILO, one of the new developments was the recognition of an aspect of the informal sector, which is its dynamism and potential for economic growth and employment.

Since then, the informal sector concept has evolved over time, as has the nature of the phenomenon it seeks to describe (Devey *et al.*, 2004). The informal sector concept became the subject of numerous debates and interpretations. There has also been a plethora of research, relating the emergence of the informal sector to the policies applied, and the conceptualisation of the informal sector took yet another meaning (Chen, 2006; Chen, Jhabvala and Lund, 2001). Several theories and policy implications followed in due course. The debates centred on the relationship of the informal sector to the formal sector, particularly in developing countries, and have led to the phenomenon of what is now known as the informal economy.³ In relation to the present study, the informal economy is a worthwhile analytical perspective on urban agricultural activity for individuals and households.

The discussion in this chapter is arranged into five sections. After this introductory section, in section two I define the concept of an informal economy, comparing this to an earlier concept of the informal sector. In section two I also discuss the linkages between the informal economy and the formal economy. In section three I discuss the main theories related to the informal economy from the review of the literature and I analyse the origins and persistence of informality, despite predictions of its eventual demise, particularly relating to developing countries. The South African experiences and debates surrounding the same issues are discussed in part four,

³Many taxonomies have been used to name this phenomenon, but the informal sector is increasingly being referred to as the informal economy (or informality). I discuss the evolution of the concept in this chapter. I use the term informal sector, as referred to in earlier studies and, later on, the informal economy.

including the notion of a first and second economy. In this section I also reflect briefly on the policy context of the informal economy in South Africa. Section five concludes the chapter.

2.2 THE INFORMAL ECONOMY CONCEPT

Prior to the 1980s, analysts of urban employment in the Third World adopted a ‘two-sector’ terminology and mode of analysis, which described the informal sector in relation to the formal sector. As previously mentioned, Keith Hart introduced the concept of the informal sector and he referred to this as part of the urban labour force, which takes place outside the formal labour market (Hart, 1973)⁴. Hart distinguished formal and informal income opportunities on the basis of whether or not the activity entailed wage or self-employment, implying that wage-earning employment was a characteristic of the formal sector only.

Using the term ‘informal sector’ allowed research and planning to be organised across a wide range of activities (Gerxhani, 2004). This allowed for the incorporation of informal sector activities into abstract models, without having to acknowledge the range of heterogeneous activities within this (Bromley, 1995). Individuals were classified as either employed in the ‘formal’ sector or ‘informal’ sector. This was the two-sector dualised view and model of analysis of urban economic activities and employment in the Third World, adopted by analysts (*ibid*).

These early studies on the informal sector considered it to be a separate economic domain in a dual economy characterised by social marginality.⁵ The dual economy was described as consisting of an urban market economy, on the one hand, and a rural subsistence economy, on the other. This economic dualism theory assumed that there was an autonomous relationship between the formal and informal sectors, as opposed to one of domination and subordination (Harding and Jenkins, 1989).

Using a set of criteria, the tendency was to attempt to distinguish between the formal and informal sectors. However, authorities writing on the definition of the informal sector differed markedly as to what criteria to use. The informal sector was described as part of the labour force

⁴ It deserves mention that, according to George (1966) and Steadman Jones (1984), a casual labour market of a somewhat similar nature (informal) had also been identified in 18th and 19th century London.

⁵ This notion means that informal activities were perceived as marginal.

which falls outside the organised labour market. Economic activities which did not meet the criteria ascribed to the formal sector were then incorporated under the term informal sector. This implied that the term informal sector referred to a dichotomy in which the characteristics of the two parts form each other's contrasts, i.e. the informal sector was defined in terms of what it was not.

As presented in the Kenya report, informal activities were said to be characterised by: a) ease of entry; b) reliance on indigenous resources; c) family ownership of enterprises; d) small scale of operation; e) labour-intensive technology; f) skills acquired outside the formal school system; and g) unregulated and competitive markets (ILO, 1972: 6). The characteristics of formal sector activities are the obverse of these, namely, difficult entry; frequent reliance on overseas resources; corporate ownership; large scale of operation; capital-intensive and often imported technology; formally acquired skills (often expatriate); and protected markets (through tariffs, quotas and trade licenses) (*ibid*). In this dualist school of thought, the informal economy is made up of a set of marginal activities that provide incomes for the poor, who are unable to access employment in the formal economy. The dual classification came under attack due to various shortcomings and inconsistencies.

One of the shortcomings of the Kenya report of the ILO was that it cast the notion of informality into an exclusively urban context. The informal sector was cast as a "last resort" sector of "dead end" employment. This was a negative view which, from the point of view of Bangasser (2000: 9), perpetuates debilitating conditions and creates a self-fulfilling prophecy of low productivity and poverty, but ignores the creative potential and energies of the informal sector.

Bangasser (2000) informs that, since "good jobs" axiomatically belonged to the formal sector, those working in the informal sector were assumed to be there because they could not find a better alternative (i.e. in the formal sector). So the informal sector came to be seen as a sort of labour market sump, where those who missed (for whatever reasons) getting one of the "good jobs" of the formal sector, ended up. Regarding the broad development strategy, the informal sector was still just an unpleasant but passing labour market phenomenon, which had to be suffered through but would eventually fade away (*ibid*).

Bangasser (2000: 9) elucidates:

“Often people fail to realise the extent of economically efficient production in the informal sector because of the low incomes received by most workers in the sector. A common interpretation of the cause of these low incomes (in comparison to average wage levels in the formal sector) [sic] has been to presume that the problem lies within the informal sector; that it is stagnant, non-dynamic, and a net for the unemployed and for the thinly veiled idleness into which those who cannot find formal wage jobs must fall. It is hardly surprising that this view should be widespread, for academic analysts have often encouraged and fostered such an interpretation.”

There were, clearly, several criteria which could be used to describe the diverse forms of the informal sector. Researchers tried to formulate a unique definition. This was based on several criteria and, as a result, no single definition could serve all the diverse domains. These early studies have nonetheless contributed to the general thought that the informal economy is not a homogeneous phenomenon, but a much diversified one. Castells and Portes (1989) affirmed this and stated that the informal economy is a notion that could not be captured by a strict definition.

There is, indeed, a significant degree of heterogeneity within this sector. It is a very crude and simple classification to divide all economic activities into two categories, as if there was a clear dividing line between the two (Bromley, 1995). Using a dualistic classification and terminology, many are inclined to assume that the two sectors are essentially separate and independent when, in reality, there is a continuum of employment relations (Chen, Jhabvala and Lund, 2001). Instead, it is preferable to classify enterprises on a continuum between two extreme and opposite poles (*ibid*).

Chen (2007) explains that economic relations of production, distribution and employment tend to fall at some point along this continuum (between pure, formal relations and pure, informal relations), with many categories in between. The formal/informal division makes this inapplicable to many people, as they work in both sectors at different stages in their life cycle, times of the year, or even times of the day. It is also questionable whether the informal/formal

terminology should be applied to activities, as the same activity (e.g. bricklaying or bus driving) may be performed in both formal and informal sector enterprises. Depending on their circumstances, workers and economic units are known to move along the continuum and/or operate simultaneously at different points along the continuum.

Demonstrating the systematic linkages between formal and informal sectors, Gershuny (1978), Saba (1980) and Mingione (1983), cited in Castells and Portes (1989), pointed out that individual workers may switch between the two sectors even during the same workday, and provide evidence of a unionised machinist moonlighting as a plumber while a secretary does keypunching at home in her off-duty time. Castells and Portes (1989: 15) stressed that the informal economy is not an individual condition but a process of income-generation, characterised by one central feature: *it is unregulated by the institutions of society, in a legal and social environment in which similar activities are regulated.*

Further criticism of the dual classification is that there is a tendency to consider ‘the urban informal sector’ and the urban poor to be synonymous. However, not all persons who work in the informal sector are poor and not all poor people work in the informal sector. This is because many wage workers receive low incomes and have no job security, such as most of the workers in such activities as construction, domestic service, seasonal agricultural harvesting and processing, cleaning and security (night-watchmen, etc.). Or consider, for example, the public sector employee who has an informal job “on the side”. There are even a substantial number who work in the formal sector simply to build up the capital to start an informal sector enterprise. As Bromley (1995: 146) pointed out, ‘formality and informality are really the opposite poles of a continuum with many intermediate and missed cases.’

Because workers and enterprises do not fall neatly within any one sector of economic activity, but cut across many sectors, the informal sector is increasingly being referred to as the informal economy or informality (Devey, Skinner and Valodia, 2004; Hart, 2009). This is to get away from the idea that informality is confined to a specific sector of economic activity. Informal economy also emphasises the existence of a continuum from the informal to the formal ends of the economy and thus the interdependence between the two sides.

By interpreting the relationship of the informal sector to the formal sector in a dualistic framework, and by focusing on the mutually exclusive characteristics, we lose sight of the unity and totality of the productive system. Devey *et al.*, (2004: 3) state that “*if both formal and informal activities are seen as part of the economy, we are better able to see the linkages between the two.*” Hence, they advocate that the term ‘informal economy’ should rather be used, as the term economy implies a greater range of activities than ‘sector’.

A major event for the informal sector was its inclusion on the agenda of the 15th International Conference for Labour Statistics (ICLS). The ICLS distinguished an important criterion of employment in the informal sector, which is enterprise-based instead of employment-based (Devey *et al.*, 2004). The authors explain that the former is based on the characteristics of the enterprise in which the person is employed and the latter on the characteristics of the worker employed. The rethinking about the informal economy thus included not only a new term but an expanded definition as well (Chen, 2009). This was in order to broaden the earlier concept and definition of the informal sector, to incorporate certain types of informal employment that were not included. The focus was now on the nature of employment, in addition to the characteristics of the enterprises (Devey *et al.*, 2004). The new informal economy term includes informal employment, both within and outside agriculture.

Chen (2007: 2) emphasises that the reality of what is captured by the term informal economy consists of a “*large share of economic units and workers that remain outside the world of regulated economic activities and protected employment relationships*”.

The informal economy theory differentiates between workers in different states of employment. Informal workers are defined as *self-employed workers, wage employees and unpaid family workers (ibid)*. Among the self-employed informal workers are *employers or own-account workers*, and *employees* (including informal domestic workers). Self-employed informal workers are described as those who work in an enterprise with fewer than five employees (*ibid*). Through the work of organisations such as Women in Informal Employment: Globalising and Organising (WIEGO), this definition has now been expanded to include informal wage workers in unprotected jobs. Informal wage workers do not have contracts that are covered by fair labour

relations in respect to working hours, minimum wages and other rights (Budlender, Buwembo and Shabalala, 2011).

As I discuss the informal economy, I differentiate between its various segments as self-employment in informal enterprises and wage employment in informal jobs.

2.3 THEORIES ON THE INFORMAL ECONOMY

With the end of colonialism in most of the countries of sub-Saharan Africa, expectations were high that the former colonies would experience a period of rapid economic growth and positive social transformation (Sundaram, 2011). The post-war recovery of Europe, with assistance from the U.S. Marshall Plan, had led economists and statesmen to foresee the possibilities for similar progress in the so-called Third World (Jolly, 2005). The decade beginning with 1960 was declared by the United Nations (UN) as the Development Decade; the 1970s became the Second Development Decade (Hettne, 1982). However, despite all of these 'decades', the high expectations for development and the eradication of poverty have not been fulfilled.

During the 1950s economists and others began directing their attention towards the theoretical problems of development in the Third World countries, or, as they were then called, the underdeveloped countries (Hettne, 1982). Since then, theories of economic and social development have proliferated.

In the context of the informal economy, different scholars have developed contrasting theoretical explanations, approaches and paradigms for the origin, causes and persistence of the informal economy in developing countries. These include modernisation, dependency, neoliberalism and structuralism. Even though I have described some components of these theories in the previous section, this section analyses them in more detail. Whereas the previous section discussed the characteristics of the informal sector, the theories selected here have been chosen because they try to explain the relationship between formal and informal activities, or to explain the motives/reasons to participate in the informal economy.

2.3.1 The relationship between the formal and informal sector

Early studies of the informal sector (approximately 1960-1970), considered this to be a separate economic domain. The concepts of dual economy and social marginality were already mentioned in 1953 by the 'colonial economist', Boeke (Gerxhani, 2004). He described the dual economy as consisting of an urban market economy (of a capitalist nature), on the one hand, and a rural subsistence economy (static agricultural system of production), on the other.

This was the modernisation approach to national development, whose original theory can be credited to Rostow (1960). Rostow characterised the underdevelopment of the Third World as a 'social problem', internal to, and caused by, the backward socio-economic systems of individual countries. The modernisation theory elaborated that these countries had not yet been sufficiently incorporated into the modern world or the international economy. To this end, the policy prescription towards development was for these countries to acquire 'modern' (understood to be synonymous with Western) values, with Western institutions and market economies. In time, these countries would 'take-off' and 'catch-up' with the developed West.

Proponents of this theory saw the informal sector as trapped outside the modern economy. This was explained as a remnant of traditional pre-capitalist modes of production and subsistence strategies common to rural peoples (Moser, 1978). It was argued that these 'informals' or 'excess labour' (also referred to as the 'reserve army' or 'urban surpluses'), were trapped outside the modern economy because they lacked the proper education, skills and value orientations (*ibid*). The language that was used at the time to describe the growing informals includes 'marginality', 'abnormally swollen', 'over-distended tertiary sector', 'underground', 'hidden', 'shadow' and 'bazaar types' (Moser, 1978; Feige, 1990).

Swaminathan (1991) states that the primary reason for starting with research on the informal sector in developing countries was related to the problems of mass poverty and unemployment, which had not always been the case in developed countries. He felt that historical circumstances, like poverty and survival needs, were also important for explaining the occurrence of an informal sector. In line with this, the prescription by modernists connoted the idea that, with the rise of industrialisation, urban surpluses would eventually disappear. Seen as a quasi-evolutionary

process, it was purported that the informal activities would conduct their actors to the formal sector.

In the modernisation theory of development, economic growth was a simple matter of applying appropriate levels of investment to drive the process through 'stages of growth' (Rostow, 1960), which would ultimately bring the benefits of modernisation to the entire population. However, the dualistic nature of underdeveloped economies soon became apparent: the coexistence of a relatively advanced or modern sector with a backward or traditional sector. And yet the optimism of the 1950s and 1960s could not be sustained. The empirical evidence could not be denied. More and more accumulated information pointed towards a growing poverty complex, that of marginalisation and mass unemployment (Moser, 1978; Portes, Castells and Benton, 1989). The universal observation that was taking place in many countries during the development decade was growth without development, but with poverty, which in the 1980s led to negative growth and the debt crisis (Bayart, Ellis and Hibou, 1997).

Rather than the informal sector disappearing, ironically trends around the world indicate that it persists. Indeed, there is a growth in the number of people working in the informal economy, either self-employed in unregistered enterprises, or as wage workers in unprotected jobs. For example, in Cameroon (1992), 80 percent of all new jobs were created in the informal sector; in Tanzania about 60 percent of enterprises operate in the informal economy; in Kenya the informal economy accounts for about 40 percent of urban employment and is growing by nine percent per annum; in Ghana the informal economy employs 89 percent of the labour force (including 56 percent in agriculture and 21 percent in retail trade); and in Nigeria the informal economy employs a third of the urban labour force (Xaba, Horn and Motala, 2002: 3-10).

In sub-Saharan Africa it is estimated that the informal economy is responsible for 93 percent of all new jobs. Chen (2001: 72) states that 83 percent of new jobs were created in the informal economy in Latin America. This trend is not only unique to developing countries. The ILO (2002) distinguishes between three categories of non-standard or atypical work, *viz.* self-employment, part-time work and temporary work. This type of work comprises 30 percent of

overall employment in 15 European countries and 25 percent of total employment in the United States (ILO, 2002: 7). Clearly, informal employment is the norm in many parts of the world.

The modernisation theory was later criticised for its descriptive rather than explanatory nature, for its acceptance of economic dualism, and for its assumed autonomous relationship between the formal and informal sectors instead of one of domination and subordination (Harding and Jenkins, 1989). As the importance of the informal sector and its integration into the national economy was subsequently recognised, this theory of economic dualism and social marginality was rejected. The major weakness of the modernisation theory was that the informal sector was seen as a problem to be solved and not a development strategy to be harnessed and promoted. The problem of underdevelopment (and, by extension, informality) was one of capitalist exploitation and extraction, as argued successfully by neo-Marxist, dependency and world-systems theorists (Harvey, 1976; Amin, 1980; Wallerstein, 1974).

Research has shown consistently that the informal sector is an integral component of total national economies, rather than a marginal appendix to them (Menke, 1998). The sheer size of the current informal economy illustrates how much things have changed in the neoliberal years of the 1990s. The specialised networks formed by unregulated enterprises free large firms from constraints imposed upon them by social control and institutional norms.

Research in the following years showed the significance of the informal sector and its complete integration into the national economy (Gerxhani, 2004). The mainstream theory of this period considered informality a reality, characterised by 'its own right, with its own rules, conditions and characteristic modes of representation' (Harding and Jenkins, 1989). Supporters of this theory rejected the notions of economic dualism and social marginality. They rejected the modernisation theory and saw the informal economy as 'a different way of doing things', rather than a strategy to manipulate the reserve army to achieve growth and development.

The integration theory was characterised by the recognition of the dependency of the informal sector on the formal sector - a linking relationship. This dependency could be either complementary (e.g. via sub-contracting activities), or competitive (e.g. unregistered business activities, where labour is cheaper and prices are lower). However, a central question for this

choice is that these activities represent a novel economic trend. This novelty lies in the resilience or growth of informal arrangements in contexts in which they were believed to be extinct, or in which they were expected to disappear with the advance of industrialisation.

The dependency approach saw the goal of informal operations as mere survival, not profit maximisation. The dependency theory often characterised informal firms as taking advantage of their ability to avoid taxes and regulations and exploiting niche areas overlooked by larger and less flexible firms, as Gerxhani (2004) points out. In this view, informality is seen as a threat to 'private sector development'. Business corporations are undercut by informal operators who pay no taxes, evade costly regulations take advantage of numerous devices, legal and illegal, to reduce their prices (*ibid*). This theory saw the informal labour arrangements as taking place outside of the exploitative formal relations of production (Yusuff, 2011). This became one of the major weaknesses of the dependency theory.

The arrival of neoliberal regimes in the 1980s fostered massive growth in the informal portion of global or national economies (Hart, 2009). This reduced state control and the engine for development was now the market. In the context of the informal economy, Hart (2009) elucidates, neoliberalism as a development theory was envisioned as a strategy to curb urban unemployment (seen as growth without jobs). This was the institutional effort to organise society along formal lines (Devey, *et al.*, 2004). Anything outside of this was considered to be informal.

A renowned proponent of the neoliberalism theory is Peruvian economist, Hernando de Soto. De Soto considered that the informal sector's development was a response to excessive state regulation.⁶ He views the informal sector as consisting of micro-entrepreneurs who *choose* to operate informally in order to avoid the costs, time and effort of formal registration. He believes that micro-entrepreneurs will continue to produce informally, as long as government procedures are cumbersome and costly because of the red tape involved, which stifles the private sector.

⁶De Soto reasoned that bureaucratic red tape in countries like Peru makes it difficult for migrants to the cities to set up new businesses, get loans or establish formal property rights in their possessions (Hart, 2009). De Soto recently advocated the formalisation of property rights for the informal workforce to help them convert their informally-held assets into real assets (Chen, 2007).

De Soto (2000) champions those who generate income for themselves and their families as the real seeds of the free market (deregulatory) doctrine – the ‘real revolutionaries.’ He advocates transforming ‘the class struggle into a struggle for popular initiative and entrepreneurship’ and reasons that the masses have united in a revolutionary front, not as proletarians against capitalist exploitation (Marxist view), but as extra-legal micro-entrepreneurs against a bureaucratic, state-directed economy that excludes them from becoming full capitalists themselves (*ibid*). De Soto believes that government deregulation would lead to increased economic freedom and entrepreneurship among working people, especially in developing countries. Hence, micro-entrepreneurs are seen as creating their own micro-enterprises and instituting their own set of occupational-specific extra-legal norms and regulations. De Soto claims that the informal sector has the potential not only to create wealth, reduce costs and democratise politics, but also to push out and replace the formal economy.

The relationship between recent changes in capitalist accumulation and the growth of the informal economy has however pointed out a connection between neoliberalism and a rise in unemployment and informal labour. In many African countries, unemployment is a very serious issue. According to the ILO (2001) report, the unemployment rate in the late 1990s was estimated at 29 percent in Algeria, 22 percent in Morocco and eight percent in Egypt. For southern Africa, the report registered a 19.5 percent unemployment rate for Namibia, 42 percent for Lesotho and 23.3 percent for South Africa. The crises of unemployment and poverty have led to a questioning of the ideology of neoliberalism and given the word ‘neoliberalism’ negative connotations.

David Harvey’s analysis of capitalist accumulation and discussion of the growth of the informal economy as a crisis of over-accumulation of capital is helpful in understanding the growth of unemployment and the informal economy. Harvey (1976) explained that accumulation by dispossession, emblematic of the neo-liberal project, releases a set of assets (including labour power) at very low (and, in some instances, zero) cost. Turning to Marx’s concept of the industrial reserve army of labour, capital accumulation presupposes a perpetual influx of new pools of cheap labour in order to turn a reasonable profit. For Marx, these latent pools of cheap

labour are not yet integrated into the capitalist system and they are not the unemployed who lost their jobs due to the mechanisation of production.

The voraciousness of the market under neoliberalism led to increased crises and depths. One of the ways of coping with this market failure and the challenge of being 'out of work' is to join the informal economy. Hence, for urban dwellers found outside the formal wage and salary system, informal economic activities are not only the sole means of survival for the unemployed, but also of essential supplementary income (MacGaffey, Mukohya, waNkera, Schoepf, ye Beda and Engundu, 1991). This is because many wage workers receive low incomes and have no job security.

This is one reason why the neoliberalism theory came under attack from different angles. In their drive to maintain market competitiveness, producers reduced production costs, especially wages. Under programmes of structural adjustment⁷, public services were down-sized and large numbers of employees were fired from the public sector, or subjected to the capitalist labour market through privatisation (precarious employment, longer working hours, reduced quality). Neoliberal economic policies of structural adjustment programmes opened up many of Africa's poor countries to international capital flows. From the point of view of Hart (2009), the widespread privatisation of public services led to low pay, precarious rights and outsourcing of businesses, often to unregulated workers.

Meagher and Yunusa (1998) used evidence from Nigeria and other African countries to demonstrate this. They illustrated how the drive for privatisation and commercialisation of public enterprises resulted in massive layoffs of workers without a clear prospect of boosting economic growth and creating alternative, viable jobs. With prospects for finding work in the formal labour market declining, retrenched workers turned to all sorts of informal activities and relationships in

⁷Structural adjustment programmes (SAPs) of the World Bank and IMF were part of the neoliberal regimes of the 1980s. Hart (2009) explains that the chief effect of SAPs was to open up poor countries to international capital flows and to scale down public expenditure. The market was seen as the engine for development and the informal economy was encouraged as one of its instruments. SAPs generally implemented free market programmes and policies. These included internal changes (notably privatisation and deregulation), as well as external ones, especially the reduction of trade barriers.

order to make ends meet. Drakakis-Smith, Bowyer-Bower and Tevera (1995) revealed similar evidence for Zimbabwe.

Under neoliberalism, millions of people in the global south, who had hitherto depended on state employment, now relied on their own initiative to survive, whilst subjected to the vagaries of the market and the risk of joblessness (Bond, 2004a, 2004b). Thus, the informal sector became a primary medium for sustaining the livelihoods of people who had been retrenched from their jobs. Instead of playing its previous supplementary role, it became the vehicle for providing employment and welfare. It became the primary medium for sustaining the livelihoods of people who had been retrenched from their jobs, or whose income was not sufficient to support basic needs (Meagher and Yunusa, 1998)

Analysis of the development of neo-liberalism fell under criticism. From the point of view of Marxist and dependency theorists, the state is an instrument of exploitation at the disposal of the dominant class (Harvey, 2003). Therefore the role of the state is to maintain the *status quo* in their favour (Tambwe, 2010). It became evident that the state and the urban-based, large-scale formal sector could not generate enough jobs for present and future job seekers.

In the absence of a coherent regulation pattern, the informal sector's absorption of the unemployed tends to be restricted to sectors which offer little more than bare subsistence. At the low end of the entrepreneurial scale, where the bulk of the entrants are concentrated, survival increasingly is a struggle and accumulation impossible. Harvey (2003) has argued that low wages, low returns and insecure working tenures push many down to a subsistence level. Under these conditions, the poor depend mostly upon themselves and look for multiple ways of survival. Neoliberalism was shaped by a market-driven logic and Harvey (2003) asserts that this led to accumulation through dispossession. In this scenario, the informal economy evolves along the borders of social struggles, incorporating those too weak to defend themselves and propelling those with resources into entrepreneurship.

The period of neoliberalism was marked by a tendency towards, among other things, the dissolution of the compromise with the wage-earning working class (Bond, 2004a). As a

practical ideology, this was a strategy that allowed the ruling classes to govern the state through the market. To this belonged flexibilisation and longer working hours. The workforce was divided into core labour and those in precarious employment, i.e. temporary work, part-time, 'mini jobs' (Gerxhani, 2004). This made it possible to exploit differences in wages. A worldwide labour market opened up for capital and for the appropriation of surplus labour. An already skilled workforce could be exploited without the companies having to bear the costs that ensuring a suitably qualified labour capacity would imply (Bond, 2004a). The global labour market itself developed dynamically, because in many regions the population was about to be proletarianised and was migrating from the country to the cities.⁸

What was previously under public control and removed from the market was now commodified under liberalisation and deregulation, according to Bayer's (2009) argument. This was mediated by the market, with increasing exploitation, the creation of a global labour market and outsourcing. Individuals were required to think of themselves in an entrepreneurial way and rationalise themselves in relation to employability.

According to Harvey's extension of Marx's discussion, the capitalist system actually throws workers out of the system at one point in time. This system does this in order to have workers on hand for purposes of accumulation at a later point in time (Miller, 2008). The growing numbers of unemployed are thus but one symptom through which the devalued labour power of workers becomes a future source of profitable investment. The informal economy of non-waged workers is yet another condition of advanced capitalism. The informal economy results from the process of dispossession and repossession that enables the profitable re-investment of accumulated capital. Whether or not capitalism can sustain the living standards of the population remains an ongoing debate (see, for example, Bond, 2004a, 2004b; Stiglitz, 2002).

The neoliberalism theory has been challenged by a few other scholars in, for instance, Argentina (Olmedo and Murray, 2009) and Nigeria (Aladekomo, 2004). Findings from studies carried out by these authors showed that the new global restructuring outside the core areas of the world

⁸ This includes internal migration in countries like Turkey, China, India, Thailand and Brazil, as well as migration from the periphery to the centres of the world economy (from Africa to Europe, from Central America to the US).

economy consequently resulted in the process of social exclusion.⁹ Further criticism of this theory, by De Olarte (2001), is that its proponents have not offered any practical solutions on how to incorporate ‘the other path’ into mainstream development, nor do they have evidence which proves that the informal economy can overcome the problems of a weak government apparatus under market liberalisation. This situation has led to the questioning of the neo-liberalism ideology on informal economy.

Rooted in neo-Marxist and dependency traditions, structuralism is yet another theory that has been presented to explain the development of an informal economy (Meagher and Yunusa, 1998). Structuralists have their own perspective on the relationship between informal and formal economies, arguing that the two economies are intrinsically linked. Chen (2007) informs that structuralists believe that capitalist firms in the informal economy seek to increase competitiveness. By so doing, they reduce their input costs, including labour costs, by promoting informal production and employment relationships with subordinated economic units and workers (Devey, 2004; Chen, 2007). In the view of structuralists, both informal enterprises and informal wage workers are subordinated to the interests of capitalist development, providing cheap goods and services (Moser, 1978; Portes, Castells and Benton, 1989).

In this structural approach, the informal economy is said to consist of a set of subordinated economic units that serve to reduce the input and labour costs of the large, formal enterprises (Portes *et al.*, 1989). The structuralists’ assumption is that informal sector entrepreneurs are drawn from the ranks of the unemployed.

The structuralist approach seeks to describe the informal economy as a unified national and global economic system encompassed by a dense network of relationships between formal and informal enterprises (Portes, 1997; Roberts, 1991). The central element of the structuralist approach is that informality is an alternative form of labour-utilisation (and often exploitation) by capital. The dynamism of labour migration to the informal economy, for example, is

⁹ The term ‘social exclusion’ is a useful way of summarising the structural factors (unemployment and marginal employment, poverty, different access to public goods, etc.) that differentiate life chances. The term is used in preference to such terms as ‘poor’ and ‘underclass’, in order to emphasise that these pathologies are social rather than individual (see, for example, Bhalla and Lapeyre, 1997).

conceptualised as part of a set of complex consequences of globalisation that created diversified and discriminatory benefits for different classes. Hence, the active creation and intensive utilisation of informal labour relations by formal capitalist firms is identified by structuralists as a strategy in the economic restructuring of global capitalism.

Broadly, two main contributions were made by the structuralists to the informal economy discourse. First, according to Castells and Portes (1989), the informal economy's function is to support capitalist structure, which is supported by globalisation, to maintain market competitiveness as producers strive to reduce production costs, especially wages.

A second major contribution by the structuralists provides a multiplicity of reasons why the informal economy is growing and crucial for development. It is argued that the informal economy retains a higher number of workers than the formal, because 'the individual's utility of income is higher in the informal economy' and there is a large market of cheaply produced goods and services (Roberts, 1991; Centeno and Portes, 2003). Capitalists also employ informal labour to reduce costs when compared to employing formal labour (Castells and Portes, 1989). With the development of globalisation in developing countries, outsourcing in the informal economy creates dynamic sources for informal producers to take advantage of the growing demand for their labour. Structuralists recognise, however, that this dynamic source is not without cost, namely, labour exploitation. They therefore insist that government intervention is essential to limit the extent of labour exploitation and to provide legal protection (Portes, 1997; Centeno and Portes, 2003).

The dependency theory of underdevelopment questioned the assumed mutual benefits of international trade and development asserted by proponents of modernisation and growth theories. Dependency theorists were strongly involved in the development of so-called Marxist thinking. The theory was that the central nations benefitted from trade, whereas the peripheral nations suffered (Millar, 2008). Developing countries were dualistic societies, consisting of a proportionally large traditional agrarian society and a small, modern, urbanised society. The former was in many ways feudalistic and the latter capitalistic. The urbanised centres were themselves developing at the expense of the rural peripheries. The unequal relationships between

the centres and the peripheries led to the development of the former and to the underdevelopment of the latter. This was the central argument of the dependency theory, in that socio-economic dependency generates underdevelopment, i.e. the development of underdevelopment (May and Meth, 2007). Dependency theory, however, has been seen to be inadequate. On the theoretical level, it failed to construct its own theory of development.

In sum, until recently, the dominant theories and models of development have been derived from the experiences of Western economic history. The emergence of capitalism and the advance of the industrial revolution gave a distinctive form to Western developmental thinking. Development and economic growth became synonymous with progress. Growth was seen as a natural process which could be nourished through the application of correct and timely inputs (Meagher and Yunusa, 1998). Development in the Third World was expected to be an imitative process, in which the less developed countries gradually assumed the qualities of the industrialised nations (Bangasser, 2000).

A small part of the informal economy is that which is sometimes characterised as 'autonomous'. These are those who have aspirations that go well beyond the goal of securing wage labour and integration into the 'normal' system (de Soto, 2000; Maloney, 2004). However, there are not as many 'autonomous' entrepreneurs as those who want to secure wage labour in the informal economy. This is why Marxist theory concludes that capitalism oppresses the proletariat (Devey *et al.*, 2004; Tambwe, 2010). There is clearly a relationship between the formal and informal sectors of the economy, as they are integrally linked (Devey *et al.*, 2004). There is a need to desist from regarding the informal sector as separate from the formal sector of the economy.

Thus far, I have discussed the debates on the informal economy, summarised into four schools of thought regarding the informal economy: modernisation, dependency, neoliberalism and structuralism. Each of these has a different perspective on how the informal and formal economies are linked. Given the heterogeneity of the informal economy, there is some validity in each of these perspectives.

In the debates on the informal economy, a key issue is how the informal economy and formal economy are linked. Chen (2007) distinguishes between two types of linkages: 1) the relationship of informal enterprises and informal workers to the formal economy, and 2) the relationship of informal enterprises and informal workers to the formal regulatory environment.

There are various ways in which informal enterprises and workers are linked to the formal regulatory environment. Each of the different theories on the informal economy views this relationship in different ways.

The dualists pay relatively little attention to government regulations *per se*, in-so-far as these pertain to informal enterprises (Devey *et al.*, 2004). Instead, focus is on government provision of necessary support services, notably credit and business development services. Concerning informal wage workers, Chen (2009) explains that some dualists subscribe to the neo-classical economics notion that government intervention in labour markets leads to wage rigidities. These, in turn, lead to more informal employment. Others like De Soto (2000) believe that government deregulation would lead to increased economic freedom and entrepreneurship among working people, especially in developing countries. However, de Soto has recently advocated the formalisation of property rights for the informal workforce to help them convert their informally-held assets into real assets (de Soto, 2000).

Detracting from these views, structuralists want government regulation between 'big businesses' and subordinated informal producers and workers (Gerxhani, 2004). They recommend the regulation of commercial relations in the case of informal producers. They also advocate for the regulation of employment relations in the case of informal wage workers. This, in order to equalise the relationship between these parties.

The different perspectives on regulation outlined above are appropriate for the specific components of the informal economy to which they refer, be it enterprises, jobs or urban space. I now turn to a discussion of the formal regulatory environment in these linkages.

2.3.2 Policy on the informal economy

It is increasingly recognised that supporting informal enterprises and improving informal jobs are key pathways to promoting and reducing poverty (Chen, 2007). Equitable linkages between the informal economy and the formal economy can be promoted through appropriate policies that promote more equitable linkages between the two economies (Devey *et al.*, 2004). This would also ensure that the relative costs and benefits of working informally are balanced. One way in which this can occur is for governments to play a role.¹⁰

Policymakers subscribe to one or another of the perspectives of the informal economy. Some try to discourage it altogether, others treat it as a social problem or promote it as a solution to economic stagnation.

Policymakers often try to formalise the informal economy. However, formalisation has different meanings for different segments of the informal economy. Many policymakers try to formalise informal enterprises by requiring that these obtain a license, register their accounts and pay taxes. These requirements represent the costs of entry into the formal economy to the self-employed. This differs still, as it is applicable to informal wage workers, to whom formalisation means obtaining a formal wage job—or converting their current job into a formal job—with a secure contract, worker benefits and social protection (Chen, 2007).

Chen (2007: 11) explains the different meanings of formalisation and ponders whether or not this would be feasible, given four arguments: 1) most bureaucracies would not be able to handle the number of license applications and tax forms, if all informal businesses formalised; 2) most bureaucracies would claim that they cannot afford to offer informal businesses the incentives and benefits that formal businesses receive; 3) recent trends suggest that employment growth is not keeping pace with the demand for jobs—there simply are not enough jobs to go around, especially given the very sharp rise in the proportion of people who are of working age in many countries; and 4) available evidence suggests that employers are more inclined to convert formal jobs into informal jobs, rather than the other way around.

¹⁰ There is a role for all stakeholders in promoting the informal economy, including formal firms, in promoting socially responsible corporate practices and for organisations of informal workers in policy making.

Policy on the informal economy should therefore recognise the different meanings that formalisation has for different segments of the informal economy. The challenge for policy makers would be to decrease the costs of working informally and to increase the benefits of working formally.

In the present study, urban agriculture involves individuals and households. Support is provided to farmer groups and people who farm on an individual basis are neglected. This support is provided by the provincial government, non-governmental organisations and farmer support groups. The support comes in the form of training, training, agricultural inputs (fencing, seeds, fertilizers) and appropriate technology. The analysis of this kind of support to urban agriculture is discussed in Chapter Seven.

2.4 THE SOUTH AFRICAN EXPERIENCE

In South Africa, the crisis of underdevelopment has much to do with apartheid (May and Meth, 2007). The origins of economic dualism are rooted in the system of cheap, forced, migrant labour, introduced with the beginning of the mining industry and reinforced during apartheid (Klasen, 1997). Racist ideology conspired with economic self-interest and turned the country's Black majority into a pool of cheap labour (Aliber, Kirsten, Maharajh, Nhlapo-Hlope and Nkoane, 2006). The legacies of apartheid and the social and economic policies of successive apartheid governments resulted in an ossified society (May, Carter and Padayachee, 2004). In this society, privilege, opportunity and well-being were highly correlated with race. At the start of South Africa's transition in 1993, almost half of the population were categorised as poor, with over 60 percent of Africans being poor compared to just one percent of the white population (Klasen, 1997).¹¹

From the time it came into power, the new government of the African National Congress (ANC) faced a set of enormous obstacles to transcend the inherited legacies of apartheid planning. The ANC embarked on the neoliberal capitalist path that is so often promoted by the Washington Consensus (Bond, 2004a). Development strategies such as the Reconstruction and Development Programme (RDP) and the Growth, Employment and Redistribution (GEAR) sought to integrate

¹¹This measure was obtained using a national consumption-based poverty line.

growth and development into a unified programme (May, Carter and Padayachee, 2004). The RDP was introduced to ameliorate the burdens of the unemployed in the short-term and to restructure national patterns of growth. This was in order to enhance the long-term employment creation capacity of the economy. In terms of both these short-term and long-term objectives for addressing poverty, much attention was given to issues surrounding the development potential of the small-scale and informal economy, which were aggravated by apartheid (May and Meth, 2007; Aliber *et al.*, 2006; May *et al.*, 2004). This prompted debate over the nature of the South African economy, including the question of the first and second economies (May and Meth, 2007; Devey *et al.*, 2004).

2.4.1 The debates

South African policy discourse about persistent poverty has been dominated by the notion that poor people stay poor because they are trapped in a ‘second economy’, disconnected from the mainstream ‘first world economy’ (May and Meth, 2007). This was the idea of the dual South African economies introduced by President Mbeki in 2003, which were said to be operating side by side (Devey *et al.*, 2004). The first economy was described as the sector of the economy that every day became ever more integrated in the global economy and was the sector that produced the wealth. Mbeki (2004) characterised the second economy as:

“ ...a mainly informal, marginalised, unskilled economy, populated by the unemployed and those unemployable in the formal sector.” (ANC Today, 2004: 4)

The second economy concept is not an apt description of the South African reality (Gumede, 2008). It is a metaphor implying that part of the economy is cutting-edge and globalised. The other part is said to be marginalised and underdeveloped and constitutes the structural manifestation of poverty (May and Meth, 2007). In the quote from ANC Today, this did not refer to the informal economy *per se*. However, it showed that the informal economy was seen as being located in the second economy. The second economy was seen as being structurally disconnected from the mainstream economy (Devey *et al.*, 2004). This dual concept resonated with the earlier notion of the informal sector, as reasoned by the dual theorists. This implied that this view moved beyond a simple formal informal dichotomy (*ibid*).

For the South African context, Devey *et al.*, (2004) explain that the dualism arguments have been a characteristic of much of South African historiography. These arguments were then used to refer to the relationship between the mainstream of the economy and the periphery. The arguments formed the debates of the early 1970s concerning the relationship between apartheid and capitalism in South Africa (*ibid*). In these debates, liberals argued that capitalism would ultimately undermine apartheid. This would happen as more and more of the African periphery came to be incorporated into the mainstream of the economy. Marxists, on the other hand, stressed that there was in fact a close, but exploitative, relationship between the two.

The development of the second economy was to be carried out exclusively by the democratic state. Former President Mbeki conceptualised government's fight against poverty in a three-pillar formulation when he stated that:

“At the core of our responses to all these challenges is the struggle against poverty and underdevelopment, which rests on three pillars. These are: encouraging the growth and development of the first economy, increasing its possibility to create jobs; implementing our programme to address the challenges of the second economy; and building a social security net to meet the objective of poverty alleviation.”

Analysing this, Padayachee and Valodia (2001) pointed to a coincidence with the re-emergence of the dual economy conceptualisation in South Africa. They felt that this coincided with a refocusing of economic policy in South Africa post-apartheid. It was assumed that growth in the first economy would ‘trickle down’ to the second. However, post-apartheid economic growth policies such as GEAR failed to yield the trickle-down effect that they were supposed to.

2.4.2 Poor growth

The growth policies introduced after apartheid constrained the South African government's capacity to intervene and to ameliorate the situation of poverty and underdevelopment in the country. May and Meth (2007) and Aliber, Kirsten, Maharaj, Nhlapo-Hlope and Nkoane (2006) illustrated the levels of underdevelopment in the country, using various social indicators. These included the Human Development Index (HDI), life expectancy and mortality projections. They

illustrated how the racial disparities in South Africa's development indicators remained largely unchanged in the post-apartheid period.

Notwithstanding the quality of the data used, money-metric measures of poverty¹² suggested that poverty remained high and could have increased (May, Carter and Padayachee, 2004; Aliber *et al.*, 2006). The analysts pointed to the presence of poverty traps that hindered upward mobility and prevented individuals from getting ahead (Woolard and Klasen, 2005).¹³

A well-known central contributor to poverty and inequality is the high level of unemployment (Aliber *et al.*, 2006). Poor economic growth ultimately delivered a poor growth in employment (Padayachee and Valodia, 2001). The industries that appeared to thrive were those that were relatively capital-using and labour-saving.

Many South Africans whose skills were appropriate to mining, agriculture and other primary industries suffered as the nature of the economy changed (Aliber, 2005). Between 1995 and 2002, the working age population of South Africa grew by about 2.2 percent per year, while the economically active population increased by about 4.8 percent per year, implying an increase in labour force participation (May and Meth, 2007). Over this period, the number of employed people increased by only one-third as much as the economically active population (Budlender, 2011b). The result of this was that an ever-larger number of people and an even greater share of the labour force were unemployed.

In May and Meth's (2007) analysis, the nature of labour market participation (and non-participation) of the poor was even more telling. First, poor households tended to be disconnected from the labour market. Second, there was a rapid increase in the number of households in which no one was employed. Many of these households did not appear to receive

¹²Though not the only component of deprivation, there is agreement among most analysts that Lipton's (1997) approach of using income or consumption based poverty measures is useful when identifying those who may be poor and for evaluating progress made by policy interventions (May and Meth, 2007).

¹³These were identified as: large initial household size, low initial levels of education and low participation in the labour market. May and Meth (2007) contends that the origins of each of these traps could be found in past apartheid policies.

any remittances. Third, there was a marked increase in the number of “working poor”, i.e. those who were employed, even in the formal sector, but remained in poverty (*ibid*).

Casale, Muller and Posel (2004) demonstrated how there was an increase in the number of employed living in poverty, from just over 900 000 in 1995 to some two million in 2003. Of the latter, only a quarter were self-employed in the informal sector. These data showed that unemployment grew, despite the increasing numbers of people actually finding work. In some ways, the disproportionate job losses in unskilled work and the increasing presence of workerless households suggested one thing. For most people, better opportunities to seek employment were not matched by improved prospects of actually finding it. These features of the workings of the labour market tended to confirm a worrying set of trends, including a tendency towards outsourcing in the manufacturing sector. This tendency accounted for the increase in the number of workers in the informal sector between 1995 and 2001 (Bhorat and Hodge, 1999; Rama, 2001; Aliber *et al.*, 2006; May and Meth, 2007). This suggested that there was, in fact, a closer relationship between the first and second economies than might have been expected of a dualistic economy.

May and Meth’s (2007) analysis of 1993 and 1998 trends, using KIDS revealed similar scenarios. The KIDS analysis revealed that formal employment in better paying and secure jobs had shown comparatively little change. Employment as casual labour had increased, as had employment in agriculture and a reliance on social grants. Agricultural production emerged as the destination of almost half of the dissatisfied informal sector producers. The KIDS data showed that, between 1993 and 1998, there was an increase in the number of households surveyed in 1993 participating in agricultural production, increasing the proportion of African and Indian households involved in this work to 49 percent (May and Meth, 2007). The majority (51 percent) of the households that had been involved in agricultural production in either 1993 or 1998 performed this activity in both years. This analysis showed that 12 percent had been involved in 1993 only and 37 percent were involved in 1998 only (*ibid*). Though there was consensus that the RDP and GEAR resulted in growth, there was little agreement on how to ensure that the growth became pro-poor.

In South Africa, the crisis of underdevelopment has much to do with apartheid (May and Meth, 2007). This is not only a legacy of apartheid, however, there is ongoing, active, daily reproduction of underdevelopment and poverty (May *et al.*, 2004). This is partly symptomatic of an inability or unwillingness by the state to view the economy as a unitary system. These dynamics do not simply result from being left out of the mainstream economy, but rather from the terms under which an individual is incorporated (May and Meth, 2007). This is the notion of adverse inclusion, preferred by du Toit (2004), rather than social exclusion.

Indeed, there is more to the relationship between those who are marginalised and those who are benefitting from South Africa's achievement than a dualistic and disarticulated first and second economy. Rather than being structurally disconnected from the formal economy, formal and informal, mainstream and marginal activities are often thoroughly interdependent, supplementing or subsidising one another in complex ways. Linkages of inclusion and exclusion determine the size, characteristics and future of these two economies. The effect of marginalisation of workers and people from the formal economy is caused by the method of operating by the formal economy...the nature of the economic exclusion. By appealing to a structural disjuncture between two parallel economies, government trapped itself into a perpetual propagation of these dynamics.

Though steady economic growth was achieved, unemployment escalated, especially in sectors exposed to global competition.¹⁴ May, Carter and Padayachee (2004) observed that, in South Africa, economic growth post-apartheid resulted in weak employment growth among highly skilled workers, while unskilled workers and those in poor households carried the adjustment costs of greater openness. Under this environment, employment as casual labour increased, as did employment in agriculture and reliance on social grants. This was more so for African households. South Africa is one of the most unequal societies despite being placed as one of the 50 wealthiest nations in the world (May and Meth, 2007). The country's Gini coefficient stood at 0.70 in 2008, compared with 0.66 in 1993 (Development Progress, 2013). Aggregate levels of income are not revealed by the stark differences in poverty across different racial groups and growing levels of income inequality. The provision of social grants in South Africa has played an

¹⁴This was a result of the abandonment of tariff protection of vulnerable industries.

important role. The extension in coverage of social grants has helped to limit this growth in inequality and the depth of poverty experienced in the country. Fifty-six percent of the population that lived below the poverty line in 1993 had been reduced to 54 percent in 2008 and without social grants, this figure would have been 60 percent (*ibid*).

The role of the informal economy in managing the problems of poverty and of contributing to rebuilding the economy is now a key focus of attention. In terms of policy, government provided enterprise development and business support (largely for the informal trading sector). This was undermined by a lack of financial assistance and training. The main beneficiaries were often well-established small medium and micro enterprises (SMMEs). As a result, the needs of very small, informal enterprises that lack physical and financial capital were largely ignored. Public participation is often treated merely as a bureaucratic requirement. Commenting on this situation, Devey *et al.*, (2004) pointed to the fact that government policy on the informal economy in South Africa was either piecemeal or absent.

An integrated approach to addressing the challenges of the informal economy in South Africa is required. This includes (but is not limited to) enterprise development, training and skills development, social protection and the creation of an enabling environment for the formation of organisations or associations. Moreover, policies have to be formulated at a local level.

2.5 CONCLUSION

The world economy has changed from the state-led domination of the 1970s to market-led economic forces in the 1990s. Now, in an increasingly integrated and globalised world, the share of the informal economy is on the increase, particularly in developing countries. Today, the informal economy is so large and significant that there is renewed interest in this phenomenon worldwide. The informal economy has not only grown but also emerged in new guises in unexpected places, despite predictions of its eventual demise (Chen, 2007).

Chapter Two discussed the declining significance of a once useful paradigm, i.e. the analytical distinction between regulated (formal) wage-work and unregulated (informal) income-generating

activities. The conceptual distinction between formal and informal economies was a useful orienting framework that enabled scholars working in very different historical, cultural and social settings to ask similar questions, to look for common patterns and to seek generalisations about labour markets, work relations and income-generating activities.

As a heuristic device, this conceptual couplet generated extensive scholarship, characterised by a burst of initial enthusiasm that was followed by an elaboration and refinement of models and research techniques. Despite differences among scholars operating within this quasi-paradigm, these researchers typically understood the condition of informality as analytically distinct and outside the formal sector. These scholars typically associated informality with income-generating activities over which state regulation had little or no influence or power.

What empirical researchers label "the informal sector" is best represented not as one sector, but as a continuum. This is not least because recognition of the essentially dependent and involutory nature of the informal sector has resulted in critical concern with the limitations of this dualist model, both as a theoretical concept and as a basis for policy recommendations.

The informal economy should not have been viewed as a marginal or peripheral sector, but a basic component of the total economy. This concept has been broadened to include the whole of informality and the real world dynamics in labour markets today, particularly the employment arrangements of the working poor. As this is manifested in developing economies, for most people their activity is a desperate effort to survive rather than an exercise in entrepreneurship.

Equitable linkages between the informal economy and the formal economy should be promoted through appropriate policy.

The informal economy theoretical framework has been used, as it bears striking parallels to the theory on urban agriculture, which is discussed in the next chapter.

CHAPTER THREE

LITERATURE REVIEW: URBAN AGRICULTURE

3.1 INTRODUCTION

The theoretical approaches and development scenarios in the 1980s on the state of developing country economies severely underestimated the length and the extent of the economic crises. These crises had ramifications for employment and unemployment, particularly in Africa's large cities. Accordingly, it is reasoned that the question of unemployment and its impact on poverty "still remains, perhaps, the number one social problem facing many African countries" (ILO-Jobs and Skills Program for Africa (JASPA), 1992: 1). Likewise in South Africa, evidence on the opening up of the economy can be ascribed to the economic policies during the 1990s post-apartheid period, which produced unique labour market outcomes. These impacted negatively on the propensity of the economy to create employment. Informal employment not only continued to exist, but actually grew, while the formal sector declined.

Against the background of the extension of the informal economy throughout most of urban Africa, Chapter Three examines a particular facet of informalisation, namely the emergence and advance of urban agriculture; the extent, nature and activities constituting urban agricultural practice, allocated and shared by people and households, as well as the policy environment within which these operate.

Employing an informal economy conceptual framework for the analysis of urban agriculture, I was guided by the following questions: who are the people that are involved in urban agriculture activities; is it a labour market change that causes people to farm; what is the contribution of these activities in terms of food security, income generation and employment; is poverty correlated to participation; what is the range of economic activities found within this sector and can these be separated into distinct categories? These are the overarching questions addressed from an informal economy perspective. The main emphasis will be on developing countries,

where the most interesting activity (but also a tremendous pace of change) is found and also where most of the research on urban agriculture has been done.

After this first introductory section, the concept of urban agriculture is defined in section two. Section three explores the main causes and reasons for engagement in urban agriculture for developing nations and locates this in the South African context. The importance of urban agriculture, as a source of food, income and employment for particular types of people, is outlined and I explore the gender aspects of urban agriculture. Section four examines the extent of urban agriculture in terms of the activity's size and contribution, i.e. quantifying its scale and extent to show its incidence in a population. Section five provides concluding comments for the chapter.

3.2 DEFINITION

Due to the diversity inherent in the term urban agriculture, it is important to first define what is meant by the concept of urban agriculture, before discussing the practice. Providing a precise definition of urban agriculture is not an easy task. The term is used as an overarching category, covering a wide range of approaches found within different research disciplines. Variations also exist in urban agriculture across the developing world, both within and between countries (Drakakis-Smith, 1991).

Following the 2011 Resource Centres on Urban Agriculture and Food Security's (RUAF) description of urban agriculture, it is defined along six dimensions, *viz*: (1) types of actors involved; (2) types of location; (3) types of products grown; (4) types of economic activities; (5) product destination/degree of market orientation; and (6) scales of production and technology used. These dimensions, summarised on Table 3.1, are discussed briefly, in turn, before providing a working definition for this thesis.

Table 3.1: Urban agriculture working definition

Dimension	Description
Actors involved	<ul style="list-style-type: none">▪ People from all socio-economic groups; poor and non-poor▪ Men and women
Location	<ul style="list-style-type: none">▪ Urban and peri-urban areas▪ On the homestead (on-plot) and on land away from the residence (off-plot)▪ Private land and public land (owned, leased)
Products grown	<ul style="list-style-type: none">▪ Different crop types
Economic activities	<ul style="list-style-type: none">▪ Agricultural production and marketing activities
Product destination/ degree of market orientation	<ul style="list-style-type: none">▪ Self-consumption and for sale
Scales of production and technology used	<ul style="list-style-type: none">▪ Micro-and small farms to medium-sized and some large-scale enterprises▪ Individual, family farms, group or co-operative farms, commercial enterprises▪ All types of technology

Source: adapted from RUAF (2011)

Types of actors involved: a large proportion of the people involved are the urban poor. They are not recent immigrants from rural areas, as is widely believed. In many cities, lower and middle level employees are involved in urban agriculture, as well as richer people seeking to make a good investment for their capital. There is also a gender differentiation to urban agriculture, in that women constitute an important part, since this activity can be easily combined with their other tasks in the household.

Types of location: urban agriculture may take place inside the cities (intra-urban) or in the peri-urban areas. The activities may take place in gardens on the proper houses of the families (on-plot) or on land away from the homestead (off-plot), on private land (owned; leased), on public land which is often illegally occupied (parks, conservation areas, road strips and riverbanks, fishponds, rivers, lakes and railways), or semi-public land (schoolyards, grounds of schools and hospitals).

Types of products grown: urban agriculture includes food products and animals and non-food, e.g. medicinal herbs. Food products are from different types of crops, such as grains, root crops,

vegetables and fruits. Animal products may be, for example, poultry, goats or fish. Non-food products such as medicinal herbs, ornamental plants, or combinations of these, may also be produced. Often the more perishable and relatively high-valued vegetables and animal products are favoured. Production units in urban agriculture tend to be more specialised than rural enterprises and there may be exchanges which take place across production units.

Types of economic activities: these include agricultural production activities such as processing and marketing activities, as well as inputs, e.g. compost and services delivery.

Product destination/degree of market orientation: urban agriculture may be for self-consumption, with surpluses being traded, and may be in the form of market-oriented urban agriculture, both in volume and economic value. Products may be sold locally or to intermediaries and supermarket outlets.

Scales of production and technology used: this may be individual or family farms and commercial enterprises at various scales, ranging from micro- and small farms (the majority), to medium-sized and some large-scale enterprises. According to RUAF (2011), the technological level with most urban agriculture is still rather low, however.

For the purposes of this study, I use the term urban agriculture to refer to crop production activities,¹⁵ practised in urban areas¹⁶, which provide food, income and employment for urban individuals and households, particularly in developing countries.

¹⁵ In this thesis, I adopt a narrow definition of urban agriculture and I am only concerned with informal cultivation of crops (e.g. vegetable production), to the exclusion of animal husbandry, although I acknowledge that urban agriculture is often a mixture of both, and in many instances, inseparable. For examples of urban agriculture activities involving livestock production, please see: Rischkowsky, Siegmund-Schultze, Bednarz and Killanga (2006); Richardson, Joseph and Whitney (1995).

¹⁶ I use the United Nations Fund Population Fund (UNFPA) definition of an urban area based on population density and I define this as an area which has a population density of greater than 250 people per square kilometre (UN).

3.3 THE EMERGENCE OF URBAN AGRICULTURE

In this section I discuss the main reasons for practising urban agriculture, examined within the context of economic crises in developing countries, particularly in Africa.

The depth of the economic crisis in African cities in the 1980s has been well documented (Jamal and Weeks, 1987; Stren and White, 1989). Urban agriculture has its origins in these economic crises, that affected most African countries in the 1980s.

On the macro-level, there existed dependency relationships between peripheral economies of the Third World and core economies of the First World. There was a decline in world prices of primary commodities. Due to Structural Adjustment Programmes (SAPs), this resulted in former colonised countries being in a position of subordination in relation to the core needs of Western economies (Drakakis-Smith, 1991; Tambwe, 2010). Globally induced economic crises, deteriorating national economies or persisting economic difficulties are pre-conditions for urban agriculture in many developing countries (Drakakis-Smith, 1991). With the impact of economic recession, the effects of SAPs and the crises of the 1980s and 1990s, the cultivation of food crops in public and private open spaces is now both more widespread and economically significant in many African urban areas (Sanyal, 1985; Tricaud, 1988; Drakakis-Smith, 1991; Lee-Smith and Memon, 1993).

Maxwell *et al.*, (1998) inform us that, although urban agriculture had always been a part of the urban economy in some parts of Kampala, the practice became widespread in the city, in response to the collapse of the urban economy. During this time of economic decline, real wage income dropped by nearly 80 percent (Jamal and Weeks, 1993). Structural adjustment policies were implemented between 1972 and 1980, and again in 1987, giving rise to rapid increases in food prices. Daily economic life for the average Kampala resident throughout this period was, in the words of one observer, 'a continuous struggle for survival' (Banugire, 1987: 137).

In Harare, high food prices necessitated subsistence food production among many low-income groups (Environment and Development Activities (ENDA), 1996; Tevera, 1996). Urban research in East and Central Africa suggests that the invasion of cities by subsistence cultivation is

symptomatic of the collapse in urban Democratic Republic of Congo (Ngub'usim and Streiffeler, 1982; Streiffeler, 1987), Uganda (Amis, 1992; Bibangambah, 1992) and Tanzania (Mlozi, Lupanga and Mvena, 1992).

In South Africa, when apartheid ended in 1994, the economy opened up to globalisation processes and unemployment and poverty resulted. Many turned to the informal economy and urban agriculture is one of these informal economy activities. Rogerson (1996) discussed the impact of globalisation in terms of the demise of formal sector employment. He asserted that this led, in part, to the advance of informalisation and the extension of the informal economy, with urban agriculture being a particular facet of this.

Rogerson (1993) reported that urban agricultural practices began to spread and extend to the cities of South Africa during the era of late apartheid. Analysing the causes behind this, Rogerson explains that the removal of influx control measures in the country contributed to accelerating city growth. The result of this was escalating food inflation levels and the absorptive capacity of a sanctions-weakened formal economy was reduced. Together this triggered the appearance of cultivation on vacant land fringing formal African townships and especially around the country's mushrooming informal shack settlements (May and Rogerson, 1995).

On the micro-level, the economic crises in many African countries exacerbated the pressures on the poor. The consequence, almost everywhere, was growing unemployment, falling real incomes, rising prices and reduced welfare services, burdens which have fallen particularly heavily on the urban poor, who have to survive largely in the cash economy. Urban agriculture is, in many cases, a response of the urban poor to:

- Inadequate, unreliable and irregular access to food supplies, due to a lack of availability or a lack of purchasing power (RUAF, 2011)
- Inadequate access to formal employment opportunities, due to deteriorating national economies in developing countries (*ibid*)

The advance of urban agriculture and its growing importance throughout African cities has occurred much to the surprise of proponents of modernisation. A testament to this is obtained

from urban authorities in Kenya, who perceive urban agriculture as part of the broader embarrassment of the informal sector, “a continuous but unwelcome reminder that programmes for development and efforts to project an aura of modernity and progress have not reached very far below the surface” (Freeman, 1991: 44).

3.4 MAIN MOTIVATIONS OF URBAN AGRICULTURE

The literature states that the expansion of urban agriculture in the late 1980s to mid-1990s is the consequence of increasing urban poverty. There is a body of research, published in the mid-1990s, illustrating empirical data that touch on this assertion.¹⁷ Denninger *et al.*, (1998) estimate that nearly 25 million of the 65 million people living in urban areas of Eritrea, Ethiopia, Kenya, Tanzania, Uganda and Zambia currently obtain part of their food from urban agriculture and that, by 2020, at least 35 to 40 million urban residents will depend on urban agriculture to feed themselves.

According to Nugent (2000), increasing urban poverty is a contributing factor to participation in urban agriculture and this does not appear to be temporary. The author further explains how in many cities of the developing world, consumer food prices have increased. She elucidates that this has occurred since the removal of subsidies and price controls accompanying Structural Adjustment Programmes in the 1980s and 1990s. As most of the food consumed in cities must be purchased, poor families can spend up to 60 to 80 percent of their income on food and still be food insecure.

Compounding this, urban poverty and the proportion of poor people living in cities is rising and this has serious implications for food security. Urban agriculture is chosen by a large number of urban residents because it can offer food, income and employment the urban farmers and their families. When life is difficult, the urban poor cope as best they can in order to meet basic needs, of which food is the most important.

¹⁷ See, for example, Drakakis-Smith, Bowyer-Bower and Tevera, 1995.

3.4.1 Urban agriculture and food security

The FAO (2002: 2) defines food security as “*a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life*”. Food security can be measured at different levels, from the household to the national.

Food security aspects relate to access and a healthy diet and the literature documents the contribution that urban agriculture makes to both these aspects of food security. Urban agriculture may improve both food intake (improved access to a cheap source of proteins) and the quality of the food may improve (poor urban families involved in urban agriculture eat more fresh vegetables than other families in the same income category), according to RUAF (2011).

Most directly, urban agriculture reduces food insecurity if it increases access to food – especially fresh, nutrient-rich food – among populations suffering from food insecurity – the poor, temporarily or permanently vulnerable, and children – either through their own self-provisioning, which reduces market expenditures or increases income. Poor households cannot regularly afford to buy perishable foods that contain essential micronutrients, which are especially important for children. Foods in high nutrients are needed to relieve undernourishment in poor households and can contribute importantly to household food security. Accordingly, the “push” of worsening food insecurity underpins much of the burgeoning of agricultural micro-enterprises on the African city-scape, particularly since the late 1970s.

Research published in the mid-1990s notes that the primary motive for urban agriculture is for household food consumption. Mazambani (1982), Drakakis-Smith (1992) and Mbiba (1995) give an account of the cultivation taking place in Harare which, they explain, is primarily conducted by low-income families who grow food crops for domestic consumption. In Harare, high food prices necessitated subsistence food production among many low-income groups (ENDA, 1999; Tevera, 1996). Food prices in Harare rose 534 percent between 1991 and 1992, spurring poor consumers to get access to food outside of marketing channels, through home production and barter (Tevera, 1996). Even after a more stable macroeconomic environment was restored, urban agriculture has remained an important source of food for the large, food-insecure population.

Rogerson (1993) revealed that urban gardens act as a base for semi-subsistence food for residents in Harare and 60 percent of food consumed by low-income groups is self-produced. Evidence from elsewhere is that self-production in Kampala represented 60 percent of total food consumption in low-income households, with proportions depending solely on self-production, reaching 50 percent in Nairobi (Mougeot, 1994).

The vast majority of cultivated plots in Nairobi are the creations of the very poor and represent a major source of subsistence for urban underclasses (Freeman, 1991: 87). Rakodi (1985, 1988) reported that in Lusaka, urban agriculture is a particularly important survival activity for groups of low income women with limited schooling or marketable skills in the formal economy. In the Zambian cities of Lusaka and Mufulira, about one-third of all food consumed is estimated to be of subsistence for the poorest households (Rakodi, 1985). Another study found that low-income households in Lusaka obtained one-third of their total food consumption from farming (Sanyal 1986, cited in Tevera, 1986).

In South Africa, Rogerson (2004) states that urban agriculture is primarily a survival¹⁸ niche of the most marginalised and most vulnerable groups in urban areas, in particular for elderly women. Martin *et al.*, (2000) conducted research in Pretoria and in various Cape Town townships. They found that urban agriculture aimed primarily at the production of food for home consumption. Rogerson (1996) states that these types of farming activities in South Africa are not expansionist enterprises however; in this typology food is produced by the majority as part of their survival strategy. Most vegetables grown in home gardens are consumed by the gardeners themselves, their relatives and neighbours (van Averbek, 2007). Cultivation techniques are very simple and productivity is low; thus home gardening is mainly 'subsistence' oriented.

A study of urban agriculture and non-urban agriculture households in Kampala found that among the main factors affecting household food security were wealth, land size, gender and education. This established a clear relationship between urban agriculture and household food security

¹⁸ Rogerson (1996: 171) distinguishes between two categories of UA enterprises, *viz.* survivalist enterprises and micro-enterprises or growth enterprises. The former refers to those enterprises which "represent a set of activities undertaken by people unable to secure regular wage employment or access to an economic sector of their choice." The latter are very small businesses, often involving only the owner, some family members and, at most, one to four paid employees."

(Sebastian, Lubowa, Yeudall, Cole and Ibrahim, 2008). This relationship had been shown by earlier studies in Nairobi, Kampala and Nakuru (Mbongi-Mwangi and Foeken, 1996).

While it is true, as is often pointed out, that the majority of urban agriculture participants are poor, urban agriculture has a complex relationship to poverty. Saiwo, who conducted research in Dar es Salaam, stated that:

“...cutting across broad socioeconomic, ethnic, educational and occupational statuses, the urban farmers of Dar es Salaam include professionals, teachers and administrators, government officials, decision makers and urban planners, married women, single mothers as heads of household, students, casual labourers, the unemployed and part- and full-time workers.”

Urban agriculture participation and poverty is partly a result of the job market lagging behind urban growth (Nugent, 2002). One of the consequences of economic decline was the high levels of unemployment and the limited wages for those still working. As a result of the rise in poverty and unemployment and a decline in purchasing power, people had to cope in different ways to ensure survival, such as using informal economic activities and urban agriculture. Indeed, high rates of unemployment are among the most cited causes of poverty in African countries.

The literature states that urban agriculture can provide supplementary opportunities to the underemployed, temporarily unemployed or chronically unemployed, in cities where formal sector opportunities are few (Nugent, 2000). Another explanation is that urban wages are inadequate, making it necessary for people to find means to supplement their wages (Hart, 1973). Urban agriculture is not undertaken solely by urban dwellers found outside the formal wage and salary system. It is also not the sole means of survival for the unemployed but provides essential supplementary income for people whose wages are inadequate.

This is corroborated by Mustapha (1991: 13), citing Gefu (1992), who states that:

“The escalation in part-time farming in urban Nigeria represents a survival strategy for many urban wage-earners to supplement declining real wages in the wake of structural adjustment measures. Economic crisis and structural adjustment in Nigeria fostered the development of multiple modes of social livelihood, and many public servants moonlight as part-time urban cultivators.”

The ILO (1992) explains that, in most countries of sub-Saharan Africa, regular urban wage employment opportunities constitute only a small fraction of total employment, typically between five and 10 percent. Another reason is that many people find work in the informal sector, where they may move between jobs easily and often from one job opportunity to the next. What appears to be employment is often disguised underemployment,¹⁹ especially when economic conditions are weak. Examples include holding a part-time job, despite desiring full-time work.

It is reported that in Nairobi and other urban areas of Kenya, most low-income people who lack wage employment end up ‘unemployed’, or are casually hired in low earning engagements. Most practice urban agriculture. Other types of people who participate are the retrenched, contractual and/or seasonal labourers and out of school/school leavers looking to ‘fill the gap’. Rogerson (1993) supports this and notes that participation in urban agriculture is connected with failure to secure a sufficiently well-paying job in the city. He provides evidence from Nairobi, where over half of cultivators held down full-time or part-time jobs, whilst carrying out urban agriculture.

Studies in the cities of Beira and Nampula (Mozambique), show that 90 percent of the families involved in urban agriculture do have formal employment, but need to grow crops because their salaries do not cover basic living costs (Stevenson, 1996). Participation in open space urban agriculture in Dar es Salaam includes part-time farmers having an additional job in the city. Mosha (1991) re-affirms this. Using evidence from Tanzania he explains how, with a declining formal economy in the country, the inability of households to live on a single income source precipitated an expansion in urban agriculture.

¹⁹ Underemployment refers to a situation that is insufficient in some important way for the worker, relative to a standard (Feldman, 1996).

In many developing countries, most urban agriculture participants are the urban poor trying to supplement their meagre food supply (Maxwell, 1995). This is especially true for the growing numbers of female-headed households. However, it must be acknowledged that although the poor are not the only people who engage in urban agriculture, they are more dependent on it for income and nutrition (Tambwe, 2010; RUAF, 2011). Households across the income spectrum engage in urban agriculture (RUAF, 2011), but, income level *does* influence the amount of effort devoted to the activity (Nugent, 2000).

Unemployment in Harare forced many households into what has been termed ‘multiple mode livelihoods’, involving not only the unemployed but the proletariat and the middle class, too (Drakakis-Smith *et al.*, 1995). This was more evident in the context of urban food production. The participation of middle-income households in urban agriculture has been a notable finding of research undertaken in Nigeria (Gefu, 1992), Mozambique (Sheldon, 1991) and South Africa (May and Rogerson, 1995). Based on findings from their research in the city of Durban, May and Rogerson (1995) reveal that urban agriculture is not only practised by the poor, because the percentage of households in this category was lower than that of categories with higher income levels. Such findings underscore the complexities of urban agriculture in Africa (Drakakis-Smith, 1992: 49). Nonetheless, they do not support the proposition that urban agriculture in Africa is merely a last resort for the poor in urban areas, although subsistence food production *does* represent one important survival niche adopted by the most vulnerable urban households.

Further elucidating the complex relationship between urban agriculture and poverty is an important characteristic of urban agriculture households that constantly emerges – they are large (Table 3.2). It is unclear whether larger households experience pressure to engage in urban agriculture for food security because they have many mouths to feed, or whether urban agriculture enables households to enlarge and support more people (Prain, 2010).

Table 3.2: UA and non-UA household sizes in selected towns and cities

Town/city	Persons in UA households	Persons in non-UA households
Addis-Ababa (Ethiopia)	7.1 average	-
Dar es Salaam (Tanzania)	5-7 median	4-5 median
Kampala (Uganda)	7.0 average	4.2 average
Nairobi (Kenya)	5.4 average	4.1 average
Nakuru (Kenya)	5-7 median	2-4 median
Nakuru (Kenya)	6.0 average	4 average
Yaoundé (Cameroon)	7.9 average	6.6 average

Source: Lee-Smith (2010: 489)

It has been suggested by Jacobi, Amend and Kiango (1999) and Freeman (1991) that urban agriculture is a strategy of drawing on the labour of extended household members to make the most of available resources in urban agriculture. However, Maxwell's (1994) survey of urban agriculture households from Kampala and Nakuru, where urban agriculture households are largely made up of nuclear household members, found that this latter explanation does not hold.

Households struggle to find urban livelihoods from meager resources, including land, of which the poor generally have little. In terms of production scales and location, Mougeot (2000) records that the majority of urban farmers grow food mainly for their own subsistence, mostly in home gardens. Home garden production or backyard farming is by far the most important urban production system in Dar es Salaam. It is practised throughout the whole city area, among all income groups (Jacobi, Amend and Kiango, 2000). Home gardens were found to be the most common type of urban agriculture in terms of participation rate in informal settlements in Pretoria, South Africa (van Averbeke, 2007).

Evidence from elsewhere indicates that informal women's co-operatives farm local vacant fields for food and cash in Harare, Zimbabwe. In Tanzania's capital, Dar es Salaam, residents grow home vegetables and rainfed root and grain crops in nearby open public spaces. The cultivation of the land is legal, as the right to use it is linked with the tenure of the house or the permission of the landlord (Jacobi *et al.*, 2000: 264). This illustrates the range of land sizes on which urban agriculture is practised.

On the links between urban agriculture and poverty, the literature supports the belief that women tend to dominate urban agriculture, particularly certain components such as backyard gardening (Nugent, 2000; Mougeot, 2000; Maxwell, 1995; Memon and Lee-Smith, 1992; Rakodi, 1988; 1991). Maxwell (1995) observed that home gardening in Kampala, Uganda, is undertaken by low-income female-headed households, widows and families suddenly abandoned by a primary wage earner. Hovorka (1999) believes that most women urban producers are probably engaged in self-provisioning to a larger extent than men, while Dennery (1996) and Maxwell (1995) add that urban agriculture is particularly significant for women with larger families to feed and/or support. In a study conducted in Pretoria, South Africa, Averbek (2007) found that most urban agriculture participants are women, mostly retired, living in heavily dependent households and relying on government grants as their primary source of income.

This is attributed to women's low social status, in general, and lack of land rights, in particular. The dominance of women in urban agriculture is purported to be linked to the fact that women are still at a disadvantage in the formal sector of the urban economy through gender discrimination in employment, as well as the fact that women often have lower educational levels (RUAFA, 2010). The literature reveals that the dominance of women in urban agriculture is due to women being able to conveniently earn income and perform household chores and that urban agriculture connects well with women's traditional childcare and general household management roles (Nugent, 2000). It allows them to strengthen food provisioning and work close to home.

This is not always the case, however, as gender ratios vary greatly from city to city, depending on cultural/religious contexts, the economic conjuncture, the economic activity and the production system. For example, in vegetable marketing, men prevail in market gardening in Brazzaville, Lome, Addis Ababa and Dakar, while women prevail among producers in Cagayan de Oro, Phillipines (Potutan, Schnitzler, Arnado, Janubas and Holmer, 2000). Men tend to dominate commercial food production, while women tend to get involved in small and micro-scale production.

Finally, men and women of all educational levels participate in urban agriculture. Lee (1993) reported that about 60 percent of the families practising urban agriculture in Addis Ababa had a higher level of education. Freeman (1991) observed that the school education of the urban agriculturalists in Nairobi, Kenya, was only to primary level or absent entirely. Armar-Klemesu and Maxwell (1997) observed that in Accra, Ghana, urban agriculture participants were mostly school leavers and school drop-outs who could not find other jobs.

It has to be noted that even though urban agriculture was initially conceived as a survival activity, not least because of its economic crisis origin, there have been contestations in the literature disputing the notion of urban agriculture as a survival activity, its subsistence aspect and being practised by low-income households (Hovorka, 2004; 2006). The importance of market-oriented urban agriculture, both in volume and economic value, should not be underestimated.

3.4.2 Urban agriculture and income generation and employment

In addition to subsistence and to food security, the economic benefits accruing to those practising urban agriculture are usually measured in terms of the contribution of urban agriculture to income generation and employment (Slater, 2001). In consideration of urban agriculture as an income generation and employment activity, the literature assesses three main elements: (1) planned areas of the city as residence for farmers; (2) the involvement of middle- and high-income households in urban food production; and (3) commerce as the principal reason for which people engage in urban agriculture.

Choguill (1995) explains that, due to the absence of an efficient urban physical planning department, the opportunity to farm becomes a benefit to the poor urban agriculturist, as it frequently ensures the existence of unused land. This land can then be used by urban agriculture participants for at least one growing season, and frequently more. This opportunity has also been lucrative for some, because of the nearby location of multiple markets for agricultural products. Hence urban agriculture for these people becomes an opportunistically viable and well-planned economic strategy. They work several fields at different locations to maximise access to critical

inputs (stream water and effluents) and to niche markets. This ensures stability against eviction from any particular site or against crop losses because of theft or other hazards (Drescher, 1999).

Products are sold at the farm gate, in the same or other neighbourhoods, in local shops, on local markets or to intermediaries and supermarkets (RUAF, 2011). Mainly fresh products are sold, but part of the crop is processed for own use, cooked and sold on the streets, or processed and packaged for sale to one of the outlets mentioned above (*ibid*). In Tanzania, for instance, one may encounter commercial enterprises at various scales, ranging from micro and small farms (the majority) to medium-sized and some large-scale enterprises (Jacobi *et al.*, 2000).

One type of urban agriculture practised as an income generator and employment activity is a market garden (Tambwe, 2010). A market garden is defined as a business based on providing a wide range and steady supply of fresh produce throughout the local growing season (RUAF, 2011). Many different varieties of crops are grown, in contrast with a practice known as monoculture, where large industrialised farms tend to specialise in high-volume production of single crops (*ibid*). Production sales are often through local fresh produce outlets and independent produce stores.

In some places, one will find lower and mid-level groups engaged in the activity, as well as richer people who are seeking a good investment for their capital (RUAF, 2011). Several urban agriculture participants were quoted in Maxwell's (1995) study as saying they realised that they could positively earn income from this type of agriculture. Interestingly, these commercial entrepreneurs included both men and women, usually from households with high income levels and access to credit, according to Maxwell's research. Several other studies have illustrated the positive economic benefits associated with urban agriculture, which demonstrate the total income earned from urban agricultural production and how the households used the income (Kutiwa, Boon and Devuyt, 2010; Armar-Klemesu and Maxwell, 1997).

In several African cities, income earned by urban farmers was found to be a significant contributor to household maintenance. Home gardens in Lusaka produced an average of three months' income at the average worker level in 1992 (15 000 Zambian kwachas in 1992), but was

extremely seasonal (Drescher, 1999). Farmers in Accra earned very little cash, but produced one to eight months' supply of staple food for their families and used their farm output as a consumption-smoothing and income-diversification strategy. Especially for vegetable growers, income from farming could represent significant amounts and proportions of total income. There are scattered examples of the commercial cultivation of exotic crops such as coffee or vanilla beans in Kampala (Maxwell *et al.*, 1998).

Nugent (2000) provides estimates from Dar es Salaam which indicate that full-time production of certain vegetables in a garden can produce an income of \$US60/month. This, she explains, is 30 percent higher than the average salary. The same is true for Nairobi families in slum areas, even though they sold relatively little and consumed their own output (Nugent, 2000). In her analysis of this contribution, she concludes that these families' standard of living exceeded that of neighbouring, non-farming families.

In Addis Ababa, there were recorded profits earned by producers, even smallest-scale backyard producers with very low capital (RUAF, 2011). Individual farmer's annual average profit was estimated at 1.6 times the annual minimum salary in Addis Ababa in 1998. The situation in Mozambique appears to be somewhat similar. Farming households engaged in urban agriculture in Mozambique generally sell their products (Freeman, 1991). In Ouagadougou, Burkina Faso, where a large proportion of the urban population is engaged in urban agriculture, there were 48 different sites in the city where home gardening was carried out for profit-making in 1997.

Urban agriculture is not only a source of food and income, but also employment. In other places, low income earners grow food for income generation. In low-income urban districts of Brazzaville and Nairobi, urban farmers contribute to formal and informal channels of food acquisition. They generate employment and additional or seasonal income for other basic needs (processed food), link up with the food trade, produce food products otherwise unaffordable and reduce dependence on purchased food (Moustier, 1996; Dennery, 1996).

We are told by Mougeot (2000) that urban agriculture constitutes 60 percent of the informal sector and is the second largest employer, employing 20 percent of those employed in Dar es

Salaam, Tanzania. In Nairobi in the early 1990s agriculture provided the highest self-employment earnings in small scale-enterprises and the third highest in all of urban Kenya (House *et al.*, 1993).

Concerning the state of urban agriculture in South Africa, Rogerson (1993) noted that the current scale of cultivation is relatively small compared to other developing countries. Many households do not produce sufficient vegetables or enough of a mix of crops to meet their consumption needs and this limits their income opportunities. Studies that calculate the income contribution are unlikely to estimate the size of this sector, because informal agricultural activities are not usually included. Most other studies focus attention on the potential of urban agriculture as a food security and nutrition strategy for households, or a poverty alleviation strategy (Smith, Yusuf, Bob and Neergaad, 2005).

There are very few studies from South Africa attempting to measure the informal employment contribution of urban agriculture. Nevertheless, the literature records that urban agriculture, including production on vacant land on the peripheries of South Africa's metropolitan areas, has grown increasingly significant as a strategy to combat joblessness (Rogerson, 1993). Evidence of participation in community projects in Pretoria and Cape Town points to the fact that the majority of the women engaged in urban agriculture had never been employed.

Community garden 'projects', where some share of the produce is marketed, of which most can be regarded as small-scale enterprises, are one model of open space urban agriculture activity that is very common in South Africa. The gardens operate on subsistence and commercial levels, with members consisting of women's groups, neighbours and community organisations (Smith *et al.*, 2005). In many urban sites in Cape Town, Gauteng and Durban, group gardening on open spaces occurs on relatively small plots to produce food and earn an income from excess production (Jacobs and Xaba, 2008; van Averbek, 2008; Oelofse *et al.*, 2007). Cultivation is done individually, while others show a formal or informal organisational structure.

Few of the project participants in the Smith (2005) Cape Town study, however, were willing or able to put in the seven days per week, 365 days per year effort needed to achieve own job

creation and job security. The explanation offered was that there was a broad-based feeling among people that “there must be an easier way”.

There is also the issue of continuity of households’ pursuit of urban agriculture, which is directly related to opportunity costs in most urban economies. In community gardens, one indication of this is the lack of continuity of individuals’ pursuit of urban agriculture enterprises, over time. There are other cash-generating opportunities that may become available in urban areas, which increase the opportunity costs of farming. For example, in a study conducted in Cape Town on the involvement in urban agriculture of women from low-income households, it was discovered that, as soon as the ‘project’ ended, people would simply move onto the next available project in the area, regardless of whether it was related to farming or not. This depicts a distorted picture of urban agriculture, where there is no commitment and people are simply looking for something to do. This means that because producing on a larger scale (than what they would normally produce in their household gardens) requires investment, and since most of these women live around the poverty line and cannot afford to invest in their own community gardening activities, especially at start-up, most of these women participated because this was a subsidised project. However, this is not a (qualitative and anecdotal) case which could be generalised to other urban agriculture projects in other communities where participants regard urban agriculture as a sustainable activity.

Indeed, urban agriculture activities in South Africa are rarely seen as the answer to formal employment, but as a temporary interlude until one finds a job. Many vulnerable participants in urban agriculture community projects tended to neglect their garden plots the moment a job opportunity arose (Oelofse *et al.*, 2007). Rogerson adds:

“Currently, the scale of cultivation taking place in South Africa is relatively small as compared to other developing countries. The key explanation for the underdeveloped urban agricultural sector is the greater returns to land and labour which may be earned from backyard shacks and alternative informal income opportunities in the city.”
(Rogerson, 2004: 21)

Something has to be said of the many other benefits that accrue to participants from associations with such collective farming enterprises in these 'projects,' e.g. community welfare, social solidarity, women's empowerment. A variety of scattered studies conducted in different parts of South Africa have shown that maintaining a community garden was seen as a vehicle for rebuilding community relations and self-confidence (Oelofse *et al.*, 2007). In a women's food gardening project in Cape Town, there were strong social benefits among the urban poor women who participated in this project (Abalimi Bezekhaya, 2005). Women attached great importance to their food gardens, even though they did not earn a significant income from their activity. Urban agriculture was nevertheless regarded as an empowerment strategy by the women (Slater, 2001).

In Pretoria, van Averbek (2001) reported on the results of a study where women predominated. The contribution to total household income and food security was generally modest, but the livelihood benefits derived from urban agriculture extended beyond material gain, reducing social alienation and the disintegration of families associated with poverty. There were strong social benefits among the urban poor women who participated in this project (Abalimi Bezekhaya, 2005).

3.5 THE SCALE AND EXTENT OF URBAN AGRICULTURE

The United Nations Development Programme (UNDP, 1996) estimates that 800 million people are engaged in urban agriculture world-wide, with the majority in Asian cities. Of these, 200 million are considered to be market producers, employing 150 million people, full-time (Mougeot, 2000; UNDP 1996; FAO, 1999). It is reckoned that these urban farmers produce about 15 percent of the world's food (Mougeot, 2000).

Table 3.3 presents statistics concerning urban farmers from four parts of the world. The data seems to validate the statement that the majority of participants in urban agriculture are to be found in Asia. Latin America also records high percentages of the population participating in urban agriculture, followed by African countries and then Eastern Europe.

Table 3.3: Urban participation in agricultural activities (% of population)

Africa		Eastern Europe	
Ghana	38	Albania	18
Madagascar	30	Bulgaria	23
Malawi	45	Latin America	
Nigeria	29	Ecuador	17
Asia		Guatemala	35
Bangladesh	26	Nicaragua	65
Indonesia	10	Panama	31
Nepal	52		
Pakistan	4		
Vietnam	65		

Source: Food Policy, 2011

In Africa, other statistics provided by the FAO showed that 40 percent of urban dwellers are involved in some form of agricultural activity (FAO, 2011). Urban dwellers all over Africa undertake some cultivation, and it is the main occupation for many in the smaller towns. Yet it is impossible to determine what proportion of their population are involved in production, or gains a living from the land, because many combine farming with other activities (O'Connor, 1983: 137, cited in Freeman, 1991).

Table 3.4: Urban agriculture participation rates in developing country capital cities

City	Percentage (%)
Harare (Zimbabwe)	80
Zaria (Nigeria)	80
Kano (Nigeria)	75
Lusaka (Zambia)	45-60
Dar es Salaam (Tanzania)	44-70
Ouagadougou (Burkina Faso)	36
Kampala (Uganda)	35
Yaounde (Cameroon)	35
Nairobi (Kenya)	29
Kampala (Uganda)	25-57
Kumasi (Ghana)	25

Source: Smith (2002: 24); Bowyer-Bower and Drakakis-Smith (1996); Maxwell, Levin and Csete (1998); FAO (2011); Gerstl, Cisse and Tanner (2002)

Smith (2002) has calculated the proportion of urban agriculture participation in recent years for African people engaged in food production in several developing country capital cities (Table 3.4).

This data indicates that urban agriculture is an important employer in the south, with the highest proportions of participants to be found in Harare, Zimbabwe, and in Zaria, Nigeria, both at 80 percent. In the mid-1980s, Lee-Smith *et al.*, (1987) reported that 20 percent of Nairobi households were growing crops within the city limits. Table 3.4 shows that this proportion had increased by 2002. For Nairobi, Kenya, higher proportions can still be found in smaller towns, at 57 and 30 percent in Kitui and Mombasa, respectively.

There are other examples from developing countries that illustrate the contribution of urban agriculture in terms of yields. Some of the most prominent in Asia include:

- Sixty percent of the city's vegetables in the urban and peri-urban areas of Shanghai.
- In Beijing and Hanoi, more than half of the vegetable supply comes from market gardens; 150 000 tonnes of fruit and vegetables produced in Hanoi per year.
- In Java, home gardens provide for 18 percent of caloric consumption and 14 percent of the proteins for the urban population (RUIAF, 2011).

Nugent (2000) is of the opinion that urban agriculture is probably a significant sector activity in more cities than only where official records are kept. It is certainly more important than what such records reveal. Censuses tend to focus on particular productions (e.g. livestock in Kampala), or on the contribution of urban agriculture in terms of its share towards GDP, or its economic value based on yields. Focus in most cases is only on officially recognised activities and the larger share of the producers are disregarded.

3.6 CONCLUSION

Internationally, there is a growth in the numbers of people working in the informal economy and in urban agriculture as a result of economic conditions. The aim of this review was to employ the informal economy theoretical framework in the analysis of urban agriculture participation as a

strategy employed by people and households to deal with these conditions, which coincided with sharp increases in poverty and unemployment in most developing countries.

It would appear from the review of the literature on urban agriculture participation presented in this chapter that urban agriculture participants engage in a mixed strategy of food supplementation, income generation and employment, as well as leisure and socialisation. This is done in order to reduce food expenditure, to compensate for loss of income and/or to compensate for rising food prices. Urban agriculture is vastly heterogeneous and it is undertaken by all income groups. It is an activity in which the poor are disproportionately represented. A common feature of urban agriculture in most countries appears to be that it is geared towards own-consumption. Although urban agriculture is a significant source of food and income for urban individuals and households in much of Africa, particular groups in urban areas for which urban agriculture makes up a sizable share of their income, in comparison to those who rely on the production of crops for food. Women constitute an important part of urban agriculture participants since they can more easily integrate it with their other tasks in the household.

Given the general belief that urban agriculture is likely to increase due to economic hardships and persisting unemployment, the potential for urban agriculture to play a role in reducing urban poverty cannot be dismissed or underestimated.

CHAPTER FOUR METHODOLOGY AND RESEARCH DESIGN

4.1 INTRODUCTION AND BACKGROUND

This chapter outlines the major methods used in the collection and analysis of data. The study utilised both quantitative and qualitative methods to look at urban farming issues in KwaZulu-Natal (KZN). Statistical evidence for the study was provided by the KwaZulu-Natal Income Dynamics Study (KIDS), which provides the *quantitative* data. A smaller-scale *qualitative* farmer survey was also undertaken in two different communities in KZN, *viz.* eNdaleni and Cliffdale, using a semi-structured questionnaire to document, in farmers' own words, their experiences and practices of farming in an urban environment, as well as key informant interviews. The chapter is divided into two major sections, which outline the research design, methods, sampling, selection of data collection instruments and use of specific analytic techniques for each of the two main quantitative and qualitative data study components.

4.2 QUANTITATIVE DATA METHODS AND ANALYSIS

This thesis uses a sub-set of the KIDS quantitative study to analyse participation in urban agriculture from 1993 – 2004. A brief overview of the KIDS panel study is first given.

4.2.1 An overview of the KIDS panel study

Prior to the democratic election of the South African government, there was a lack of comprehensive data to formulate policies aimed at reducing poverty. This was a situation that was due to the 'selective nature' of the apartheid government in terms of collective statistics. In the last half of 1993, nine months prior to April 1994, when the country's first ever democratic elections took place, the country's first nationally representative, multi-purpose survey was undertaken by the National Project for Statistics on Living Standards and Development (PSLSD). This study was a collaborative project that was conducted by a combination of South African and international research groups. The KwaZulu-Natal Income Dynamics Study (KIDS) is a database that was derived from the PSLSD study of households first surveyed in 1993 and

re-interviewed in 1998 and 2004. The KIDS study therefore spans the transition to democracy in South Africa.

The KIDS study was developed in an attempt to address the limitations of once-off cross-sectional surveys (Roberts, 2001). In 1993, the original PSLSD study was comprised of approximately 9 000 households. In 1998, the KIDS study re-surveyed only the Black and Indian households in KwaZulu-Natal and more questions were collected, in addition to the data collected in 1993. White and coloured households were excluded from the sampling frame, due to bias and an apparent non-representativeness at the ethnic group level (May *et al.*, 2000). Approximately 1 400 households were first surveyed in 1993 and the same households were re-surveyed in 1998, between March and May. Figure 4.1 shows the areas that were covered in the KIDS survey.



Figure 4.1 Map showing KIDS survey areas

The objective of the 1998 KIDS study was to collect follow-up information for a subset of 1178 households from the 1993 PSLSD study, specifically those in KwaZulu-Natal. The 1993 sample was selected using a two-stage self-weighting design. Stage one used census enumerator districts (ESDs) from Census 1985 to choose clusters proportional to population size. In cases where ESDs were not available, approximate equivalents were used. Stage two randomly selected households in each chosen cluster after all households within that cluster had been enumerated. KIDS then further re-interviewed and collected data in 2004, thus providing longitudinal data essential in formulating poverty reduction strategies that capture the change in households over a period of time (May *et al.*, 2005). In 2004, 867 of the households were re-interviewed for the third wave of the study.

While this data has allowed for important redress of findings from the PSLSD data, it has also brought forth a new focus in poverty dynamics research – the consideration of longitudinal patterns in poverty. As with other surveys, KIDS has allowed for analysis of correlations between certain demographic characteristics of households and their poverty level. More significantly, however, due to KIDS administration in both 1998 and 2004, it has allowed for the study of trends in poverty, over time, and issues of chronic and transitory poverty (May, 2000). The advantage of the KIDS study is that analysis can be made of the change in behaviour of different households and KIDS therefore provides longitudinal data that is essential if one is to understand the movements into and out of poverty (Hulme and Shepard, 2003; May and Roberts, 2001).

KIDS was an international collaborative study between research academics at institutions in Europe, the United States of America and South Africa. The main instrument used for data collection was a comprehensive household survey, addressing a variety of questions, on the social and economic conditions of households.

4.2.2 The KIDS questionnaire

The questionnaire is divided into several modules, covering various areas such as: (1) household services; (2) food spending and consumption; (3) non-food spending and assets; (4) remittances; (5) household income from non-employment sources; (6) economic shocks; (7) agriculture; (8)

employment; (9) health; (10) social capital and trust; (11) children; (12) tests of learning and anthropometry. This questionnaire also recorded information on household members' personal and demographic details in the household roster. Each wave of KIDS asked almost identical questions as the PSLSD, but added new questions about individual participants in *agricultural activities* in the latest 2004 survey.

KIDS recorded this information for all household members, i.e. resident and non-residents who were economically linked to households. From the original questionnaire drawn up in 1993, subsequent surveys distinguished between these *core* households and any household members that joined in the later surveys – designated *next generation* – and households that split from the original household (*foster*). Details of the definitions and their consequences can be found in May *et al.*, (2000) and in May *et al.*, (2007). These cross-sectional studies can be linked via a unique household identification number, thereby forming a panel that allows for longitudinal analysis of changes over time.

Part of the rationale for using the KIDS data for analysis of agricultural participation in KwaZulu-Natal is that the agricultural module of this study has yet to be systematically analysed and no-one has looked at these trends and changes, over time. Moreover, nobody has ever gone inside the households to examine the *individual participants* in urban agricultural activities, which is an important nuance.

I was invited to be part of the KIDS research team in the last wave of the survey in 2004. I participated in amending and redrafting the survey questionnaire (particularly the agricultural module), in the scan to track people who had moved to new dwelling units from the previous waves and in the piloting of the questionnaire. I was also involved in the training of fieldworkers who were contracted to collect the data for the agricultural module section of the questionnaire. In the field, completion of the approved final questionnaire took close to three hours, on average. This often required repeat visits in order to overcome respondent fatigue. The fieldwork was

concluded on 10 January 2005 and the data were placed into the public domain in June 2006, after being cleaned.²⁰

4.3 STATISTICAL DATA PROCESSING AND ANALYSIS

Literature on urban agriculture mentions the practice taking place in certain areas or in specific places - in the city proper, within urban areas and in areas on the periphery in what has come to be known as peri-urban agriculture. The method I used for selecting urban farming areas (in order to locate the households and individuals who engage), is described and justified in this section. Urban agricultural literature consistently identifies certain core individual and household socio-economic characteristics as being dominant in this activity, such as unemployed people, women and female-headed households, the poor, the poorly educated and people who come from large households. From the KIDS panel data, I analysed all these variables, each in their own specific way. The methodology employed in selecting, processing and analysing each of these variables for the thesis is discussed, in turn.

4.3.1 The ‘urban-rural’ distinction

In South Africa, there is no agreed definition of what is ‘urban’ and what is ‘rural’, as boundaries have shifted over time and rural areas have evolved into urban areas. The definition of urban, metro and rural is, as it is, such that there is no logic behind it, so that an ‘urban’/‘rural’ dichotomy does not make a lot of sense in the same way that people were classified as either white or Black during apartheid. Previously, an area was designated as urban-based if there was a municipality present. In the context of South Africa, however, such was the design of apartheid planning and zoning that there were black spots (people who were forcibly removed), resulting in what became known as Bantustan agriculture. This was practised on land that was inferior in comparison to what was available for whites. Post-apartheid, and starting in 2001, municipalities

²⁰ For further KIDS Survey Materials and Approaches sources please see: May, J., Agüero, J., Carter, M. and Timaeus I. (2007) The KwaZulu-Natal Income Dynamics Study (KIDS) 3rd wave: methods, first findings and an agenda for further research. *Development Southern Africa*, 24(5): 629-648; May, J., Carter, M., Haddad, L. and Maluccio, J. (1999) KwaZulu-Natal Income Dynamics Study (KIDS) 1993 – 1998: A Longitudinal Household Data Set for South African Policy Analysis. Working Paper No. 21.

in South Africa went through a transformation process and there is now the notion of wall-to-wall municipalities.²¹

The questionable usefulness of the ‘urban-rural’ distinction has been raised by many other researchers (Adato, Lund and Mhlongo, 2004; Mabin 1988). This notion was also discussed by Alan Mabin in his paper titled ‘Displaced Urbanisation’, as early as 1980. The author argued that what has happened in South Africa is that urban areas have been pushed into rural areas and there are now areas that look urban, but are rural. So, while defining what urban agriculture is may be very diverse on an international scale, in any local area this activity may take on a homogeneous form, such as is the case with urban agricultural activities in many Black settlement areas in South Africa.

Much has changed in the definition of urban and rural over the years. Definitions on ‘urban,’ ‘peri-urban,’ and ‘rural’ are contested, not least because some cases form part of a continuum, with unclear boundaries. The accepted international standard for defining urban areas is that which was adopted by the United Nations (UN). The UN definition recommends that the criterion to be used is to classify urban as areas as having greater than 500 people per square kilometre.

KIDS used the designations of urban, rural and metro, as well as the census 1985 and later, in 2004, used Global Positioning System (GPS) technology to determine the population density in an area. It is possible that over the 10 years of the KIDS data collection period (1993-2004), there are households which might have originally been classified as rural in 1993, which are now urban. A population density variable was included in KIDS after geo-referenced data on the location of every household was collected using GPS devices in 2004. To circumvent problems emanating from inconsistent and changing definitions, for this thesis I adapted the UN definition of urban to obtain a stratified sub-sample for analysis from KIDS. This was informed by the population density of an area, where I considered urban agriculture to be an activity that is

²¹ This notion refers to spatial rezoning in South Africa, where every part of the country is covered by a municipality. The key element of the system of restructuring was the demarcation process in 2000 that entailed new wall-to-wall municipal boundaries with the intention of ensuring economically viable and financially sustainable municipalities with the capacity to deliver services to communities efficiently (Department of Local and Provincial Government, 2008).

practised in areas with a population density of over 250 people per square kilometre. I classified areas below this threshold as non-urban areas. I then merged this variable with the previous surveys of KIDS, and used the same stratification method to select urban households in 1998 and 1993.

This kind of stratification is informative about the dynamics of urban agriculture, over time. It shows whether or not urban agriculture is something that happens as areas become denser or as they sprawl. Thereafter, urban households were linked to the agricultural module in KIDS to get a sample of all urban farming individuals and households for the cross-sectional analyses of their socio-economic characteristics. Only households which cultivate crops were selected, although it is acknowledged that most households engage in a mix of urban agricultural practices that include animal husbandry. I used only core KIDS questionnaires²² split households were excluded from the analysis.

4.3.2 Measurement of urban agricultural participation by individuals and households

Only in the 2004 KIDS wave, respondents from households who engaged in agriculture were asked the question ‘*who are the three most involved members in agricultural activities*’. After selecting only urban households, this became my sample of *individual* participants in urban agriculture from these households.

I used the variables “*agincome*” from 1993 and “*hhyagr*” from 1998 and 2004 to distinguish between the two categories of households based on whether households derived any income from their farming activities (classified as urban agriculture – UA) or not (classified as non-urban agriculture – NUA). This is the stratification used in the constructed KIDS files. Households that reported negative incomes from their farming activities were included in the sub-sample of farming households. Due to inconsistencies emanating from some households reporting that they farmed, and there not being any corresponding information captured on their

²² The KIDS study designated all members from the 1993 survey as core households (C). In the later waves of the study, households of children of core individuals who had established a new household and now have children of their own were designated as Next Generation cores (K) and households from core individuals’ underage children who had been fostered out of the original households were designated foster children (K).

farming activities, these constructed files were more accurate to use to distinguish between farming and non-farming households. The classification used, however, was consistent across all three waves.

4.3.3 Measurement of unemployment

Analysing studies such as the National Income Dynamics Study (NIDS), May and Carter (2009) reported that slightly more than 1.25 million people (or 4.6 percent) of the adult population in South Africa participated in some form of agricultural production. It is not always clear for what reasons individuals and households engage in agricultural production.

Part of my research question is to establish whether or not people who engage in urban agriculture have trouble finding formal wage jobs. In this analysis, I calculated the total number of all unemployed household members, expressed as a percentage of the labour force. The labour force in this case was the total number of all employed persons plus the total number of all unemployed, including those not looking for employment (also including those in unpaid domestic work, plus the number unemployed and looking for work). This analysis was confined to working age people, i.e. between the ages of 16 and 60 for women and 16 and 65 for men.

People who were willing and able to work, including the self-employed or unemployed, i.e. the economically active, as well as the non-economically active who were not able to work, or did not wish to work, were also included, because I was interested in finding the reasons for this. This relates to the definition of unemployment used in South Africa, as alluded to in the conceptual framework in Chapter Two. In South Africa, discouraged work-seekers who may not have looked for work in the four weeks before they were interviewed for the labour force surveys conducted by Statistics South Africa (StatsSA, 2003) are counted as unemployed. Many people who really do want work face problems such as high travel costs that prevent them from looking for it. My analysis of the unemployed sought to investigate the reasons for this.

Since the direction of causality was a concern, I calculated unemployment rates for areas where the farming households are located. It was of interest to investigate whether people are unemployed because they are working in urban agriculture, or whether they are working in urban

agriculture because they are unemployed. Indeed, unemployment could both be a cause and effect of participation in urban agriculture and *vice versa*. To reiterate, part of my thesis sought to investigate the question that, in the absence of formal, wage employment, people get involved in urban agriculture. In my analysis, I calculated the unemployment rate of a local area first and thereafter I used these aggregated rates at the household level and then at the level of the cluster, i.e. the local area where the household was located. Again, these were calculated for people who were actively looking for work.²³

4.3.4 Measurement of transitions

Literature on urban agriculture considers that the poverty and unemployment crises, which were triggered by economic transition, caused firms to informalise and the informal economy to expand, and the expansion in urban agricultural activity is also as a cause of this. I was interested to analyse transitions into and out of urban agriculture by individuals and households, over time. Another part of my research question was that people who have transited out of the formal labour market get involved in urban agriculture. To analyse this, I constructed transition matrices - a widely used and simple way to represent dynamic movements - which is an approach favoured by most analysts of the KIDS panel data. Via this conventional method, therefore, it was possible for me to analyse movements into urban agriculture associated with changes over time (refer to section 4.3.7).

The KIDS surveys provide information about the activities of household members by employment status. Combining the two survey rounds from 1998 to 2004, it was possible to establish the transitions of the economically active household members who form part of the labour force. Two-wave transition analyses were performed and the activity of the individuals from the 2004 wave were compared to the activity of the same individuals in the previous, 1998, wave. By selecting all the identified individual participants in urban agriculture activities from urban agricultural households in 2004, and then merging these to their activity by employment

²³ In the employment module in KIDS, the question asked the respondent to '*state the number of hours devoted to looking for more work in the last week*'. Individuals gave a range of time spent doing this from 0.5 hours to a maximum of 120 hours. People who were actively looking for work were therefore all persons who had spent any amount of time searching for work in the week prior to the conduction of the survey.

status in the two waves, it was possible to establish the transitions in activity and changes over time.

These analyses could shed light on the reasons why people chose to engage in, or disengage from, urban agriculture. The household transitions that I could analyse were of those households who engaged in urban agriculture in one, two or all the three waves of the KIDS study. My analyses also noted those households that did not engage in urban agriculture in any of the waves.

4.3.5 Measurement of educational level

Although the literature on urban agriculture asserts that people of all educational backgrounds get involved in urban agriculture (Obosu-Mensah, 1999), it was noted how the majority of those who engage are mostly poorly educated and from poorly educated households. The measurement of household educational levels was standardised across the three KIDS surveys. In the earlier surveys, the education variable in South Africa had not been captured according to what is now the adopted grade system. People's education was recorded as, for example, standard two for a grade four education. I converted all these educational levels to the same standard of enumerating the number of years of education that a person has attained, in order to obtain comparability across the waves.

4.3.6 Identification of household head

The literature on urban agriculture alludes to notions of more female-headed households tending to participate in urban agriculture than is the case for male-headed households, or even, as the case may be, than households who do not engage in urban agriculture.

Assessing the gender of the head of household presented a quandary, in relation to how this variable was captured in the last wave of the KIDS survey in 2004, for a number of reasons. In this year's survey, households were given the option of listing a resident and absentee household head (*de facto* heads), as well as a 'shoe in' when the head was not around (*de jure* heads). This

created a dilemma, since in the previous waves data was only collected pertaining to one head of household.

To resolve this, I had to improvise and did this by systematically checking for each household who the oldest person was, or who the employed person in the house was, or who was identified as the spouse of the head, and I assigned that person's gender as the sex of the head. May (2009) has employed similar methodology to identify the gender of household heads, whilst analysing the same KIDS data. I followed this system so as to go beyond what might more conventionally be called heads of households, which might have resulted in overlooking other relevant household decision-makers. Whilst mindful of the powerful influence/dominance of women in urban agriculture households, and how critical it was to correctly assign the gender of the head, I took every effort to do this in a consistent and painstaking manner that avoided unnecessary biases towards any gender for good analysis to unfold.

4.3.7 Measurement of poverty incidence

In this study, I was also interested in investigating the relationship between poverty and engagement in urban agriculture. A poverty line enables one to enumerate the poor. However, the definition and measurement of poverty has differing interpretations. The development of an official poverty line, as well as what the most appropriate measure of well-being would be, remains under debate. Analysis also differs according to survey and analytical methodologies (May, 2006).

In the KIDS study a poverty line of R322 has often been used. It is important to note that a poverty line has its limitations due to its arbitrary nature. For example, if comparisons are made between two households, one with a per capita of R323 and another of R321, there will be very little difference in their status, but the profile will put them into two separate categories (Woolard & Leibbrandt, 1999). The poverty line²⁴ used in KIDS is based on a household's consumption (Deaton & Case, 1988) and divides the population into two groups on the basis of the poverty line of R322 per month in 1998 prices, suggested for South Africa by Hoogeveen and Özler

²⁴ In this study, measurement of poverty did not look at the multidimensionality aspect of this instead; income poverty was measured since this is what was captured on the KIDS data.

(May, 2005: 7). A household can either be classified as poor or non-poor if their consumption falls below R322 or is above this figure. Expenditure is the living standards indicator of choice for the analysis of the KIDS data, since income has been revealed to be a poor proxy for this and expenditure is often more reliably reported and more stable than income.

In order to account for inflation between the three KIDS waves, household expenditure was adjusted using the consumer price index (CPI).²⁵ Households differ in size and demographic make-up and a straightforward comparison of household consumption may not give a true picture. In this regard, it is common practice to use some form of normalisation. I made some adjustments in the calculation of the poverty measure by using adult equivalent (ADEQ) scales and in order to take account of economies of scale, which is a method I adopted from May (2000).

An equivalence scale expresses the number of people in a household as “equivalent” adults, or even equivalent males or females. This is to remove the bias of economies of scale and child costs. Child costs stem from the fact that food-wise, and in terms of consumption, it costs less to maintain a child in the household than an adult (May, 2000). One may argue, however, that although a child costs less to maintain in terms of food, a child may cost more than an adult when it comes to education or health (Woolard & Leibbrandt, 1999). With economies of scale, a household of 10 members will consume much more than a household of one. Despite its limitation, ADEQ is a better measure to use.

Following May *et al.*, (1995) and Woolard and Barberton (1998), the equivalence used for the KIDS data assumes that children younger than 15 have half the consumption requirements of an adult and small economies of scale are allowed for, as illustrated by the following equation:

$$\text{ADEQ} = (A + 0.5 \times C)^{0.9} \quad \text{equation 4.1}$$

A represents the number of resident adult household members older than 15 years, C the number of children and 0.5 is the child cost ratio and 0.9 the economies of scale parameter, which was

²⁵ CPI adjustments for each KIDS survey were set at constant 2000 prices. These were, respectively, 1.605, 1.114 and 0.812, for 1993, 1998 and 2004.

set in line with Deaton's suggestion (Woolard and Leibbrandt, 1999). Dividing total household expenditure by ADEQ results in scaled *per capita* measures.

4.3.8 Logistical regression modelling

I also performed regression modelling to investigate the likelihood that an individual and/or household will participate in urban agriculture. For individuals, I calculated the likelihood for engagement in 2004 only, since this was the only year for which data on individuals was collected for the first time in the KIDS study. I took into account individual characteristics, such as age, gender, education and main activity status. The main activity status compared the likelihood of participants who had lost employment (in the period from 1998 to 2004), compared with other kinds of people in the labour market. Participation in urban agriculture was coded in 0,1 scale, and I obtained predicted probabilities from a logistic regression. The procedure followed for the household modelling was similar.

4.4 QUALITATIVE DATA METHODS

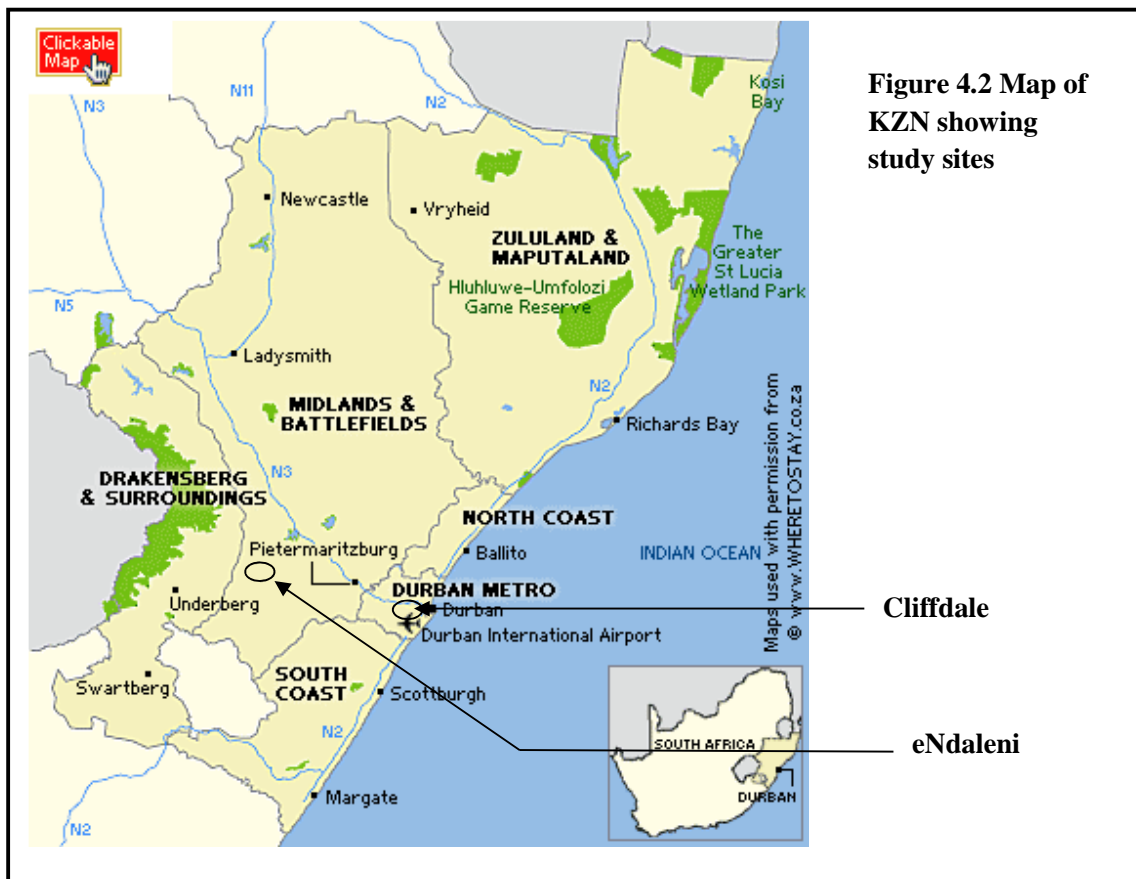
This study used qualitative data methods to analyse the nature of urban agricultural participation by individuals and households from KwaZulu-Natal. The qualitative component to the study provided a valuable complement to the statistical KIDS quantitative data and analyses that dominated the study. These qualitative methods provided a rich, in-depth understanding of urban agriculture practice which quantitative surveys miss. The qualitative component analysed urban agriculture as it typically occurs in KwaZulu-Natal, but I cannot claim that this is generalisable in a statistical sense.

Purposive sampling with representative categories of farmers was employed, while the instrument used for data collection was a semi-structured questionnaire. Supplementary data was used from published sources to give a contextual background of the two communities. Other qualitative methods employed included interviews, participatory methods, participant observation, informal conversation and interviews with key informants. The objective was to generate information on different categories of urban agriculture for comparison, one of which is unique to the province of KwaZulu-Natal. Each of these methods is discussed, in turn.

4.4.1 Purposive sampling

Purposive sampling is consistent with naturalistic enquiry and is based on the nature of the information sought and how it could be acquired (epistemology), as well as the objectives of the research. I engaged in purposive sampling as a strategic choice about whom, where and how to conduct my qualitative research. As has been previously explained, KIDS used a sample of Black and Indian households from KwaZulu-Natal and this is what influenced the selection of the particular qualitative study areas.

The literature on urban agriculture maintains that farmers are located in unplanned areas, using vacant and unused land, as well as in the city proper. Two communities from eNdaleni and Cliffdale were purposively selected, based on the typologies of urban farming that was predominant in the area (Figure 4.1).



The criteria used for selecting the Cliffdale producers was that they were made up of ‘typical urban agriculture cases’, since they are a well-known group of urban producers from KwaZulu-Natal, who have had a long history of farming in the area on the outskirts of Durban. I was much more interested in finding out why they had consistently engaged in urban agriculture, the processes by which they went about doing this and the role urban agriculture played in their lives. This kind of purposive sampling was of interest to me because they represented the most unambiguous instance of sustainable urban agriculture I was interested in. This kind of sampling involved searching for individuals who met the criteria and I surmised that they would have particular life experiences. The information on the level of urban farming was derived from responses by farmers and household members, as well as from field observations.

Box 1: Brief background to the Indian market gardeners

During the apartheid period in South Africa, many agricultural policies favoured mostly white farmers who were heavily subsidised in land, fertilizers and seeds, implements (tractors, harvesters) so that farmers were guaranteed a return on their investment. Small-scale Black farmers were largely neglected. However, there were some non-white farmers who managed to get past this racist system. These were the Indian market gardeners from KZN. Market gardening (and as the term is referred to in this study), is a specific term used around Durban and specifically for Indian families that have been engaging in urban agriculture as a viable commercial activity and who have long historical trajectories of being involved in this practice (Freund, 1991).

According to Freund (1991), much of the Indian population in Natal went through a peasant phase of production. This happened between the phase of indentured labour and the emergence of a large class of industrial workers. This process was characterised by intense market commitment and family labour exploitation. The market gardeners who are located in the urban periphery are one grouping that made their fortunes under segregation and then apartheid and under the changing face of South Africa’s trajectory to economic transition and open markets.

For historical reasons, therefore, the Indian market gardeners, of which Cliffdale forms just one community, have become well established urban farmers. Located just outside of Durban, they provide a model of success in the area of urban agriculture. Farmers in this category have become market-oriented, commercial farmers on a regular basis. Market gardeners have more land and income in terms of agriculture and asset utilisation. For most farmers in this community, the opportunity to farm has been lucrative because of their nearby location to agricultural markets, transportation and marketing infrastructure. Indian market gardeners have long established marketing networks and farmers in these communities belong to various farmers’ associations.

For further reading on the socio-political history of the Indian market gardeners, refer to Freund (1991).

The Cliffdale community was chosen to provide a picture of urban farmers that is unique to the province of KwaZulu-Natal, based on the typology of urban farming that was predominant in the area, *viz.* market gardening. This group can be viewed as an independent reference group, wherein urban agriculture forms their entrepreneurial and income generation strategy of choice, rather than as a last resort. Their type of urban agriculture is commercially viable and the group produces food directly for the urban market. All the farmers belonged to the Cliffdale Farmers' Association (CFA), which had been established over 30 years ago, and membership of this association was by default, i.e. membership was part of the inheritance farmers obtained from their forefathers, along with their farms. Box 1 gives a brief contextual background of the Indian market gardeners from the community of Cliffdale.

The eNdaleni community was chosen as a sample area as it falls under the KIDS panel survey of clusters. It could be directly compared to, and was critical for, the interpretation of the quantitative findings from the KIDS data. This was also useful in supporting conclusions grounded in statistics and was used to enhance and extend the meaning of numbers obtained from analysis of the KIDS quantitative data.

eNdaleni forms part of the Richmond Local Municipality, which falls under the uMgungundlovu District Municipality and is located in the KwaZulu-Natal province. The community is located about seven kilometres outside of Richmond town. Social life in the community and opportunities for regular interaction between members of the community are formed by the monthly 'pension days' and by the 'mobile clinic days'. Government grants are paid out by a mobile pay point,²⁶ while outside the gates of the Mission Post, an informal market is laid out. The pensions are the main source of income for many households. At the market outside the Mission Post gates, local people and merchants who move from pension pay point to pension pay point sell various items. Poverty is a daily reality for most people from eNdaleni. Poverty affects the community as a whole and the daily affairs of many families. People in this community generally refer to a lack of jobs as the main cause of their poverty. About 60 percent of the adult

²⁶ Government Grants include Old Age and Disability Grants (R740/month in 2004) and Child Support Grants (R 170/month in 2004).

population have no regular jobs (Richmond Municipality Integrated Development Plan, 2006). They try to find jobs in nearby cities such as Pietermaritzburg and Durban.

The density of population at eNdaleni is very high²⁷ and urban farming takes place wherever land is available. There are different typologies of urban agricultural activity at Endaleni, where this takes the form of one of three different arrangements. It can be practised on an individual basis on home gardens, on an individual household basis on community gardens, or as a collective farming operation with other households on community garden plots. Some households farm individually on these community garden plots (with an allocated, sub-divided site), whilst others farm collectively. The most common way to earn money by most community members is to work in neighbouring white-owned farms as 'contract' labour, or to sell items on pension days. None of these options guarantees a regular income.

To some extent, eNdaleni community is dominated by agricultural activities, both urban agriculture and other. Urban agriculture, however, is not regarded as a wealth-inducing activity. Produce such as pumpkins, maize, beans, sweet potatoes and amadumbe (Egyptian taro) is grown in the fields in and around their homes. Tasks commonly associated with women in this township are working in these fields, as well as cooking, looking after children and working on nearby commercial farms to earn additional income for their households. There is an historic explanation forwarded in the literature for there not being a peasantry in agriculture in South Africa,²⁸ unlike in many other countries in Africa and other developing countries. This is due to the racially skewed past in terms of farmer support, which resulted in many Black farmers farming for subsistence only, and many more abandoning this mode of livelihood for wage labour (Freund, 1991).

²⁷ The Richmond Municipality is situated about 38 kilometres southwest of Pietermaritzburg and about 100 kilometres west of Durban. In 1994, at the time of the first general elections in South Africa, the Richmond municipality measured only six square kilometres. In 1996, through the inclusion of the former townships, eNdaleni, eSimozomeni and KwaMagoda, Richmond became an area of about 450 square kilometres (Ragavaloo, 2008). About the demographics of the Richmond Municipality, by the end of the year 2000, Goodenough (2004) states that the population is estimated at about 74 000... the unemployment is estimated to be about 38 percent (compared to 23 percent nationally). An estimated 77 percent of households in Richmond earn less than R1 500 per month.

²⁸ This is in terms of farmer support, which resulted in many Black farmers abandoning the subsistence mode of livelihood for wage labour.

Literature on urban agriculture refers to instances where some level of institutional support is advanced to farmers by various organisations that seek to promote urban agriculture in an area (Tambwe, 2010). Since the late 1990s, several initiatives have been taken by government and non-governmental organisations (NGOs) to assist the eNdaleni community to improve their living conditions. The ongoing government initiatives include assistance with extension support and with the provision of seeds and fencing to community members who engage in farming on community garden 'projects'. At the time of conducting the survey, the provincial Department of Agriculture had various initiatives aimed at promoting agriculture and assisting small-scale farmers in the area to become prosperous and sustainable in their agricultural endeavours, as well as to promote job creation. To this end, the Department provided farmers with inputs such as fertilizers, fencing material, seeds and assistance with the marketing of their produce.

Through the Department's extension services programme, community gardening farmer groups in the area of Endaleni were periodically given training lessons and demonstrations on a variety of agricultural-related topics, which facilitated better crop production and marketing strategies. However, benefits with farmer support programmes seemed to be biased heavily towards farmers working in groups in community gardens. NGOs working in the area, such as the African Co-operative Agricultural Trust (ACAT), had a field worker stationed in the community to teach people alternative methods of fertilizing and maintaining their fields and how to grow vegetables like cabbages, potatoes and carrots. Land was allocated to community gardening farmers by the local government and church groups in the area. These are further compelling reasons why this community was purposively selected for carrying out this research.

The urban agriculture literature asserts that there are two main areas that urban farmers use, *viz.* private spaces on home gardens and open spaces, either in areas specifically zoned for this purpose, such as community gardens, or in vacant and unused land. Hence, three main criteria were used to select farmers for the purpose of illustrating the different categories of urban farming in KwaZulu-Natal: (1) producers on household backyard gardens; (2) producers on open spaces in community gardens; and (3) market gardeners. The categorisation of farmers into backyard gardeners, community gardeners and market gardeners used visual observation of

where the gardens were located to draw seven households from each category. The gender breakdown of the survey participants was 15 male and 6 female.

Literature on urban agriculture recognises that this practice is dominated by low-income households, although some middle and high-income earners are involved, particularly for income generation purposes. Seven farmers were selected for interviewing as potential ‘information rich’ cases from each of the three categories from the two communities, making up a total sample of 21 farming households (see Table 4.1).

Table 4.1: Categories of urban farmers from two communities in KwaZulu-Natal, 2004

	Endaleni Community		Cliffdale Community
Category	Backyard gardeners	Community gardeners	Market gardeners
n	7	7	7

N=21

According to Erlandson, Harris, Skipper and Allen (1993), this is a very important step in naturalistic inquiry. A respondent who satisfies such criteria is able to critically reflect, explain and share his/her perspective on the phenomenon under analysis. Furthermore, and again consistent with naturalistic inquiry, the figure making up the total sample included is not problematic; it is the quality of the information gathered and not the quantity which is important (Erlandson *et al.*, 1993: 84).

I was confident that the seven cases selected from each of the farmer categories would elucidate the farming practices and experiences, reality, perspectives and nuances of urban farming. The primary field research took place over a three-month period, from August to November 2004. This fieldwork included a survey of the 21 households; 14 from eNdaleni and seven from Cliffdale, and informal interviews were also conducted with over 42 residents and agricultural officials working in the areas. Officially, the eNdaleni community is classified as a peri-urban area and most households engage in low-input subsistence agricultural production, while the Cliffdale community is classified as an urban area and most households engage in capital-intensive, market-oriented, agricultural production.

4.4.2 Semi-structured interviews

The interviews with the three categories of farmers that were selected for the study were informal, open-ended and flexible, yet they covered a core set of themes and topics. In order to focus discussions, a short list of directed questions was developed and referred to in order to guide the conversations. This method of interviewing is the best way for respondents to reply freely to questions and, according to Chamba (2005), they permit an unlimited number of possible answers, where respondents can answer in detail and can qualify and clarify responses. Through asking open-ended questions, unanticipated findings can be made and these permit answers to complex issues. The challenge of building a level of trust and confidence that enables the researcher to have discussions that are as frank and open as possible was therefore overcome.

It was important for me to understand the practice of urban agriculture from the point of view of the farmers involved at all categories of production. Being bilingual, the language used during the interviews varied between English and isiZulu and was adjusted to the level and orientation of the person being interviewed. Farmers from Endaleni were interviewed in their mother tongue isiZulu while farmers from Cliffdale were interviewed in English. This ensured that related issues were discussed in the farmers' own vernacular, which allowed the person to accurately understand the questions that they were being asked, and ensured that good communication and rapport was established. This utilised a systematic collection and recording of narratives that illustrated the significance of urban farming issues and made later interpretation of research results much more effective.

All interviews were digitally recorded and transcribed. Direct quotes were recorded on each of several topics, using the semi-structured questionnaire guide for gathering information. These were divided into five sections, covering the themes shown in Table 4.2.

Table 4.2: Summary of questions

Section	Theme	Topics	Methods
1	Farmer household demographic information and household history	Age; gender; education; main activity status; history in the community	<i>Family tree exercise; time line and events map on brown paper</i>
2	Practice of urban farming	Motivation for farming; Experience in farming; Farmer networks; Division of labour; Other informal activities; Benefits and challenges	<i>Interview</i>
3	Agricultural production	Low risk and high risk crop production activities; Low risk and high risk crop marketing activities; Agricultural equipment used	<i>Interview; participant observation</i>
4	Institutional support	Training in farming; Extension support	<i>Interview</i>
5	General	Anything to be added	<i>Interview</i>

After the original questionnaire was drawn up, pilot testing was conducted with a few farmers from eNdaleni to test for clarity of the questions. Minor adjustments were made in terms of the wording of the questionnaire before the full-scale survey was conducted on the total sample of selected urban farmers.

The first visits I made to each of the two communities were to establish the lay of the land and to visually inspect the extent of each of the two communities and the distribution of the households within each. To avoid project bias, I selected farmers from different parts of the community, even though there were many households along the main road with visible gardens. A second purpose was to be seen in the community and to meet locals who gave me insight into the various community gardening projects and their location community-wide. Eventually, farmers who were selected to be interviewed from the community gardening category came from two different community gardening projects.

When first entering a household, it was important that I explained who I was and what I was doing there. I then asked after the person responsible for making the rules about farming in the

selected household. Once this person was identified, I explained the methodological objectives to the farmer, who granted permission to be interviewed and to participate in the research. I used time effectively and strategically, as far as possible. Interviews typically took two hours to complete. Interaction with farmers took place on their own choice of location and on their own terms. In some cases this meant that interviews were conducted in the garden, so as to minimize time away from work, but also to see and have an appreciation for their work. Conducting the survey in this way ensured that effective conversations with the farmers took place and allowed for sharing of interests, needs and concerns. It also ensured that communication evolved more or less informally as the interview was conducted, although ways to encourage it systematically had been planned from the beginning through a guideline interview questionnaire that was prepared.

4.4.3 Participatory techniques and appraisals

The qualitative research component integrated semi-structured interviews with participatory techniques such as participant observation and informal conversation. In conducting field research, I worked with farmers in identifying problems relating to farming. The objective was to generate information that was usable and to increase the likelihood that farmers would participate. By taking an interest in their work, understanding their problems and constraints and respecting and being responsive to their points of view, a relationship of trust with the farmers developed.

Mapping family trees and recording histories of farming was an exercise I used to involve other household members, where appropriate. I placed a large sheet of data-sharing brown paper on the floor and, starting with the household head and their spouse in a pattern that represented relationships, with lines connecting them, I mapped out the grandparents, children and grandchildren in a family tree formation. One of the advantages of this visual method was that, as participants looked at the tree, they thought of additional members to add. This, in turn, gave me leads on individuals to inquire about during the household interview. As other KIDS researchers had discovered, during the conduction of such interviews debates about when the children were born, etc., ensued, so that it did not feel much like work but going back in time and exploring their family histories (Lund, 2004).

Following the mapping of the family tree, a second sheet of brown paper was laid on the ground to record histories of farming and timelines. The particular objective of this exercise was to determine the work and main activity of various household members, particularly the farmer, and their perceptions of unemployment. As the thesis is grounded in the theory of the informal economy, with respect to participation in agriculture, it was discovered for example, that the person identified as the farmer in the household would actually be the farmer for a period of time and that farming in some cases was practised as part of the livelihood strategy of the household. In this way I could begin to understand the dynamics of urban farming, the continuity – or lack of continuity - for each farmer, and for the category as a whole, and at the level of the household. This kind of informal conversation and discussion with household members who were willing and available to comment was used to supplement the other participatory methods.

The exercise of drawing up timelines involved whole families, sometimes gathered around the piece of brown paper on the floor, debating when they had moved into the community and when they had started farming. This visual, participatory technique involving multiple household members was a technique employed to assist with recall and to relieve restlessness among respondents. It also served as an important prompt for interview questions and enabled the inter-relation of different types of events.

The literature on urban agriculture makes mention of gender disaggregation in the domain of food production and hence the presence of women was another focus of observation. This consisted of an examination of the division of labour between men and women farmers, types of work done, the types of crops grown, the spaces where this occurred and the decision-making powers regarding production activities. I could begin to clearly distinguish these roles while visiting some of the sites where urban farming took place, particularly in backyard gardening and in the community gardening ‘projects’.

4.4.4 Key informants interviews

Key informants interviews were conducted with a community of professionals for illuminating their perspectives on the practice of urban agriculture in KwaZulu-Natal. These included officials from the provincial Department of Agriculture and a core set of knowledgeable and

interested KIDS researchers, as well as colleagues at the University of KwaZulu-Natal, who acted as an informal advisory group. Their participation helped in choosing study sites, identifying groups at different scales of production and consideration of how to structure the research. This greatly strengthened the relevance of the research questions.

4.4.5 Data treatment and analysis

The quantitative data analysis was undertaken using the statistical package STATA to calculate household averages and percentages and to perform T-Test analyses and Chi-square tests to analyse the effect of certain covariates on participation in UA by individuals and households.

The Microsoft Office Excel package was used to generate graphs and tables. Logistical regression modelling techniques were employed to estimate the odds of engagement in urban agriculture by individuals and households and STATA was also used as software for this analysis.

Data analysed specifically for the qualitative research component were the results of the semi-structured interviews. This analysis took into account the nature of the data collected. As alluded to before, the data collected was digitally recorded and transcribed to get farmers' direct quotes on various issues relating to urban farming. Data collected using participatory techniques, participant observation and informal conversation that was collected from the qualitative survey component was analysed using thematic content analysis. Other documentary data sources using the internet were used to amplify on the qualitative aspect of the study, particularly on the contextual background of the stand-alone Indian market gardening category of urban farmers.

4.5 STUDY LIMITATIONS

Although KIDS information from 1998 or 2004 may no longer be representative of the population of KwaZulu-Natal due to attrition rates, it is within acceptable limits. Mallucio (2000) contends that as a longitudinal household database for South African policy analysis, KIDS is considered to meet the standards thought to be acceptable for panel studies of this nature.

Information on individual participants in agricultural activities was only collected for the first time in 2004. This limits the analysis of the transitions in urban agriculture to one direction only, i.e. those that moved into farming between 1998 and 2004. It is not known if the same individuals were involved in agriculture in 1998. The surveys were conducted at distinct points in time, in 1993, 1998 and in 2004, such that I have no way of knowing what happened in between these periods.²⁹ It is possible that they might have experienced episodes of urban agriculture or employment. The qualitative data that was used to collect information common to households came from one of the KIDS clusters (eNdaleni community). This goes some way towards filling the information gaps.

The major limitation regarding the qualitative survey was that a few farmers refused to disclose information on their household incomes, or could not provide these estimates of the income derived from their agricultural activities.³⁰ The lack of data concerning income is not necessarily a problem because the three categories of farmers are used to provide comparisons for the location and scales of urban agricultural production and its potential for the creation of employment. The qualitative survey data is nonetheless useful in providing some useful insights into the participants' activities and experiences.

4.6 CONCLUSION

Quantitative and qualitative data methods complement each other and both were used in this study. The KIDS collected data in South Africa's most populous province with the highest unemployment rates in the country. KZN is also characterised by relatively high poverty levels. KIDS included data collected from households located in both rural and urban areas, on various socio-economic characteristics. However, KIDS had never been previously used to analyse urban agricultural participation by individuals and households, over time. The present study therefore offers a unique opportunity to analyse participation in urban agriculture as a response to unemployment. The KIDS panel data was used to analyse statistical data while a smaller, qualitative urban farmer survey was used to delve underneath results derived from the

²⁹ It is possible that they might have experienced episodes of UA or employment.

³⁰ Sensitive information, such as household income, is difficult to collect for a number of social, cultural and economic reasons (Rozelle, 1991; Christiansen, 1993). In this study, some respondents did not feel comfortable revealing their true incomes.

quantitative analysis, in order to understand what the numbers were measuring or missing. The qualitative survey questions gave insight into the practice and experiences of urban farmers, which are missed in panel sessions.

CHAPTER FIVE WHO GETS INVOLVED IN URBAN AGRICULTURE?

5.1 INTRODUCTION

Chapter Two outlined how post-apartheid changes in the economy of South Africa constrained the capacity of the formal economy to provide jobs. A lack of jobs limited the opportunities of the poor and unemployed to find employment in the urban areas, resulting in an increase in informal economy activities. Engagement in urban agriculture is one of the most obvious ways in which poor urban individuals and households can address the problems of poverty and unemployment. Martin, Oudwater and Meadows (2000) have confirmed this, using research conducted in Pretoria and Cape Town. They reported that urban agriculture tended to be associated with a lack of formal sector employment. Besides providing food and improving incomes, further important functions are performed by urban agriculture have been pointed out, including social, cultural, developmental, aesthetic and environmental functions. Slater (2001) demonstrated this with evidence from Cape Town, where women participants, in particular, engaged in urban agriculture for reasons less directly related to monetary gain. These included the use of urban agriculture in processes of empowerment, to establish social networks and to encourage community development.

Information on urban agriculture in South Africa is largely qualitative. The KIDS study provides an opportunity to assess the contribution of urban agriculture to informal employment and income generation of participating individuals and households. KIDS collected data on individuals engaged in farming activities in 2004 and longitudinal measurements of the socio-economic characteristics of households engaged in farming activities in KwaZulu-Natal (KZN), from whence these individuals came, from 1993 to 2004. The argument in this chapter is that participation in urban agriculture is associated with certain individual characteristics, as well as a participant's particular main activity status. This is the first analysis chapter of the thesis and the focus is on the characteristics of the *individual* participants in urban agriculture. Chapter Six will explore the characteristics of the *households* from which these individuals came. A regression

model will assess the likelihood of engagement in urban agriculture for people and households with certain characteristics.

The chapter has five sections. After this introductory section, section two describes the individual characteristics of participants in urban agriculture such as age, gender, education and main activity status. Section three analyses the main activity statuses, as classified according to KIDS. I delve deeper into the analysis of the employment status by analysing the occupation of those who were employed and engaged in urban agriculture simultaneously. I trace this back to the previous five years of the survey, when data was collected on the characteristics of these same individuals to find out what their main activity was then. I did this in order to unravel whether a shift in their main activity status might have been a factor in their engagement in urban agriculture five years later. I compare characteristics of participants in urban agriculture (designated UA participants) to those who did not engage in urban agriculture (designated NUA participants), using the same variables. Section five provides a conclusion to the chapter.

5.2 A PROFILE OF URBAN AGRICULTURE PARTICIPANTS, 2004

The question that had been asked during the KIDS survey was ‘*who are the three most important participants in agricultural activities of the household*’.³¹ The portfolio of household farming activities that individuals could get involved in were listed as: *ploughing, planting, weeding, pest management, watering/mulching, harvesting, storage, post-harvest packing and/or processing and selling*. Each household was asked to name up to a maximum of three individuals who were most involved in each of these activities.³² The participants were resident and non-resident household members, who come from core households in urban areas, aged 16 years of age and older.

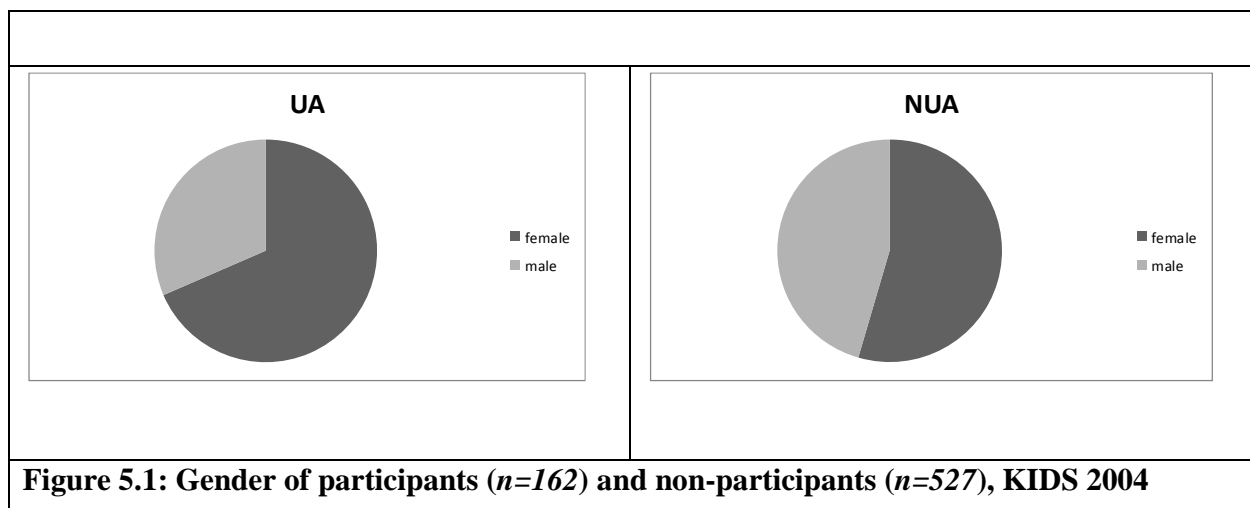
³¹ Agriculture involves shared responsibility between household members and it is rarely the designation of just one person. Some households identified one primary farmer who was listed for all 10 activities, while others listed more than one farmer. Some households listed one or more individual for each of the 10 different activities under the three most involved person (such that each of the ten activities could have 3 different farmers for each activity) and some were listed for part of the activities.

³² This in itself causes problems, as agriculture is a household task and involves household members. In fact, in my analysis of the people identified in households, 119 identified *one* person only who attends to all the agricultural tasks and 55 identified *two* different individuals; 48 identified *three* individuals. Even then, where three individuals were identified, there were 19 cases where it was not the same three individuals that were identified for all the agricultural activities. As KIDS was never designed to be an agricultural survey, the addition of questions in the later survey, while this ensured better data collection, also meant that data was sometimes not comparable.

5.2.1 Demographic characteristics

This section presents the demographic characteristics of all participants in urban agriculture activities from urban agriculture households in 2004 (designated UA participants) and compares them with non-participants in non-urban agriculture households (designated NUA participants). In the selection of NUA-individuals, these were people who did not engage in UA themselves and belonged to households in which no individuals partook of UA. In contrast, the UA sub-sample comprises only those individuals who actually contributed to UA within the households that carried out urban agriculture.³³ Because I wanted to be sure and question only asked for the first time in 2004 of the individuals who farmed,

There were a larger proportion of women participants in urban agriculture than men (68.1 percent and 31.9 percent, respectively), whereas there were smaller proportional differences among women and men NUA participants (54.1 and 45.9 percent, respectively) (Figure 5.1). There was an even larger proportion of women UA participants than women NUA participants. Chi-square analyses showed that this difference was significant for the two groups at the $p < 0.05$ level. This suggests that there is a gender differentiation in engagement and that urban agriculture is a female domain.



³³ I was only certain of the people who farmed in 2004 because this question was asked for the first time in the 2004 wave of the KIDS survey, and so I that could compare these to NUA individuals. I could not just compare UA individuals from 2004 to the NUA individuals from the same households. The survey question asked for ‘the 3 most involved household members in agriculture’ whereas there were in fact, in some cases, there were more than three. Hence, in order to obtain a pure sample, individuals in UA households who did not participate in UA activities were dropped.

The distribution of urban agriculture individuals by gender exhibits a pattern which conforms to findings from the literature, where women are reported to be in the majority of people who engage in urban agriculture (Tambwe, 2010; van Averbek, 2007). The reasons given for this is that women generally tend to have no formal skills for the formal labour market (Wills, 2009), because of the relationship between agriculture and household food security (Zezza and Tasciotti, 2010; Nugent, 2000; Maxwell, 2000) and since urban agriculture can often be more easily combined with other tasks in the household. Mougeout (2000) states that urban agriculture enables women to earn income, improve household diets, perform household chores and exert greater control over household resources. Analysing the division of labour and responsibilities in farming and non-farming households for Accra, Danso, Cofie, Annang, Obuobie and Keratia (2004) found this to be highly gender dependent, where the responsibilities of men and women in the households were defined by tradition/society for most household activities. Households' productive activities such as cooking, washing of clothes, taking care of children and general household cleaning were done mostly by women, while men were more involved in the provision of food (financial-wise) and shelter. They observed that the proportion of joint decisions in the non-farming households was higher than in the farming households.

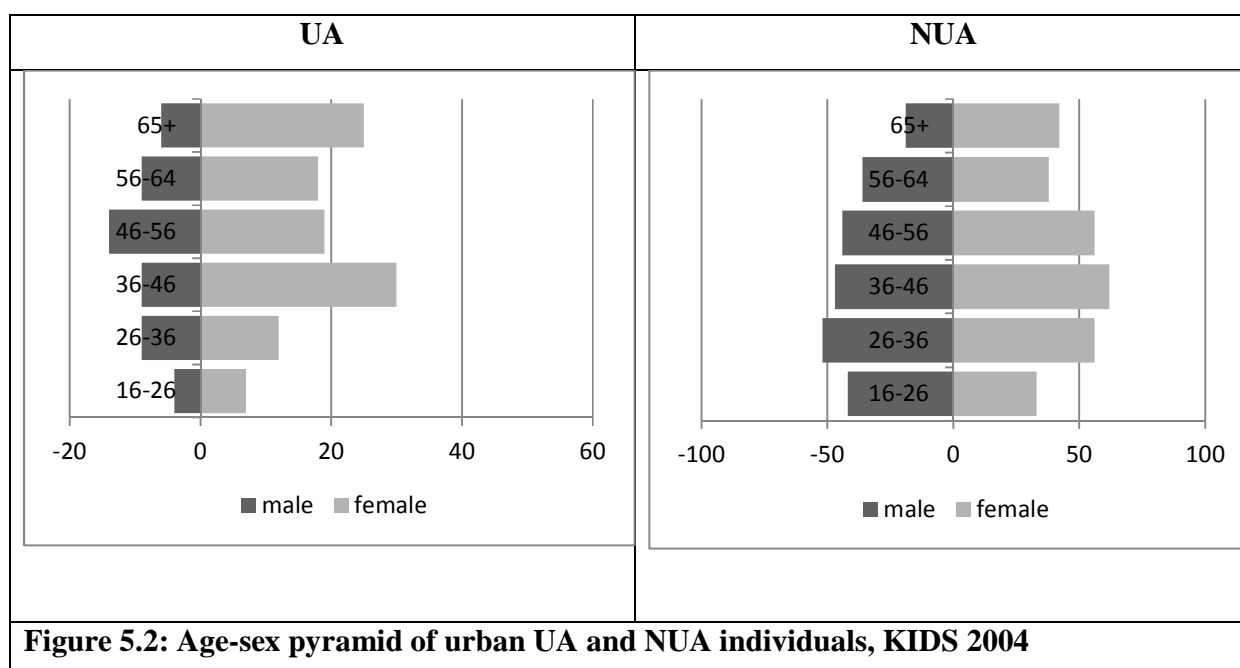
My analysis found that there were considerable differences in the ages, but not age groups, between UA and NUA participants (Table 5.1). UA participants were, on average, older (49.23 years) than NUA participants (43.91 years), suggesting that middle-aged people are involved in the activity. This result was significant at the $p < .001$ level. Among UA participants alone, women were, on average, older (50.40 years) than their male counterparts (46.69 years), further demonstrating the association in participation in urban agriculture and the gender of the person. This result was significant at the $p < .10$ level. There were no significant differences, however, between male UA and NUA participants in the same year. These results indicate that there is a correlation between participation in urban agriculture and the ages of females. This is confirmed by evidence of urban farming from Pretoria, where this was practised mainly by middle-aged and elderly women (van Averbek, 2007).

Table 5.1: Individuals by average age, 2004

Average age (years)	gender		%
	female	male	
UA	50.4	46.7	162
Total	68.1%	31.9%	100
NUA	45.5	42.0	520
Total	54.1%	45.9%	100

Source: KIDS (*n*=682)

A closer examination of the distribution by age-group revealed that larger proportions of middle-aged and older people were engaged in urban agriculture than was the case for younger people. About a quarter of UA participants (largest proportion) were in the 36 to 46 age group, as compared to just over five percent of UA participants in the 16 to 26 (smallest) age group. This was not an unexpected finding and a possible explanation for this is that young people may not view urban agriculture as work and might use their time searching for wage employment, rather than becoming involved in urban agriculture. This result, however, was not significant.



Even more telling was the distribution of UA individuals by age group and gender, which was something specific that I sought to investigate. First, women participants in the 36 to 46 years

age group were in the majority, at 27.03 percent, compared their male counterparts (17.65 percent). Women in the 65+ age group comprised the second largest proportion of UA participants, at 22.52 percent, when compared with their male counterparts, at 11.76 percent (Figure 5.2). These results may suggest that urban agriculture is associated with age and gender. The literature on urban agriculture indicates that women live longer and that urban farming is practised mainly by middle-aged women. Participation in urban agriculture by people in the 65+ age group may be explained by the fact that the KIDS cohort is aging and that older people are not likely to enter the formal labour market.

Analysis by average years of education revealed that urban agriculture was practised by less well educated individuals, in comparison to their non-participant urban counterparts, and t-test results of these differences were significant at the $p < 0.001$ level (Table 5.2). A disaggregation by gender revealed that the average years' education for female participants (6.7 years) was less than that of their male participants (7.1 years). These findings point to a correlation between educational levels and participation in urban agriculture. This was particularly so for less well educated women. T-test results of the differences in mean years of education between male and female participants showed that this result was not statistically significant.

Table 5.2: Urban individuals' average years of education by gender, 2004

Average years education	UA		NUA	
	female	male	female	male
	6.7	7.1	8.9	9.6
<i>n</i>	108	48	283	238

N=677

It is said that education is the single most vital element in combating poverty and empowering women. Low-education persons, the young and those with no previous work experience have a significantly higher probability of being unemployed than their opposites. The probability of employment increases significantly with education, i.e. the unemployment rate is much lower among the more educated (Kingdon and Knight, 2001). Although other studies have found that people of all educational backgrounds engage in urban agriculture (Obosu-Mensah, 1999; Danso

et al., 2002; Keraita, 2002). Tambwe (2010) explains that the predominance of women in urban agriculture is generally linked to their being a vulnerable population and that their predominant presence in urban agriculture is partly explained by their lack of education, which prevents them from gaining well remunerated jobs. Maxwell, Levin and Csete (1998) have corroborated this and shown that a large proportion of uneducated women are in urban agriculture because there are no educational barriers to farming.

The finding of a dominance of women in urban agriculture is in agreement with many other studies (van Averbek, 2007; Nugent, 2000; Maxwell, Levin and Csete, 1998) and is explained by many other factors related to those just discussed. First, women's lack of adequate education puts women at a disadvantage in terms of acquiring formal sector jobs, compared to their male counterparts.³⁴ Second, women engage more due to their production and reproductive roles in the household. This is to say that because of traditions of patrilineal relations and commitment to reproductive roles, such as nurturing and caring for children and attending to general household tasks, women tend to get more involved in urban agriculture than men. Due to women's responsibilities to provide for the family and the responsibility of raising young children, while working from home, urban agriculture becomes an attractive option for them. In other contexts, it is women's inability to have control over a household's finances that causes them to farm. Hence, in concurrence with urban agriculture perspectives in the literature concerning women working in gardens because of gender and cultural roles, urban agriculture is seen as the domain of women.

The demographic characteristics of UA participants thus reveal that, in common with other studies, urban agriculture is dominated by less well-educated, middle-aged women.

³⁴ Although, generally, most studies in South Africa find that women are more educated than men (Department of Education, various Education Statistics in South Africa at a Glance), studies on male and female informal workers in South Africa showed a similar distribution for education level (using average years of education) (Devey, Skinner and Valodia, 2003). However, on the education levels of, particularly, women participants in UA, studies from South Africa and elsewhere indicate that women generally have lower educational levels than men (van Averbek, 2007; Maxwell, Levin and Csete, 1998).

5.3 MAIN ACTIVITY OF PARTICIPANTS, 2004

KIDS captured eight “main activity” categories, *viz.* regular employment, casual employment, self-employment, whether or not an individual is unemployed, a housewife, involved with child care, in-school (including at university), at a crèche or at primary school, retired or other.

Table 5.3: Main activity of urban individuals, KIDS, 2004

Main activity	Participants (%)	Non-participants (%)
Regular employment	13.7	28.0
Casual employment	8.7	11.1
Self-employment	9.9	5.7
Housewife/child rearing	7.5	12.0
Unemployed	29.2	23.6
Formal education/school/university	2.5	1.7
Retired/pensioner	25.5	17.5
Other	3.1	0.4
<i>n</i>	161	525

Source: KIDS, 2004 (*n*=686)

Table 5.3 shows how individuals, characterised according to various main activity statuses, differed across UA and NUA participants. According to the three biggest proportions of participant main activity status, about 30 percent were unemployed, over a quarter retired/pensioner and just under 15 percent in regular employment. There were more unemployed UA participants than regularly employed participants and there were more unemployed participants than retired/pensioned participants. The domination of unemployed participants in urban agriculture activities suggests that that the two may be correlated, which is a telling result. In contrast, there were a larger proportion of regularly employed NUA participants (28.0 percent) above those who were unemployed (23.6 percent), or even above those who were retired/pensioners (17.5 percent). Chi-square tests of the differences in main activity status between the two groups showed that this was significant at the $p < 0.001$ level.

The dominance of the unemployed who engage in urban agriculture was not an unexpected result and evidence of this is well documented in the literature, for various reasons. The emergence and expansion of urban agriculture is seen as a reaction to the economic decline that engulfed the majority of developing countries, especially in southern African countries (Drescher, 1999;

Nugent, 2000; Drakakis-Smith, Bowyer-Bower and Tevera, 1995). Engagement in urban agriculture was widely believed to be the product of the urban economic crisis, or structural adjustment, or both, which had an impact on the urban poor and wage-earning classes in Africa (Pinstrup-Andersen, 1989). As wage incomes fell, the major response was to diversify sources of income as a buffer against inflation and falling real wages (Bigsten and Kayizzi-Mugerwa, 1992). For South Africa as well, in seeking to explain the widespread surge of the activity, Rogerson (1996) has documented how the appearance of urban agriculture in the major metropolitan areas has been linked to the demise of the formal economy. Rogerson related this to a growth in the informalisation of formal enterprises as the formal economy exhibited an alarming decrease in its capacity to absorb new entrants to the labour market. Chapter Two explained how this was linked to the post-apartheid government's policy reforms in the South African case.

That retirees/pensioners constitute the second largest proportion of participants in urban agriculture was not an unexpected finding, as this is a group of people who would be outside of the working age group and would no longer be eligible for formal employment. A possible explanation for this is that these are people who have taken a retrenchment or retirement package or they have some form of steady income, so that they can continue to support themselves while not working.³⁵ Indeed, a test of the retired/pensioner participants in urban agriculture activities showed that 87.2 percent of these participants were receiving an old age pension (OAP) grant. Participation for these people might be due to the fact that they are ineligible for formal employment because of age, or because they have a grant which allows them to invest in urban agriculture.

Retirees and pensioners are cited in the literature as being active in urban agriculture (Marshall-Smith, Yusuf, Bob and de Neergaard, 2005; Agergaard and Birch-Thomsen, 2006; Oelofse, 2004). Because these are people who are no longer economically active, they find urban agriculture something to do upon retirement. The individual may only receive a small pension, but they may be living in a household that has access to a regular income. Some, however, get

³⁵ In Chapter Six I examine the incidence of non-labour sources for the participant *households* and find that the proportion of farming households who contain a person receiving an Old Age Pension grant was larger than for non-farming households, which backs up this finding.

involved for reasons of wanting to keep active or to benefit from the social capital of interacting with fellow community members of the same age and developing community spirit.³⁶

People who are in formal employment and simultaneously engage in urban agriculture are well documented in the literature, for various reasons. Saiwo (1994), for example, cited urban farmers from Dar es Salaam to include, among others, professionals, teachers and administrators, government officials, casual labourers and part- and full-time workers. Urban agriculture in such instances may be used as an essential form of supplementary income because of the low salaries that these individuals earn.³⁷

Whereas the common explanation for urban agriculture has been related to poverty, there is also evidence that this may not be restricted to the urban poor alone and that urban agriculture may reflect something else other than inadequate wages. The opportunity to farm has been lucrative for some as an entrepreneurial activity. The literature notes the example of farmers in Kampala, whose incomes were estimated to be 50 percent above the minimum wage (Mougeot, 1994). In Dar es Salaam 67 percent of farmers had higher than average incomes and farmers from Addis Ababa had incomes well above the median (*ibid*). Practicing urban agriculture has been documented as being motivated by a lifestyle choice and stems from the desire to eat fresh vegetables, and/or having time to do urban agriculture. While, for some, this may be a circumstance due to inadequate incomes, for others it is a choice and to take advantage of an opportunity to farm.

In the category of self-employed urban agriculture participants, none of them were self-employed in urban agriculture. This may be because some people do not consider their self-employment activities 'work'. In South Africa in particular, this has sometimes been used to explain why people who are seemingly unemployed do not look for work, a phenomenon termed voluntary unemployment.

³⁶ This is one of the themes that I sought to investigate with the qualitative component of the survey, which could not be garnered from the KIDS quantitative study, the findings of which are presented in some detail in Chapter Seven.

³⁷ The direction of causality with engagement in urban agriculture is also an issue I elaborated upon in Chapter Seven. Whereas it might not be immediately apparent whether people farmed because they were unemployed (and underemployed), or because they were unemployed (and underemployed) and so they farmed, I argue that urban agriculture is a push for some and a pull for others.

I conducted further analyses on the working age participants in urban agriculture. Because the research question I was trying to test in this thesis was that the absence of formal wage employment causes people to farm, I isolated urban individuals of working age for analysis in the sections that follow.

5.3.1 Economically active participants

The sub-group of working age urban individuals comprised people between the ages of 16 and 60 for women and 16 and 64 for men; people who are willing and able to work. The group included regularly employed, casually employed, self-employed and unemployed participants. The rest were defined as non-economically active, i.e. housewife/child rearing, formal education/school/university, retired/pensioner.

Table 5.4: Urban individuals by working age, 2004

working age	UA	NUA
Urban individuals	124	452
%	77.0%	86.1%

Source: KIDS ($n=576$)

Table 5.4 shows that 77 percent of all working age urban individuals were participants in urban agriculture activities, which is a telling result. This may indicate that this proportion of people consisted of people who were working in urban agriculture, but considered themselves to be unemployed. Indeed, if the formally employed proportion of UA individuals was less than that of NUA individuals, it is possible that the lack of jobs available for urban agriculture work seekers translated to large numbers of unemployed in this group and hence their involvement in urban agriculture activities. There are a roughly similar proportion of NUA individuals (86.1 percent) who considered themselves to be unemployed and this may mean that urban agriculture was not an attractive option for them.

As previously explained, KIDS captured eight main activity statuses for individuals. It is possible to put all the main activity statuses of all people who are in paid employment into one.³⁸ Table 5.5 shows how many men and women participants in urban agriculture activities there were in the working age group and how this was divided up into the employed and unemployed.

Table 5.5: Employed and unemployed men and women of working age, 2004

Urban individuals		gender		Total
		female	male	
UA	Employed	30	19	49
	Unemployed	33	15	48
	%	68.1%	31.9%	100
NUA	Employed	93	129	222
	Unemployed	56	61	117
	%	54.1%	45.9%	100

Source: KIDS ($n=436$)

A gender division of all the urban individuals showed that there were more working age women than their male counterparts and that women made up 68.1 percent of the working age participants in urban agriculture activities (Table 5.5). There were a greater proportion of women urban agriculture participants who would have liked to work, but could not find a job, compared to their NUA counterparts which supports earlier results about the dominance of women in this activity.

In comparison to urban agriculture participants, the split between males and females of working age who were non-participants in urban agriculture was 54.1 percent and 45.9 percent, respectively. This result was significant at the $p<0.05$ level. This may suggest that women, who were in the majority of urban agriculture participants, may lack opportunities to work, compared to women who were not participants in urban agriculture.

³⁸ 'Others' were excluded from this analysis.

Some studies have examined the intra-household time use patterns, seeking to establish links between gender, employment and time use (Valodia and Devey, 2005). The impact of unpaid productive activities (such as the collection of water and fuel) on the time that individuals have available for paid work (in either the formal or informal economy) showed that there is a difference in women's and men's time use patterns (*ibid*). Highlighting women's unpaid work in social reproduction has been one of the major contributions of feminist economics (see, for example, Elson, 1995, 2002; Catagay, Elson and Grown, 1995).

In South Africa, time use surveys show that women spend large quantities of their time on these social reproduction activities (Valodia and Devey, 2005). Poor women, particularly, are not only constrained by income deficits but also by time deficits and the nature of their employment has a profound impact on the returns to time spent in paid employment. Nugent (2000) stated that household labour (who and how much) devoted to urban agriculture is determined by non-economic factors more than by what can be earned in other activities. One reason for this, Nugent thought, may be an absent or incomplete labour market, especially for women, in cities in developing countries. Citing research from India, she added that this showed that women make up a disproportionate share of unpaid helpers in household enterprises and are more concentrated than men in the agricultural sector.

Nugent (2000) explained that, in general, Africa has the largest proportion of women involved in urban agriculture.³⁹ In Harare and other cities where urban agriculture has less official support as a sector, women performed most of the work. This derived from women's responsibility for household food provision and preparation. She concluded that proximity to the home and neighbourhood made urban agriculture a more logical enterprise for women.

It has to be acknowledged that some literature challenges the notion that women predominate in urban agriculture because of their traditional gender role. An explanation is proffered that the economic climate is such that even women now have to work to earn much-needed cash. May (2009) attests to this dual argument and, paraphrasing from his assertion, the author explains that

³⁹ The only exceptions to this case were provided by Dakar and Accra, where men made up the majority of urban farmers. Armar-Klemesu and Maxwell (1999) explained this as being due to traditional cultural behaviour, intra-household income behaviour and other female responsibilities.

the dominance of particularly *de facto* female-headed households in agricultural activities were noted by Sharp and Spiegel (1990: 193) in South Africa as early as the 1980s. “*Wives were encouraged to engage in these activities to share in the husband’s attempts to build a homestead against the day of retirement from oscillating migration* (2009: 193).” However, men might have also prevented, or tried to prevent, women within their household from engaging in certain non-farm, income-generating activities.

The difference was in communities where a local economy had some longer term viability, in which case “*men appeared to be more willing to sanction their wives engaging in such cash-earning activities, or were less able to enforce control over women’s work* (May, 2009: 193).” May (2009), quoting Sharp and Spiegel (1990), elaborated that “*women were increasingly able to, or were forced by economic necessity, to defy such attempts to regulate their choice of livelihood activities*”. May’s own analysis of the KIDS data between male and female participation in Small Medium and Micro Enterprise (SMME) activity (in general), showed that the similarity suggested that women’s resistance has been “*at least in part successful*.” It is also possible that there are other reasons for women’s predominance in urban agriculture, other than fulfilling their traditional role.

It is interesting that from my analysis, at least as many employed people were involved in urban agriculture. That there were more formally employed urban agriculture participants than unemployed participants may suggest one of two things. First, people liked what they did and found the time to do it, even when they were, at the same time, formally employed. I found such examples in the literature (Tambwe, 2010). There were those people who engaged on a part-time basis, either after work, seasonally, or, given their type of occupation, they found time to invest in working in their gardens during the day, e.g. night-watchmen and security guards.

Second, expanding the discussion under section 5.3, these results may suggest something to do with inadequate wages such that people may find the need to supplement their incomes. The literature supports this concerning those who suffered during periods of economic transformation and due to the informalisation that occurs as firms downsize which is what resulted in an expansion of informal economic activities (IFPRI, 2012). When jobs are not full-time but casual,

people seek ways to augment their incomes. This is supported by evidence from other contexts of people holding down more than one job. In the absence of data on minimum wages or amounts of time people spend working in their gardens, these remain speculative reasons.

5.3.2 Occupation of formally employed urban individuals

KIDS captured information on employed people under various job descriptions. Table 5.6 shows these for all formally employed people who were also involved in urban agriculture. They were all of working age, economically active urban individuals, of whom there were 23 participants in urban agriculture and 140 non-participants.

Table 5.6: Regularly employed working age individuals, 2004

Job description	UA (%)	NUA (%)
Clerical and sales	4.4	12.1
Transport, delivery	8.7	7.9
Service occupations	39.1	8.6
Artisan, apprentice	0.0	3.4
Production foremen	8.7	3.4
Operators, production	8.7	12.1
Labourers	8.7	3.6
Other occupations	0.0	1.4
Professional or semi-professional	17.4	24.3
Technical occupations	0.0	5.7
Managerial and executive	0.0	5.7
Administrative occupation	4.4	11.4
<i>n</i>	23	140

Source: KIDS (*n*=163)

Table 5.6 indicates that most formally employed participants in urban agriculture activities were engaged in the service industry, at 39.1 percent. By comparison, the majority, 24.3 percent, of urban individuals who did not participate in urban agriculture activities were the professional or semi-professional occupations. Wills (2009) has previously analysed the occupational distribution among the informally employed in South Africa, where she discovered that elementary occupations were most common, at 47 percent of jobs, in 2005. These elementary

occupations involved, among others, labour in private households, for example, gardeners. In the category of informal self-employment (as opposed to informal wage employment), elementary occupations were more likely to be held by woman than men. The differences in the average years of education depicted earlier between these two groups may also have something to do with these results. It is interesting to note that none of these had agriculture as their job description and this could not be inferred from the 8.7 percent of urban agriculture participants who stated that they were employed as labourers. From these data, it may be gleaned that these were individuals that were involved in urban agriculture for own account. That there are more professional non-UA participants than participants may suggest that they are better placed to obtain jobs elsewhere, which might explain why they do not engage in urban agriculture.

Analysis of the mean (almost the same) and medians (a difference of less than four hours) of the variable “*total number of hours worked per day in the last week*” did not show major differences between these two groups (Table 5.7). T-test results of both these measures were also not significant. While this might appear contrary to the notion that people get involved in urban agriculture because they are not employed, a possible explanation for this could be inadequate incomes from wages, a finding that has been reported on widely in the literature. The literature on urban agriculture provides many such examples, where those who are informally employed also find time to work in their gardens, either to supplement their income, food or both (Drakakis-Smith, 1990; Nugent, 1999; van Averbek, 2007).

Table 5.7: Formally employed working age urban individuals, 2004

Total number of hours worked per day in the last week	UA (hrs)	NUA (hrs)
mean	39.7	39.9
median	36.0	40.5
<i>n</i>	23	140

Source: KIDS (*n*=163)

It has to be acknowledged that the fact that this result does not differ much from that of the non-participant group, may not provide a sufficient explanation of why some people get involved,

while others do not. This analysis did not distinguish which type of job the individuals were in. That there was a proportion of participants in urban agriculture activities who were also formally employed (earning wages) may be, at the same time, testament to the fact that those who operate in this sector are part of the informally employed.

This has been the main argument against distinguishing between two sectors of the economy as the first (and formal economy) and the second (and informal) sectors, such as is the case in South Africa. Previous work on the definition and measurement of the South African economy by Devey *et al.*, (2004) revealed that these are not distinct sectors of the economy that are disarticulated from one another. Instead they are part of a continuum, as people move in between the two sectors in what should be properly viewed as the informal economy. The results in this section have shown that this is true of people engaged in South African activities.

My thesis is on urban agriculture as part of the informal economy. The link I am trying to make is that urban agriculture is an activity which people may resort to as an alternative to, or a supplementary activity to, formal wage employment. Engagement in urban agriculture might therefore keep people from being formally employed, or, as I have shown in the preceding section, some may do both.

5.3.3 Unemployment and urban agriculture

The employment file in KIDS recorded various information pertaining to household members' labour market participation, including a question asking whether or not respondents '*would have preferred more work*' and if they were '*searching for more work.*' I performed further analyses, this time using the sub-sample of only unemployed participants, although the sample size means that these results can only be indicative. Table 5.8 gives the answers to the first question.

Table 5.8: Unemployed urban individuals of working age, 2004

Would have preferred more work?	UA (%)	NUA (%)
yes	39.1	31.1
no	60.9	68.9
<i>n</i>	23	148

Source: KIDS (*n*=171)

There are interesting features to point out regarding the results in Table 5.8. More unemployed urban agriculture participants (39.1 percent) would have preferred more work than unemployed non-participant individuals (31.1 percent). It is possible that these people engaged in urban agriculture due to lack of alternative or more desirable employment. Conversely, that there were urban agriculture participants who reported that they would not have preferred more work (60.9 percent) can show that they resigned themselves to ‘working in urban agriculture’. This condition has been reported in the literature for participants who engage for reasons of wanting ‘to improve their lifestyle’, people who ‘enjoy farming’, people who do this as ‘a pastime’, as well as older people who have retired and are now out of the labour market (for example, see Averbek, 2007) . The latter can certainly hold true of the ageing KIDS sample, more so given the fact that a large proportion of the participants were found to be retirees/pensioners.

These results agree with findings from smaller qualitative surveys on urban agriculture participation and the findings that some people *choose* to get involved, while others do not choose. Tambwe (2010) refers to these as ‘push and pull’ factors, while other phrases that have been used to refer to this situation have alluded to ‘circumstance and choice’. Indeed, the multi-faceted role of urban agriculture has seen this portrayed as a circumstance through which the urban poor have adapted as a coping strategy to economic crises, and a choice, given peoples’ history of farming and the pleasure that agriculture brings to farmers, particularly the social empowerment that it brings to women (Horvoka, 2006; Page, 2002; Slater, 2001).

Of the 68.9 percent of urban individuals who did not engage, a simple explanation may be that they were already working and hence would not have preferred more work. However, of the urban agriculture participants who had resigned themselves to ‘working in urban agriculture’, as

the labour analysts have often argued, it is also possible that these may be people who were discouraged work-seekers. I wanted to glean this by analysing the responses to the question ‘*time spent searching for work*’ (Table 5.9).

Table 5.9: Unemployed UA participants of working age, 2004

Spent time searching for work	UA (%)	NUA (%)
yes	4.4	3.3
no	95.7	96.7
<i>n</i>	23	148

Source: KIDS (*n*=171)

Table 5.9 indicates that, generally, urban agriculture participants did not look for work, but neither did non-participants. This is a common phenomenon in South Africa, where the unemployed are seen to be ‘doing nothing.’ Due to reasons of many informal activities escaping the gaze of the labour statistics counts, the fact that some people do not consider their self-employment activities ‘work’, as well the high costs of searching for employment, have been some of the reasons why people who are seemingly unemployed do not look for work. These results were not significant between the two groups, however.

Kingdon and Knight (2001: 6) refute the idea that the unemployed in South Africa choose to be unemployed, even though they might be substantially worse off than they would be if informally employed, and less satisfied with their quality of life. They report that open unemployment in South Africa may not be interpreted as reflecting unrealistically high wage aspirations by the unemployed. Indeed, ‘working in urban agriculture might be more desirable than other forms of formal employment due to various other reasons, other than income’. These have been reported widely in the literature, where participation in urban agriculture, apart from its association with a lack of formal sector employment, plays other important functions, such as social and cultural, in the lives of the participants (Martin, Oudwater and Meadows, 2000; Slater; 2001).

In South Africa, two unemployment figures are used and these differ depending on how unemployment has been calculated. Of all unemployed urban agriculture participants of working

age, the majority did not look for work. This is the distinction between the expanded and the narrow unemployment definitions in South Africa. Although the majority of participants did not look for work, this does not exclude discouraged job seekers who may have not looked for work in the four weeks before they were interviewed. It is commonly understood now that many unemployed people who really do want work face problems such as high travel costs that prevent them from looking for it. For this reason, it is possible that the unemployed participants in urban agriculture activities were people who would have liked to work but could not find jobs.

The overwhelming majority of unemployed participants in urban agriculture activities would have liked more work. If participation in urban agriculture is considered to be informal employment, then clearly these results show that it is not sufficient work and people might be wanting to find other, perhaps more lucrative, employment. Those who work in urban agriculture also get involved in other types of informal sector employment. A related fact that has puzzled many about South Africa is not so much the high unemployment rate, but the fact that it goes along with a small informal economy, which appears to be a contradiction. There is a general understanding that the South African workers consider only formal wage employment as work and report themselves unemployed if they do not have such jobs. All these facts add to the purported high unemployment rate.

I was also mindful of the fact that these results could have something to do with the classification of the unemployed, rather than the fact that more of these engage in urban agriculture than any other type of person in the labour market. The results from further analyses (not shown) revealed that the majority from both groups did not spend any time looking for jobs.

Unemployed participants as a group may suggest that people's perception of unemployment is different to what is usually captured in formal surveys and that these people were not really employed but they were (although not looking) wanting to work. These were people who were seemingly untouched by wage employment and were not 'doing nothing' but were involved in urban agriculture.

5.4 PARTICIPANT'S MAIN ACTIVITY TRANSITIONS

Transition analyses can complement the main activity analyses, contributing to a more complete picture of the influence of labour market changes on participation in urban agriculture.

In order to perform this analysis, the key thing was to be able to link the person identified as participating in agriculture to the KIDS roster, first, to get their demographics and, thereafter, to see if that person was in the household in 1998 and if they had the same characteristics in terms of their activity. These people could then be matched to the agricultural module to find out who participated in household agricultural activities.

The question I was interested in answering in this section was: are people getting into urban agriculture because they are unemployed, or is the fact that people have gone from being employed to being unemployed related to their participation in urban agriculture? In this section, I used longitudinal data from KIDS and I analysed the same individuals, over time, in order to examine changes in their main activity statuses in 2004 and in 1998, which may have been associated with participation in urban agriculture. This is, of course, an analysis of those individuals who could be traced.⁴⁰

5.4.1 Participants' main activity status in 2004 and 1998

Comparing 2004 and 1998 data on the gender of the same participants in urban agriculture may not have changed, as these variables are time-invariant, but their age, education and main activity statuses had changed.

Table 5.10 shows that the proportion of unemployed participants in urban agriculture who were unemployed in 1998 (25.0 percent) had increased by 2004 to 38.7 percent. This is to say there were more unemployed participants in urban agriculture activities in 2004 than there were in 1998. Conversely, the proportion of urban agriculture participants from 2004 who were engaged in regular employment for both periods had decreased.

⁴⁰ It is possible that the unemployed might have been overlooked by the survey, which would have accounted for the attrition in the sample.

Table 5.10: Main activity status of individuals from 2004

Main activity status	1998 (%)		2004 (%)	
	UA	NUA	UA	NUA
Regular employment	34.2	40.5	18.5	32.9
Casual employment	6.7	2.9	10.9	11.9
Self-employed	5.8	4.1	11.8	6.3
Housewife/child rearing	15.0	12.6	10.1	13.5
Unemployed	25.0	18.5	38.7	26.4
Education	12.5	19.4	3.4	2.0
Retired	0.8	2.0	6.7	7.0
n	120	444	119	444

Source: KIDS (1998; n=564; 2004; n=563)

In comparison, the proportion of unemployed non-participants who were unemployed in 1998 (18.5 percent) had also increased by 2004 to 26.4 percent. This increase was proportionally less than that of participants in urban agriculture activities in the corresponding time period. In 2004, chi-square test results of the differences between these two groups was significant at the $p < 0.05$ level, whilst in 1998, this was significant at the $p < 0.1$ level.

I further stratified the main activity status strictly along the two labour market categories, *viz.* employed and unemployed, and made comparisons between urban agriculture and Non-urban agriculture individuals in 1998 and 2004.

Table 5.11: Employment status of individuals from 2004

Employment status	1998 (%)		2004 (%)	
	UA	NUA	UA	NUA
Employed	65.1	72.0	51.6	66.0
Unemployed	34.9	28.0	48.4	34.0
n	86	293	95	344

Source: KIDS (1998; n=379; 2004; n=439).

Table 5.11 shows that urban agriculture participants from 2004 experienced a decline in the proportion of those who were in formal employment in 1998 (from 65.1 percent to 51.6 percent) while, conversely, the proportion of unemployed participants increased, from 34.9 percent in 1998 to 48.4 percent in 2004. It can be deduced from these results that the increase in the

proportion of unemployed may have had something to do with participation in urban agriculture. In 1998, the differences between the two groups were not significant, whilst in 2004, the differences were significant at the $p < 0.05$ level.

These analyses relied on the fact that these were people who farmed in 2004. Based on this, the analysis went back in time and traced the same individuals in 1998 to analyse if their *employment status* would have been different, with the assumption that this would have changed over time. However, it is possible that people who were, for example, unemployed in the two survey periods, may have been employed sometime in between these periods. The comparisons serve to illustrate the changes in their labour market statuses and the transition into and out of employment of these individuals between 1998 and 2004, in order to give an idea of the effects of unemployment on participation in urban agriculture.

5.4.2 Changes in main activity status

A limitation of the main activity status analyses in the section immediately above is that it is static, i.e. this measured the main activity of the participant at each point in time, in this case, in 2004 only. However, an important strand of this thesis was to analyse if people who had had a job, and were later unemployed, became involved in urban agriculture. It is possible that movement across these labour-market states can shed light on understanding the motivations for participating in urban agriculture.

I expanded the analysis to five years prior, using the KIDS panel data to look at participants' main activity status in 1998 and compared this to 2004 in more detail. I then used this information on transitions to construct matrices. The summary results from these analyses are shown in Table 5.12. The rows show the participant's main activity status in the previous wave of KIDS (1998) and the columns show the main activity status of the same participant in the later wave in 2004. The cell entries in the matrix are the number of individuals in each pair of main activity statuses across the two periods.

Table 5.12: Activity transitions

Participants							
activity 2004	regular	casual	self-emp	housewife	unemployed	education	retired
activity 1998							
regular	17	6	2	1	10	0	5
casual	2	2	2	0	2	0	0
self-emp	0	1	2	1	1	1	1
housewife	0	0	3	7	7	0	1
unemployed	1	2	3	3	21	0	0
education	2	2	2	0	5	3	0
retired	0	0	0	0	0	0	1

Non-Participants							
activity 2004	regular	casual	self-emp	housewife	unemployed	education	retired
activity 1998							
regular	106	11	14	11	25	1	12
casual	1	4	2	1	4	0	1
self-emp	2	4	7	1	3	0	1
housewife	2	2	0	37	9	0	6
unemployed	15	14	4	8	35	2	4
education	19	17	1	2	41	6	0
retired	1	1	0	0	0	0	7

Notes: Numbers of observations. Participants ($n=119$); Non-participants ($n=444$).

The data show that many unemployed participants, though they tended to become employed, remained unemployed even in 2004 ($n=21$ translates to 43.8 percent). This is in comparison to non-participants, at $n=35$, which translates to 29.1 percent (Table 5.12).

In terms of the labour force, KIDS consists of three categories of employment, *viz.* regular employment, casual employment and self-employment, as well as unemployment. These categories fall under “main activity status.” To depict another way, I stratified the sample of participants further and strictly, according to labour force categories, by combining the three categories of employment (regular employment, casual employment, self-employment) and compared this to unemployed participants in terms of their movements in and out of the labour market between 1998 and 2004. Using transition matrices, the results are presented in Table

5.13. Results for urban agriculture participants are shown in bold and non-participant results are shown in square brackets.

Table 5.13: Employed-unemployed activity transitions

		2004 (%)	
		employed	unemployed
1998 (%)	employed	46.1 [58.6] <i>(stayed employed)</i>	18.4 [14.3] <i>(lost employment)</i>
	unemployed	7.9 [13.5] <i>(became employed)</i>	27.6 [13.5] <i>(stayed unemployed)</i>

Source: KIDS 1998; 2004 (n=327)

People who can be said to have *lost employment* (i.e. those who moved from being employed in 1998 to being unemployed in 2004) were the majority urban agriculture participants, at 18.4 percent, compared to their non-participant counterparts, at 14.3 percent (Table 5.13). Conversely, people who *gained* employment going from 1998 to 2004 (i.e. those who moved from being unemployed to being employed) were the majority non-participants, at 13.5 percent, over their participant counterparts, at 7.9 percent. These transitions occurred mostly for women participants (results not shown). This tendency reflects the general labour market conditions in South Africa, where the unemployment rate for women is higher than that for males. While urban individuals who lost employment were the majority urban agriculture participants, compared to all other kinds of people in the labour market, these differences were not significant. This may mean that there are more/other explanatory factors for people getting involved in urban agriculture than people losing employment.⁴¹

⁴¹ This point is emphasised as it provides a justification for carrying out the qualitative component survey of the study and in-so-far as it elucidates the explanation for engagement in urban agriculture, which could not be determined from the KIDS quantitative data.

Of the employed individuals who *stayed employed* during this period, the larger proportions comprised those who did not engage (58.6 percent), over urban agriculture participants (46.1 percent). This is mostly true of those who were in regular employment.

To reiterate, I have no way of knowing what people did in between the two survey periods and if there were changes in their activity statuses. It is also not possible, from my data, to identify whether or not involvement in urban agriculture was temporary (short-term) or permanent (long-term), or whether people engage on and off or continuously over a period of time. In other places, urban agricultural engagement has been taken up when a household experienced a negative shock, such as prime-age death without (chronic) illness. In such cases, urban agriculture was abandoned for that or any period of time. Hence, while the possibility exists that people who lose employment immediately take up urban agriculture, it is also possible that people might wait for a period of time after loss of employment before considering engaging in urban agriculture. Here I made the assumption that if people have been engaged in urban agriculture for two (or more) consecutive periods, they continued farming in between this time period, as well.⁴²

The unemployed who *stayed unemployed*, as a group, are largely the people who engaged in urban agriculture (27.6 percent) over those who did not engage (13.5 percent). Indeed, it would seem that some people were stuck in the unemployed category for a long period of time. In such instances, eventually, people do not have any choice other than to venture into the informal sector of the economy to raise income, or be dependent on income earners for survival (Whiteford and van Seventer, 1993: 3). The consensus in the South African literature is that employment in the informal sector offers a second-best alternative to formal sector employment. Individuals unable to secure employment in the formal sector are forced to resort to informal means of employment in order to lead an existence of survival in a range of low-income marginal informal sector activities (Muller, 2003: 18). Engagement in urban agriculture therefore

⁴² This might pose a limitation, though, because I do not know if people were only farming at the time when the survey was conducted and stopped immediately after, or at any point in between the two survey periods. This time dedication has been illustrated to be an important component in some contexts. Where people farm continuously, urban agriculture becomes a major income source and as a result this reduced the time they have for formal wage employment, or this caused people to stop looking for formal or other types of employment. Hence, this assumption will have an impact on the results obtained.

becomes one of the options available to these individuals. For those who lost employment, redundancy and the reduction of work in the formal sector due to the process of economic informalisation has been the main reason for this.

Finally, something has to be said of children who participate in urban agriculture. I left these out of the analyses because I was interested in adults who could be engaged in urban agriculture for reasons relating to changes in the labour market. However, children are often cited in the literature and are said to participate in urban agriculture, perhaps after school and/or to help their family with various tasks, such as weeding and watering (Maxwell, 1995; Nugent, 2000). Out of all participants in urban agriculture in 2004, a notable proportion, at 10.8 percent, were children between the ages of 10 and 15, who were all at school. It is said that the characteristics of households provide the determinants of child labour supply, with household income being the major factor in the decision. The explanation of this is that, as income increases, child labour supply decreases, because the need to supplement parental income becomes less compelling (Nwaru, Odoemelam and Egbulefu, 2011). In many African cities, the evidence is that children's labour is used in urban farming, especially when a woman is head of the household (Nugent, 2000).

5.5 CONCLUSION

Urban agriculture was practised mainly by women in the age group 36 to 46. These women were less well educated than their male counterparts. It may be the case that, as suggested in the literature, women who farmed were pushed out of the formal labour market more than males, due to not having adequate qualifications required by the formal labour market (Nugent, 2000). It may also be the case that women are afforded the opportunity to combine this activity with other productive activities, such as caring for their families and especially young children. Overall, regardless of gender, there were more employed non-participants than employed participants in 2004, which suggests that a lack of formal wage employment may be associated with urban agriculture.

In terms of main activity status of participants, all kinds of people in the labour market were found to participate in urban agriculture. There were more non-participants who were in regular

wage employment than people who engaged in urban agriculture. In terms of their main activity transitions over time, the majority urban agriculture participants were those who stayed in regular employment. It is likely that their prolonged engagement in urban agriculture means that they still had to find other means to supplement their incomes. This would certainly fit in with the theory of people having to find other means to bring in extra incomes by engaging in urban agriculture.

From the results presented in this chapter, it would appear that the motivation for engagement in urban agriculture is not clear-cut, with some people choosing to become involved, while others choose not to.

An individual's motivation to farm has been linked to the type of household that they belong to. Chapter Six examines the socio-economic characteristics of the households from which these individuals came.

CHAPTER SIX A PROFILE OF URBAN AGRICULTURE HOUSEHOLDS: 1993 - 2004

6.1 INTRODUCTION

Apartheid left in its wake a population with vast inequalities across racial groups. The country inherited vast inequalities in education, health and basic infrastructure, such as access to safe water, sanitation and housing. As South Africa entered into its first 10 years of democracy, the failure of the economy to grow and create enough jobs gave way to an interrogation of the compatibility between the country's growth policies and a growing concern with rising unemployment and poverty (Leibbrandt, van der Berg and Borat, 2001). It is said that the success of South Africa's transition to democracy is linked to the extent to which the political, social and economic reforms introduced since 1994 can address the legacy of underdevelopment resulting from apartheid policies (May and Meth, 2007). The major response at the household level was to diversify sources of income. Worldwide, urban agriculture is one of the more economically attractive strategies for many poor urban households, providing food while also increasing incomes. In South Africa, urban agriculture is one of the strategies employed by people and households as a means of resolving issues of poverty.

Chapter Five described the individual participants who were engaged in urban agriculture in 2004. The one main objective I pursued in the chapter was to assess the material benefits derived from urban agriculture by the participating households.

Chapter Six is divided into seven sections. Following the introduction, and in order to give a contextual background, it was important to first describe the household characteristics in terms of their infrastructure and services, as well as demographics, which might explain the nature and character of urban agriculture. This is covered in section two. The third section examines household incomes and analyses contributions of various income streams towards total household incomes and compares this between urban farming and urban non-farming households. The fourth section deals with various other contributions in terms of household

expenditure. Section five delves deeper into farming households' agricultural production activities. I did this in order to assess the contribution of urban agriculture to the income generated by the participating households. In section six I use logistic regression to model the odds of engaging in urban agriculture by people, given some of their household characteristics. The conclusion to the chapter follows in section seven.

6.2 MEASURING HOUSEHOLD CHARACTERISTICS

The examination in this chapter sought to find out if there are any characteristic differences between urban households who farm (designated UA) and those who do not farm (designated NUA). In the literature where these types of households are compared, the general consensus has been that urban agriculture households are poor, poorly educated, populated by women and have a high dependency ratio than that of their non-farming counterparts.

From the sample of all urban households, farming and non-farming households were distinguished from each other using the criterion of whether or not a household derived any income from agricultural activity. Households that did not derive any income from farming were ascribed non-farming households.⁴³ Out of the total sample of urban households stratified in this manner, the data show that the proportion of households that were surveyed in 1993, 1998 and 2004 that were actively involved in some form of agriculture increased over time (Table 6.1 and Figure 6.1).

A small margin of error possibly exists with the classification used to distinguish farming from non-farming households in the 2004 wave of KIDS. Households who reported no income from agriculture could have been farming households who did not sell any produce, rather than these not being farming households at all. It is also possible that definition error may have affected the 1993 result, though the low figure could also have been due to apartheid era legislation.

⁴³Please note: This is the stratification used in the later constructed KIDS files. Due to inconsistencies emanating from households reporting that they farm and there not being any corresponding information captured on their farming activities, these constructed files were more accurate to use to distinguish between farming and non-farming households. Households that reported a negative income from their farming activities were included in the sub-sample of farming households. This classification is consistent across all three waves, where the constructed '*hhyagr*' variable was used in 1998 and 2004, and the '*agincome*' variable in 1993, to capture these two categories of households.

I used the 2004 variable in each wave of KIDS and the total number of all urban households was 461. Converting the unique household-identifying variable from ‘*hhid2004*’ in the 2004 wave of KIDS to ‘*hhid*’, to match these same urban households back in time, 46 households could not be traced. For the sake of comparability, I retained and performed analyses on the same sample of households that I could trace back throughout all three waves. The breakdown according to farming and non-farming households in each wave is depicted in Table 6.1.⁴⁴

Table 6.1: Number of households engaged in UA: 1993, 1998 and 2004

Numbers of households	1993	%	1998	%	2004	%
UA	56	12.5	147	32.7	192	42.8
NUA	393	87.5	302	67.3	257	57.2
Total	449	100.0	449	100.0	449	449

Source: KIDS

I also used the population density variable to classify what is urban, starting from the latest survey in 2004 and traced this back to the KIDS waves in 1998 and in 1993, to try to circumvent a situation where areas that may have been classified as *non-urban* in the earlier surveys may have been re-classified as *urban* in the later waves, making it appear as though some areas were becoming more urban over time.⁴⁵

⁴⁴ I know people who farmed in 2004, because this question was asked for the first time in the 2004 wave of the survey, so I could compare these to non-farmers. However, I could not do the same comparisons in 1998 or 1993, because this question was not asked. To compare farmers and non-farmers’ characteristics throughout the three waves over time, non-farmers were from households which I was sure did not farm in 2004 and in 1998 and these were resident and household members who lived in the household, of ages 16 years and older. I could not just compare farmers from 2004 to the same household members who did not farm. I needed to compare farmers to non-farmers and these non-farmers came from non-farming households, so that I could do proper comparisons of the reasons why some people farm and some do not. Also, I could relate this to the type of household that the people came from in a way that comparing people from the same household would have made no sense. So, from the 2004 and 1998 households who did not farm, I sought individuals within these from the 2004 wave. The people from the NUA households in 2004 and 1998 could not be found in the 2004 UA households, otherwise my stratification would have been erroneous.

⁴⁵ To assess if indeed areas were becoming more urban, I checked how many of the urban households were classified differently in the previous waves of KIDS. Using the “*urban non-urban 1985 census*” classification and the “*METRO*” classification in the previous waves of KIDS, and comparing this to the “*pop_den*” classification used in the 2004 wave of KIDS, areas that were earlier classified as rural (in 1993 and 1998) which were later re-classified as urban (in 2004) were 80 percent in 1993, 84 percent in 1998 and 49 percent in 2004. So, while it is possible that the increase between 1993 and 1998 meant that areas were becoming more urban, the drop between 1998 and 2004 may have had something to do with the classification methods employed in the later KIDS survey. Hence I applied the 2004 classification variable to all waves.

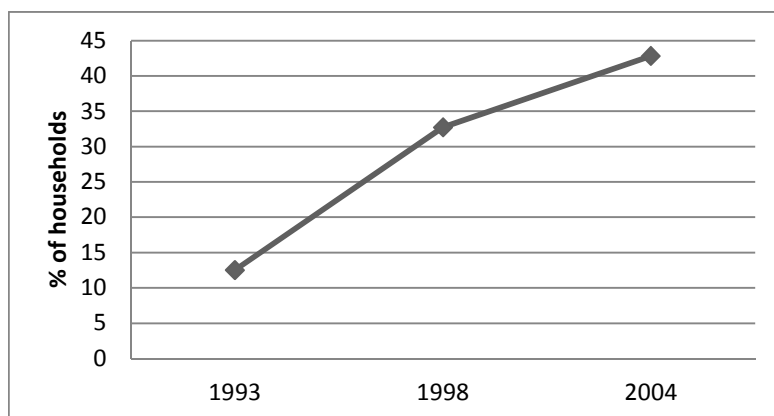


Figure 6.1 Proportion of households engaged in UA, 1993-2004. Source: KIDS

Figure 6.1 clearly indicates that the proportion of urban farming households increased over time, from just over 10 percent in 1993 to just under 50 percent in 2004. These trends resonate with May and Meth's (2007) analysis, using the same KIDS data from 1993 to 1998, as well as with the national data from 1997 to 2004, where the number of households participating in agricultural production increased. Furthermore, the increasing proportion of households involved in this work showed a comparatively high level of stability over the 1993 to 1998 five-year period.⁴⁶ This is consistent with increases in informal economy employment in South Africa during the same period due to greater openness as a result of the economic transition.

6.2.1 PHYSICAL INFRASTRUCTURE AND SERVICES

May and Meth (2007) state that the intransigence of social and economic forces set in motion by apartheid policies may lead to the persistence of poverty, even though many aspects of the South African political economy are being transformed. The result can be seen in the poverty profile of South Africa. However, poverty is multidimensional and the measurement and analysis of well-being is always complex. A mix of approaches is commonly used. May (2006) explains this:

⁴⁶ Comparisons were made between the total proportion of households involved in agricultural production and the total proportion of households working in the non-farm informal sector. Eighty-one percent of households still producing in 1998 had been involved in agricultural production in 1993, while 18 percent of those in the non-farm informal sector in 1993 were still working in this sector in 1998 (May and Meth, 2007). The authors concluded that agricultural production emerged as the destination of almost half of the informal sector producers in 1998.

Firstly, poverty is quantified by an absolute indicator such as a minimum income line that separates the poor from the non-poor. Secondly, poverty is defined by a lack of resources with which to attain a socially acceptable quality of life. Finally, poverty is defined as being about a lack of choices, unfulfilled capabilities and exclusion.

It is said that the well-being of poor households is shaped by their ability to diversify assets.⁴⁷ In the analyses that unfold in this section, I analysed access to physical infrastructure and services by urban households where access to these assets is assumed to be a potential resource to households. Moser (1998) feels that housing and the services available in houses are important assets, especially for poor households, who often make use of the house as a site of productive activity. Following May (2010: 182), housing assets are shown using the percentage of households living in permanent structures that have brick or block walls, having access to piped water and having an electricity connection.

In terms of physical infrastructure and services, most urban agriculture households had formal dwellings and there seemed to have been an improvement in their access to this permanent housing, which consisted of bricks and blocks, from 1993 to 2004 (Table 6.2). An increasing proportion of these households owned their houses, as opposed to renting or some other type of tenure arrangement (results not shown). Although qualitative research has shown that it is not formality that permits people from getting involved in urban agriculture, this formality of housing (as opposed to a shack) reflected their urban nature. This is to say that these households were not transitional in nature, as might be the case with informal settlements.

This infers that these were not households occupied by recent migrants to urban areas, as other literature reports this as defining the character of urban agriculture in other areas (van Averbek, 2007). Due to the classification of urban areas using the population density variable, I cannot for certain rule out the possibility that this is a result of areas becoming more urban, or the city

⁴⁷ The literature on assets identifies five broad categories of assets that households may control: human capital and capabilities; social, legal and political capital; natural resources; productive capital and financial capital (May, 2010).

expanding into the periphery, such as areas which might have been classified as peri-urban areas and by 2004 had become urban proper.

Table 6.2: Access to physical infrastructure and services*

Infrastructure and Services	1993 (%)		1998 (%)		2004 (%)	
	UA	NUA	UA	NUA	UA	NUA
Permanent house/part of a house/brick/cement**	25.0	66.8	43.5	78.5	52.6	66.2
Piped water connection***	0.0	50.4	6.1	58.6	33.0	56.4
Electricity supply connection	19.6	47.6	72.1	94.7	91.2	96.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

*Percentages are of all variables applicable to that specific category out of the total households that year.

**In 1993 and 2004 the type of dwelling was recorded. In 1998 only the building material of the walls was recorded. In this year, dwellings with brick or block walls were designated as formal.

***Measure of piped water connection internal to the dwelling and excluding yard tap.

Source: KIDS

Compared to non-farming households, in terms of infrastructure and services, Table 6.2 indicates that the proportion of urban agriculture households, although increasingly gaining access to these services over time, was lower than that of non-farming households. This means that non-farming households fared better in terms of their access to these services, though the gap has closed (quite dramatically), which was not an unexpected finding.

Municipal water was made available in the form of a piped water connection located internally to the dwelling for an increasing proportion of these urban agriculture households over time (as opposed to other water sources such as water carrier/tanker; borehole; rainwater tank; flowing river/stream; dam/stagnant water, which might be more fitting in a non-urban/rural setting than an urban area). From my analysis, I found there to be no urban agriculture households from the sample who had access to this municipal water in 1993⁴⁸. Once more, relative access to municipal water by urban households was better in non-farming households than urban agriculture households over time although, overall, households improved their access to

⁴⁸ Data on household amenities was collected on a single file in the 1998 and 2004 waves, whereas this was collected on separate files in 1993. The absence of households who had water piped to the dwelling in 1993 may have been due to the merging of files which might have resulted in disjointed results.

municipal water over the years. This might have been due to improved implementation of the free basic water policies in South Africa. An improvement in the so-called social wage policies in the country since the advent of democracy can be used to explain the relative access that urban agriculture households had to electricity supply connections. Chi-square results of the differences in access to these amenities between urban agriculture and non-farming households were significant at the $p < 0.001$ level in all three waves.

Table 6.3: Combined access to physical infrastructure and services*

Infrastructure and Services	1993 (%)	1998 (%)	2004 (%)
Permanent house/part of a house/brick/cement**	61.5	66.2	60.4
Piped water connection***	44.1	40.6	46.4
Electricity supply connection	44.1	86.8	94.2

*Percentages are of all variables applicable to that specific category out of the total households that year.

**In 1993 and 2004 the type of dwelling was recorded. In 1998 only the building material of the walls was recorded. In this year, dwellings with brick or block walls were designated as formal.

***Measure of piped water connection internal to the dwelling and excluding yard tap.

Source: KIDS

Table 6.3 shows the combined trend in terms of access to these services by all households. In common with May's (2010) analysis of the changing incidence of access to these services, and using the same KIDS data, albeit for the entire cohort, I found a similar trend where there has been an improvement in the services, with the increase in the incidence of electricity connections being more noteworthy than the other indicators.

These trends may suggest that urban agriculture households gained better housing, but it is also possible that urban agriculture has spread to households that were historically better housed. Overall improved access to household infrastructure and services, described in this section, could also be attributed to government's social assistance support and better housing and the implementation of wall-to-wall municipalities in the country.⁴⁹ It should be noted that it is uncertain whether measures take into account the so-called "social wage" such as subsidised housing and free basic services.

⁴⁹ These were established in June 2000 for the whole of the territory of South Africa, to ensure the provision of services to communities in a sustainable manner, among other reasons.

6.2.2 DEMOGRAPHIC CHARACTERISTICS

I further performed various demographic characteristic analyses in terms of household composition and compared these between urban agriculture and non-farming households.

The literature states that larger households may benefit from engagement in urban agriculture (Nugent, 2000). Household sizes were calculated for all household members at each point in time. Consistently, the average farming household counted more members than the average non-farming household in 1993, 1998 and 2004 (Table 6.4). The larger household sizes in urban agriculture households might be explained by having ‘more mouths to feed’ (Freeman, 1991), such that agricultural participation might be used as a strategy to supplement household food supplies. It is also possible that more people in urban agriculture households do the work. T-test results of the differences in average household sizes for the two categories of households were significant at the $p < 0.000$ level at each point in time in 1993, 1998 and 2004.

Table 6.4: Average household sizes

Households	1993		1998		2004	
	UA	NUA	UA	NUA	UA	NUA
Average sizes	8.4	6.2	7.4	5.9	7.6	5.7
<i>n</i>	56	393	147	302	192	257

Source: KIDS

Urban agriculture is reported in the literature as largely being the work of women (Maxwell, Levin and Csete, 1997; Horvoka, 2001; Mougeot, nd). Together with children, women have been reported as being dominant in farming households. For my analysis, the number of women in the households was taken as that of all adult women aged 16 years and older. Children were taken as household members aged less than 16 years. All these were resident household members. Table 6.5 shows that urban agriculture households averaged more women (and children) at each point in time than their non-farming counterparts, so that these demographics may be thought to be associated with farming, which is consistent with other literature findings (Hovorka, De Zeeuw and Njenga, 2009; Danso, Cofie, Annang, Obuobie and Keratia, 2004). The difference in average numbers of women between farming and non-farming households was not as stark as the differences in average numbers of children.

Table 6.5: Number of women and number of children

Household average	1993		1998		2004	
	UA	NUA	UA	NUA	UA	NUA
Average number of women	3.1	2.3	3.1	2.3	3.1	2.3
Average number of children	4.4	2.6	3.7	2.1	3.1	2.0
<i>n</i>	56	393	147	302	192	257

Source: KIDS

It is explained in the literature that practising urban agriculture is employed as a strategy for larger households for a number of reasons, including drawing on the labour of household members to make the most of the available resources in farming (Egziabher, Lee-Smith, Maxwell, Memom, Mougeot and Saiwo, 1994). The fact that farming households have, on average, more children has been indicated to be associated with households spending more of their income on food. Studies have shown a positive impact in the nutritional status of children in these households (Prain, 2010; Maxwell, 1994). Children featuring in farming households are explained by the fact that they help out in the gardening activities and, in combination with elderly members, they make up large dependency ratios. With the KIDS cohort, however, aging households is the most likely explanation.

Table 6.6: Gender of household head

Gender	1993 (%)		1998 (%)		2004 (%)	
	UA	NUA	UA	NUA	UA	NUA
Female head ⁺	15.8	11.0	35.1	30.0	47.7	39.7
<i>n</i>	56	393	147	302	192	257

⁺ not differentiated according to either *de facto* or *de jure* head of household.

I also investigated the gender of the household head in these households. Many studies have found that the majority of farming households are headed by women (Danso, Cofie, Annang, Obuobie and Keratia, 2004; May and Rogerson, 1995; Maxwell, 1995; Rogerson, 1994; Egziabher *et al.*, 1994). The head of household variable was painstakingly verified for each case, following the approach outlined in the methodology in Chapter Four (Section 4.2.4). This question was omitted in the 2004 KIDS questionnaire. To circumvent this, other KIDS

researchers have opted to impute the household headship for 2004 by, for example, assuming that, if alive, the reported head from 1998 will hold this position and by assigning *de jure* and *de facto* household heads (May, 2009). Needless to say, any chosen method used by one researcher for analysing the effect of the head of household variable will have significantly different results from one researcher's method to another.⁵⁰ The results in Table 6.6 indicate that the proportion of female-headed households was larger in farming than in non-farming households across time, which did not detract from my expectation. This emphasises the link between female participation in urban agriculture activities and was significant for female heads in 1998 at the $p < 0.10$ level, though not significant for 1993 and 2004.

Added to the gender of the head, I included the average number of children in the household and household size, to analyse for any observed differences between the two categories of households. As expected, results (not shown) indicated that there were more children in female-headed farming households than in female-headed non-farming households, over time, and that female-headed farming households averaged more household members than female-headed non-farming households, over time.

Urban farming and non-farming households differed in terms of the average years of education (Table 6.6). Household education was standardised across the three waves of KIDS to allow for comparisons to be made. Pre-1994, the South African education system had not been converted into the grade system and KIDS 1993 still registered the old system of '*standards*'. I used a sub-standard 'a' education ('*sub a*') to denote a grade one level of education. I converted this to the same system across all three waves to be able to allow for comparability in the differences in educational attainment of households. I assigned people with no schooling and a grade 'R' education zero years of education, as this level of education is below grade 1, as well as because this educational level appeared in some waves, but not in others. The education level was calculated for adult household members only.

⁵⁰ Added to this, it must be noted that results of the analyses of the KIDS data, in general, presented herein may differ from previously published work due to a number of refinements and improvements made to the data in the later waves.

Table 6.7: Average years household education

Household education	1993		1998		2004	
	UA	NUA	UA	NUA	UA	NUA
Average	5.9	7.9	7.2	8.9	8.8	9.7
<i>n</i>	56	393	147	302	192	257

Source: KIDS

Although, overall, all types of urban households improved on their mean years of education from 1993 to 2004, in comparison, from the data in Table 6.7, it is clear that farming households had, on average, fewer years of education than urban non-farming households, across all three survey periods. This was not an unexpected result since lower education has been asserted by other studies to be one of the main factors affecting household engagement in urban agriculture (Mbongi-Mwangi and Foeken, 1996; Egziabher, Lee-Smith, Maxwell, Memon, Mougeot, and Saiwo, 1994; Prain, 2010).

The education variable is important for several reasons. It may mean that uneducated farming households have no formal skills for the formal job market, in comparison to non-farming households. Uneducated farming households may not know what consumers prefer or what prices their products would obtain at market outlets, as they have little training. In comparison, educated households may be better able and more likely to produce for the market.⁵¹ A higher mean education of household members may also mean that households are better able to run a business. Education may act on the desire to run a business through being able to access the necessary information and skills to conduct this. A lack of market attendance however is not the only inhibiting factor and key constraints include limited land access and limited water access, as well as other inputs such as fertilizers and seeds.⁵²

The fact that average years of education for all groups improved over the years could be related to the overall improved educational opportunities for all in South Africa, post-democracy. Of note here is the association between lower mean years of household education and urban agricultural participation. In comparison, engagement in urban agriculture was associated with

⁵¹ This comes out clearly in a later section, when the proportion of produce sold compared with that which is marketed by these households is analysed.

⁵² Ditto.

poorly educated households over their non-farming counterparts. May (2009: 146) found that the core KIDS cohort is less well educated (notwithstanding the fact that they are aging) and less likely to be employed. T-test results of the mean difference in years of education between the two categories of households were significant at the $p < 0.001$ across all three survey periods.

Unemployment rates were calculated and compared between *urban* and *non-urban* areas. This was to distinguish between people engaging in urban agriculture as a result of the absence of formal employment in the *area* that they live in. The unemployment rate variable calculated the total number of all unemployed resident household members of working age and who were part of the labour force (employed and unemployed). Unemployment rates were then aggregated, first to the household level and then to the level of the cluster, i.e. the local area where the household was located.

Table 6.8: Average unemployment rates

Unemployment rate	1993	1998	2004
Urban	60.4	28.2	32.9
Non-urban	42.1	35.3	43.8

Source: KIDS

Unemployment rates were higher in urban areas than in non-urban areas in 1993, although the trend reversed in 1998 and 2004 (Table 6.7). This differs from May's (2009) findings where, in his analysis using the same KIDS data, the trend with unemployment has always been higher in non-urban areas. May explains, however, that this situation might be reversing. This is supported by May and Rogerson (1995), Rakodi (1999) and Jerve (2001), who stated that, for South Africa, due to limited opportunities to find employment in the cities, this resulted in the transfer of poverty from rural to urban areas. A recent Leibbrandt, Woolard, Finn and Argent (2010) study depicts these trends since the fall of apartheid in South Africa.

The link between poverty and unemployment has already been made. Analysing the incidence and severity of poverty in the immediate post-apartheid period in South Africa for those who are

said to be in the second economy, Meth (2004) explains how some features of the transformation included distressing characteristics. There was an emergence of increasing numbers of households whose members were all unemployed, households containing unemployed persons, and workerless households containing unemployed people. There was an increase in the numbers of workerless households containing unemployed who do not receive any remittances, people who are cut off from independent income earning opportunities and the employed living in poverty – a class of working poor.

This tendency reflects the labour market conditions in South Africa, where unemployment rates in the corresponding years were soaring. Although exposed to the same context in urban areas, in each wave, household unemployment rates were, on average, higher in urban farming households than in non-farming households (Table 6.9). Statistically, t-test results indicated that the difference between the mean unemployment rates of these households was significant for all three waves ($p < 0.001$).

Table 6.9: Average household unemployment rates

Unemployment rate	1993	1998	2004
UA	49.24	33.00	36.46
NUA	41.50	26.17	29.41

Source: KIDS

One thing that is compelling about the results of the calculation of average unemployment rates is that these were even higher than the national averages. There are several possible explanations for this. The high figures were obtained for some areas and for the sample as a whole because the KIDS data only has African and Indian people. KwaZulu-Natal tends to have higher levels of unemployment than the country as a whole. Unemployment rates were calculated in order to examine the variation between areas, such that the *actual* level of unemployment is not to be the important focus of this analysis.

My analysis of money-metric poverty used the KIDS poverty cut-off line of R322 to classify urban households into poor and non-poor. In terms of the poverty class, proportionally urban agriculture was most common among the poor (Table 6.10). There was a larger proportion of poor urban agriculture households in 1993, 1998 and 2004 than non-poor, non-farming households. This was not an unexpected result. Various literature sources have reported that the poor need to engage more in farming than their non-poor counterparts (Lee-Smith, 2010). This is a strategy that is employed by urban poor residents to reduce poverty and improve their food security (Rogerson, 1993). Also, compared to their non-farming counterparts, poor farming households are in the majority across time. The trend with these poor households overall (across time and for all categories of households) declined. Chi-square results of the differences between poor and non-poor farming and non-farming households were significant at the $p < 0.001$ level for all three waves.

Table 6.10: Participation by poverty class, 1993, 1998 and 2004

Household poverty class	1993(%)		1998		2004	
	UA	NUA	UA	NUA	UA	NUA
Poor	62.5	37.4	62.6	37.4	43.8	25.9
Non-poor	37.5	62.6	37.4	62.6	56.3	74.3
<i>n</i>	56	393	147	302	192	257

Source: KIDS

These results are validated by findings from other KIDS researchers (May, 2009) who, although he analysed this for the entire cohort of the KIDS households, found that, over time, these households were not getting poorer. Other KIDS researchers have gone a step further beyond analysing the incidence of poverty and have analysed the depth and severity of poverty as well, as the results were similar (Agüero, Carter and May, 2005). The improvement in people's lives could be attributed to government's poverty alleviation initiatives, for example social assistance support. It should be noted that measures did not take into account the social wage for poor households. Nevertheless, the fact that more poor households engage in urban farming than non-poor non-farming households may suggest that farming is associated with poverty.

To sum up, there was a larger proportion of poor urban households who farmed than those who did not farm. There was a larger proportion of poor farming households over non-poor farming

households, suggesting an association between farming and being poor. Farming households were poorly educated, compared to their non-farming counterparts. Farming households have larger household sizes and average more women and children than non-farming households. The unemployment rate in these farming households is higher than in non-farming households.

A limitation exists in the foregoing analysis comparing KIDS data at the household level for the three survey years which needs to be pointed out. A major complication is that the UA sub-sample increases from less than 15 percent to more than 40 percent of the sample reflecting an increasing incidence of households practicing UA. This means variation in statistics for UA households over time are attributable both to changes taking place to households who consistently practiced UA, and to changes in the sample arising from different categories of households taking up the activity. As a result, comparisons of sub-samples for each period provide rather limited insight into the underlying dynamics of UA. Nevertheless, the analysis still contains useful information and leads to strong and important conclusions.

6.3 HOUSEHOLD INCOME

May and Meth (2007) analysed the changing incidence of livelihood activities within KIDS households between 1993 and 1998. These included wage labour, agriculture and claims (old age pensions, regular remittances, etc.). This section presents findings from my analyses of the economic benefits that households gain through urban agriculture. I reviewed the household income situation. The income accounts assessed consisted of income from net wage labour, from non-labour⁵³ sources and income from agriculture (for strictly farming households only). Following May *et al.*, (2000), the data used household income calculated per adult equivalent and included a modest economies of scale parameter. I compared these with urban farming and non-farming households in 1993, 1998 and 2004 (Table 6.11).⁵⁴ The results were all Consumer Price Index (CPI) adjusted at constant 2000 prices and outliers were excluded. The standard deviation is shown in brackets.

⁵³ Non-labour sources of income were “*any money or any form of assistance that household members may have received which did not involve employment of some kind and which did not include remittances or loans*”.

⁵⁴ Totals do not add up all income from net wage employment, non-labour sources and agricultural income. These excluded other income sources such as casual wage employment, transport subsidy, food subsidy, remittances, rent and self-employment.

Table 6.11: Average wage income of households by engagement in urban agriculture

Average Rand per adult equivalent per month	UA households			NUA households		
	1993 (n=56)	1998 (n=147)	2004 (n=191)	1993 (n=388)	1998 (n=299)	2004 (n=254)
Wage employment	130.96 (252.11)	149.11 (327.28)	306.33 (742.49)	468.82 (570.42)	532.34 (623.70)	678.05 (1089.55)

Source: KIDS

In terms of the average monthly net wage income, there was an increase in these actual amounts for both categories of households across the three periods of the survey. The mean monthly income farming households derived from wage employment was lower than that which non-farming households derived from wage employment. The spread of wage income of both categories of households indicates how different the incomes are. Urban agriculture households markedly earned consistently less than non-farming households in all three periods of the survey – just under three times this amount in 1993, 2.5 times less in 1998 and 2.1 times less in 2004. Statistically, the difference between the mean monthly net wage income of farming households and non-farming households was significant in all three survey periods ($p < 0.001$).

Table 6.12: Average non-labour income of households by engagement in urban agriculture

Average Rand per adult equivalent per month	UA households			NUA households		
	1993 (n=56)	1998 (n=147)	2004 (n=192)	1993 (n=388)	1998 (n=299)	2004 (n=254)
Non-labour	36.38 (42.33)	62.79 (92.67)	96.69 (144.42)	45.50 (87.43)	87.34 (153.32)	173.37 (345.47)

Source: KIDS

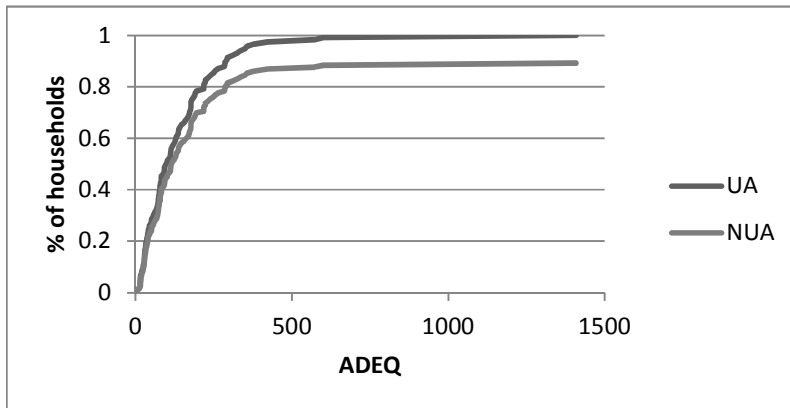
In terms of the average monthly non-labour income, farming households averaged less than non-farming households in all three waves (Table 6.12). Figure 6.2 depicts cumulative distribution functions (CDF) from the 1993, 1998 and 2004 KIDS waves, comparing non-labour income of the two categories of households. The CDF is useful in reading specific probabilities. It shows how likely it is that the output value will be less than some value. The CDF plots cumulative

frequencies of consumption in each of the situations being compared, up to the maximum admissible. Figure 6.2 shows that:

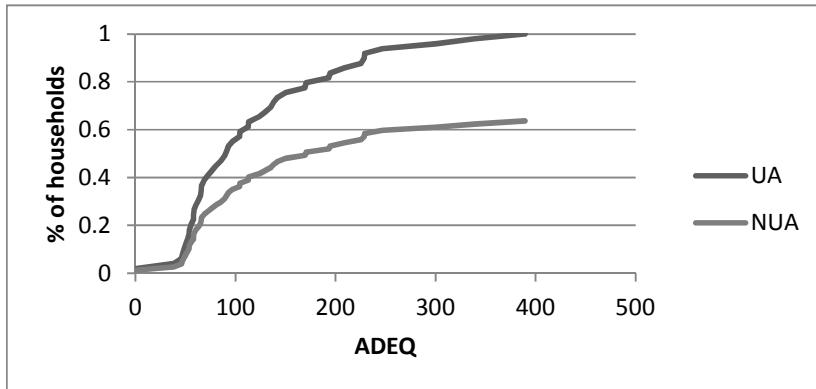
- for all incomes in 1993, the distribution function for farming households lies considerably above that for non-farming households. In other words, the percentage of households at successive income levels was consistently greater for non-farming households than for farming households.
- for 1998, for all incomes higher than about R50 per adult equivalent per month, the distribution function for farming households lies above that for non-farming households, although this gap is narrower than for 1993.
- for 2000, for all incomes higher than about R125 per adult equivalent per month, the distribution function for farming households lies slightly above that for non-farming households and this gap is even narrower than for the previous two waves.

Overall, although both categories of households start at very low incomes, a larger proportion of farming households peak at lower average incomes than non-farming households, i.e. at higher income brackets, there are less numbers of farming households than there are non-farming households. This suggests that the case for the numbers of farming households in poverty being greater than that of non-farming households seems convincing. These differences were significant at the $p < .05$ level for 1998 and 2004 but not significant for 1993.

2004



1998



1993

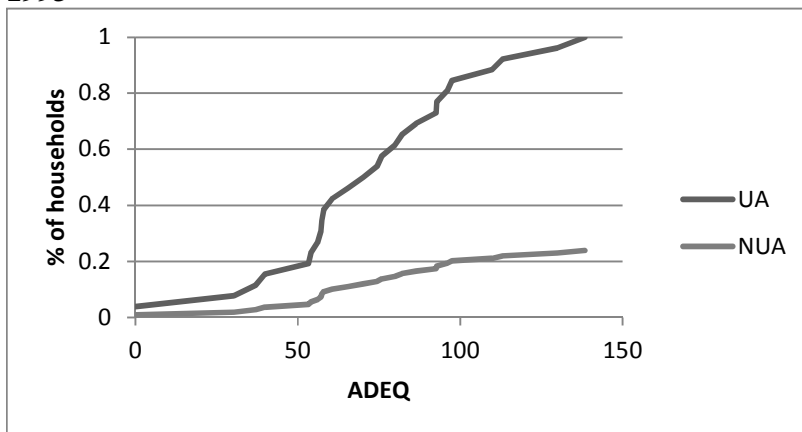


Figure 6.2: Cumulative frequency distribution for non-labour income of UA and NUA households

In terms of non-labour and wage employment income sources, the results show that monthly averages for both categories of households increased over time. This could be attributable to various state transfers and social assistance initiatives, such as child support grants and old age pension grants, among others. Most government transfers are used to meet either individual or household consumption needs. It is notable that, for farming households, this income source was consistently lower than that of non-farming households in all three survey periods.

This alters slightly from my expectation, in that farming households would have been expected to earn more from this source than their non-farming counterparts, as it has been indicated in the literature that farming households depend more on various state grants. A possible explanation for this could be that farming households face constraints in accessing these grants, due to various means tests that have to be undertaken. Viewed in this vein, it is possible that farming households' relative lack of access to these income sources may cause them to seek other ways to supplement their household incomes, such as farming. Statistically, however, the differences between these income sources for both categories of households were not significant in all three surveys.

Further analysis of the differences between poor and non-poor farming and non-farming households' non-labour incomes (not shown) revealed that in both sets of households, poor households earned less than non-poor households, but non-poor farming households earned more income from non-labour sources than poor non-farming households. This result indicates an association between farming and lower income from these sources. It also shows that non-labour income sources are associated with poverty in these households.

The association between farming households and households that are supported by various other state grants (such as the child support grant and the foster care grant), including old age pensions, has been noted in the literature (Oelofse, 2004). In South Africa, social spending to the African population increased from 51 percent in the immediate transition period to 80 percent in 1997 (May and Meth, 2007). The impact that this social spending might have on the well-being of the poor is determined by the quality of the service delivered. In some instances, OAP grants have been used to launch informal activities into entrepreneurial ventures. Particularly, the proportion

of farming households who contained someone who drew a state OAP increased from 31.3 percent in 1993 to just under half in 1998, although this proportion decreased again in 2004 to 40.1 percent of households (results not shown). The proportion of farming households that contained someone drawing a state OAP was always larger than that of non-farming households across time.

OAP grants, as opposed to other types of state welfare grants, have been singled out for analysis here, as it has repeatedly come out in the review of literature that these type of grants make a significant contribution to household well-being, in particular for farming households (Marshall-Smith *et al.*, 2005). This is even more so given the tendency of older people to get involved in farming.

In the case for South Africa, it has been said that the government cannot create enough work. Post-apartheid, levels of poverty witnessed in the country were not similar to those found in most other upper-middle-income countries, according to Carter and May (1999). Added to this, historically, poverty in South Africa has been associated with race. In 1999, 61 percent of Black South Africans were poor, compared to a mere one percent of whites (May, 2000). These households may consequently devise their own means of earning a living. As an informal activity, urban agriculture offers such people a way to participate in the economy. However, survival-type activities predominate and the evidence here shows that these do not contribute much to the household economy, both in terms of income and subsistence food, and other, non-labour sources such as grants help prop up these households.

Table 6.13: Average agricultural income of households by engagement in urban agriculture

Average Rand per adult equivalent per month	UA households only		
	1993 (n=56)	1998 (n=109)	2004 (n=191)
Agricultural income	33.43 (40.07)	31.37 (71.30)	6.32 (18.46)

Source: KIDS. **Note:** Standard deviations are in parentheses.

The calculation of agricultural income in KIDS for farming households only used imputed values of produce that is consumed by households and combined this with values of produce sold for cash. I calculated the income from urban agriculture from cash sales only (Table 6.13). My findings were that urban agriculture did not contribute much towards total household incomes, as might have been the case in some other African states where urban agriculture is practised. The mean monthly income these households derived from agriculture in cash only amounted to R33.43 in 1993, R31.37 in 1998 and R6.32 in 2004.⁵⁵

In terms of the actual incomes earned from farming activities, these monthly averages were below the poverty line (R322), such that these may be classified as survivalist activities. These miniscule incomes (including measurement error) are not surprising, given that the majority of these are poor households, poorly educated, with large household sizes. Repeatedly, this is supported by literature findings where, for example, Rogerson (1996), points out that farming activities for the majority of urban farmers in South Africa are not expansionist enterprises and food is produced as part of their survival strategy.

Table 6.14: Average total income of households by engagement in urban agriculture

Average Rand per adult equivalent per month	UA households			NUA households		
	1993 (n=56)	1998 (n=146)	2004 (n=190)	1993 (n=382)	1998 (n=297)	2004 (n=251)
TOTAL	296.28 (270.37)	401.62 (420.15)	669.05 (1067.10)	665.96 (665.27)	975.39 (835.48)	1170.52 (1359.06)

Source: KIDS. **Note:** Standard deviations are in parentheses.

Table 6.14 shows how, in terms of total monthly incomes, farming households consistently fared better than non-farming households in 1993, 1998 and 2004. Agricultural income represented 0.6 percent in 1993, 0.4 percent in 1998 and 0.3 percent in 2004, signalling a decline in trends of selling produce by these households. These findings compare with findings from other researchers in the field. For example, in a survey carried out by van Averbek (2007) in Pretoria,

⁵⁵ All figures were CPI-adjusted to constant 2000 prices. The standard deviation is shown in brackets.

he found that the mean monthly income farming households derived from agriculture represented only 0.4 percent of their total monthly household income.

In reality, the calculation of income from urban agriculture faces a variety of external factors, along with the non-economic characteristics analysed above. Nugent (2000) shows how the net income flow from urban agriculture depends on other factors such as the farming effort, the availability and cost of basic inputs and the yields. These factors are determined by technology and climate, access to market or other buyers, the ability to store, transport, process and preserve products, and the prices (RUAFA, 2011; Nugent, 2000). These are further determined by supplies and demand for the product and its substitutes. Other factors that have been mentioned in the literature that may have a bearing on the low incomes derived from urban agriculture relate to poor agricultural investment and low skills (Nugent, 2000).

Although some contend that informal work is employment creation (Meagher and Yunusa (1998; Rogerson, 1996), the miniscule incomes derived from sales of agricultural produce, coupled with the fact that they are predominantly activities of food consumption orientation, rather than commercial gain, reveals the nature of most of these activities. It reveals one of the major definitional issues with unemployment in South Africa. People who are engaged in some form of economic activity, however small, are captured in official labour market surveys as 'employed workers'. Any income-earning activities are typically classified as work, on condition that the individuals concerned were engaged in these activities for five hours or more per week (Natrass, 2000: 78). However, the nature of this employment is such that the incomes derived are not regular and well below minimum wage. The results from this section mirror those obtained by other researchers in the field and show that there is limited contribution of urban farming to household income.

It has to be stated, however, that these results may be related to the overall phenomenon associated with collecting household income data. Sensitive information, such as household income, is difficult to collect for a number of social, cultural and economic reasons. Relatively wealthy households tend to under-report their income. Another reason for this is related to the definition of household income. In many studies, some respondents do not feel comfortable

revealing their true incomes. Then there is unearned household income, which includes inter-household transfers. A number of households that were engaged in activities with the lowest returns, had diversified income sources. Households engaged in activities with the lowest returns – that is, unskilled labour and petty trading (such as is the case with most farming households), had the least diversified income sources when compared to additional incomes of better-off households working as professionals and skilled labourers. In addition, the under-reporting of incomes, especially significantly for urban-based incomes in KIDS, has to be noted. This is exacerbated by the fact that KIDS was never designed to be an agricultural survey and that capturing accurate information on agricultural production, consumption and sales is notoriously difficult.

6.4 HOUSEHOLD EXPENDITURE

I have already shown that farming households have a higher poverty incidence than non-farming households. I calculated the mean monthly household expenditures and compared these between farming and non-farming households in 1993, 1998 and 2004.

Table 6.15: Average expenditure of households by engagement in urban agriculture

Expenditure	1993 [N=443]		1998 [N=438]		2004 [=441]	
	(R ADEQ month ⁻¹)					
	UA	NUA	UA	NUA	UA	NUA
mean	417.66	637.51	376.00	775.49	544.04	1136.40
<i>std. dev.</i>	(223.70)	(435.21)	(301.68)	(653.09)	(531.50)	(1104.99)
<i>n</i>	56	381	147	291	190	251

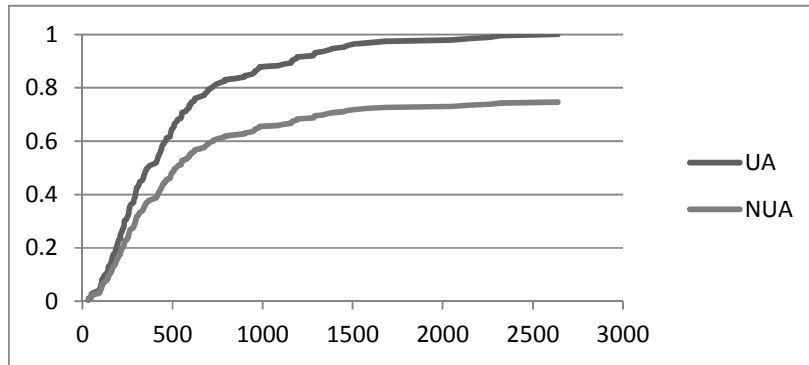
Source: KIDS

Farming households had lower average monthly adult equivalent expenditure than non-farming households at each point in time (Table 6.15). This expenditure decreased over time for farming households, while the trend for non-farming households was an increase between 1993 and 1998 and a decrease in 2004. It would seem that lower average monthly adult equivalent expenditure was associated with participation in urban agriculture and that these households are getting poorer. This result could be related to, among other factors, the relatively lower poverty status of

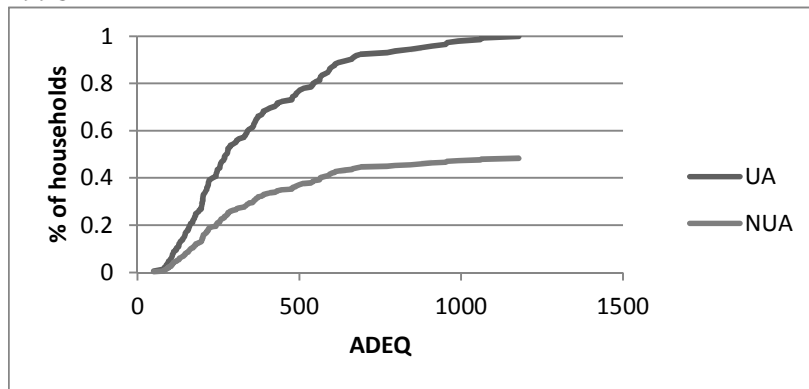
farming households compared to non-farming households. Statistically, the difference between the mean monthly expenditure of farming households and non-farming households was significant, for all three years, at the $p < 0.001$ level.

I further tested the robustness of expenditure comparisons using cumulative frequencies of consumption in each of the two household groups being compared (Figure 6.3), for each of the KIDS waves in 1993, 1998 and 2004. Analysis shows that there were no intersecting CDFs for these households. That the curves do not cross is testament to the fact that there were clear differences in the total adult equivalent expenditure between farming (lower) and non-farming households in all three waves.

2004



1998



1993

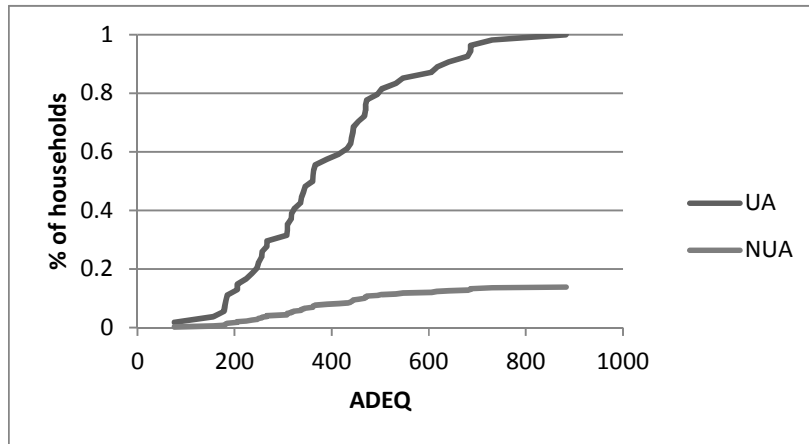


Figure 6.3: CDF for total ADEQ expenditure between UA and NUA households.
Source: KIDS

One of the identified gains in the literature for households taking part in agriculture is that they are able to divert funds which would otherwise be spend on food purchases, to other household needs (RUAf, 2011). I calculated household expenditure on food. The trend with both categories

of households has been one of a decline in food expenditure at each point in time (Table 6.14). The food bill of farming households is consistently lower than that of non-farming households, across time. A possible explanation for this could be that urban agriculture is employed as a strategy to reduce overall household expenditures, as well as food expenditure. The differences between the mean monthly food expenditure between the two categories of households were statistically significant at the $p < 0.001$ level for 1998 and 2004 and significant at the $p < 0.05$ for 1993.

Table 6.16: Average food expenditure of households by engagement in urban agriculture

Food expenditure	1993 [N=443]		1998 [N=443]		2004 [N=442]	
	(R ADEQ month ⁻¹)					
	UA	NUA	UA	NUA	UA	NUA
mean	228.58	266.34	146.19	212.67	158.41	267.83
std. dev.	(121.47)	(131.14)	(93.14)	(138.48)	(117.27)	(203.96)
<i>n</i>	56	387	147	296	190	252

Source: KIDS

It is also possible that this pattern is due to the lower total expenditure of farming households. Literature findings indicated that a large part of the food bill (in the region of 60 percent of the total household budget) of the urban poor is spent on food. To explore this, I investigated this for urban farming households across all three survey periods of KIDS. The results revealed that, although the proportion of the food bill was over half the total household budget in 1993 (54.7 percent), this declined to 38.9 percent in 1998 and to about a third in 2004 (29.1 percent). This trend applies to other surveys as well. In comparison to non-farming households, the proportion of the food bill was under half the total household budget in 1993 (41.8 percent). This declined to 27.4 percent in 1998 and to 23.6 percent in 2004 (Table 6.16).

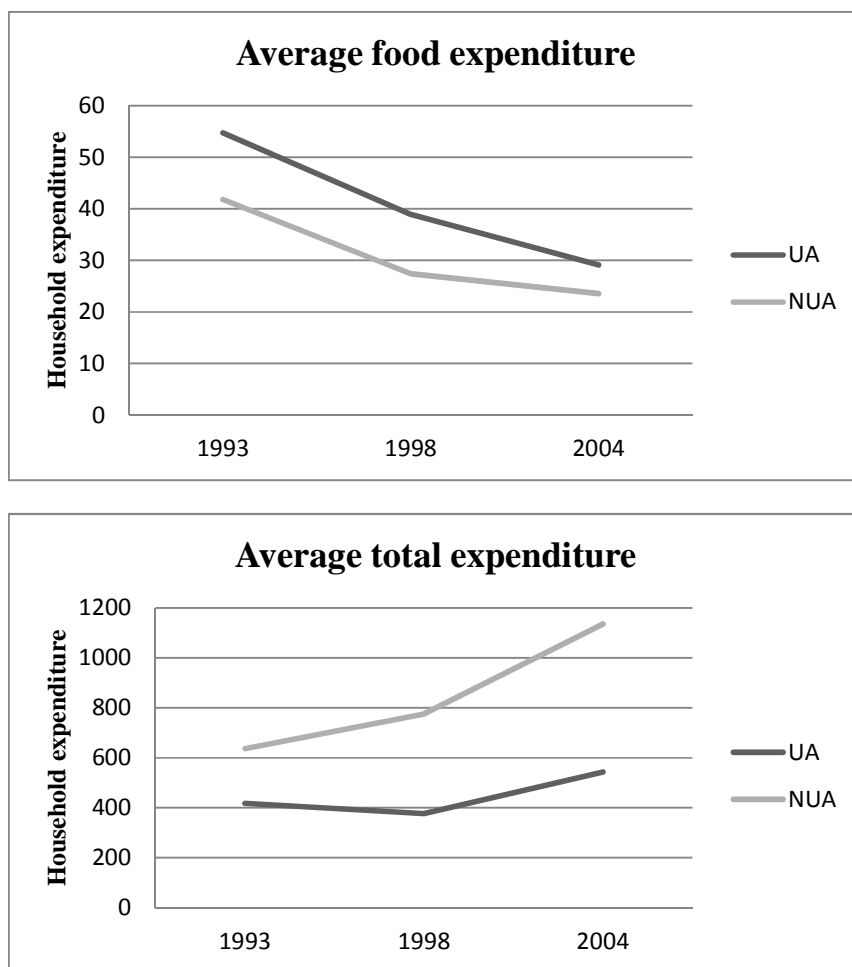


Figure 6.4: Average total and average food expenditure
Source: KIDS

Figure 6.4 shows that the gap between farming and non-farming households was narrower in terms of food expenditure than total expenditure. These results indicate that farming households might indeed be benefitting from producing their own food (expenditure substitution) and thereby used urban agriculture as a strategy to divert expenditure on food to some other (perhaps much-needed) household expenditure. This was particularly true of poor farming households over their non-poor counterparts (results not shown). This suggests that higher food bills in poor urban households may be associated with farming. T-test analyses between poor and non-poor urban farming households in terms of their average monthly ADEQ food expenditure showed

significant differences at the $p < 0.000$ level in 2004, 1998 and 2004. Expenditure figures were all adjusted for CPI at constant 2000 prices and outliers were removed.

6.5 AGRICULTURAL PRODUCTION

To reiterate, urban agriculture in the study was limited to the production of crops. Farming households produced a variety of vegetables and crops. The most commonly produced of these in terms of most commonly harvested were: in 1993 and 1998 - green maize, fresh maize and pumpkins; in 2004 – green vegetables, fresh maize and potatoes/sweet potatoes.

To get an idea of the relative proportions of produce consumed, compared with that which was sold by farming households, I analysed this for each of the KIDS cross-sectional surveys. Table 6.17 indicates that larger proportions of farming households consumed their produce over those who sold. This was not an unexpected result, given the poverty class and average years of education and the average household sizes of these farming households, as analysed above.

Table 6.17: Comparisons between crops consumed and crops sold, 1993 - 2004

crop production	1993 (n=53)	1998 (n=124)	2004 (n=146)
consumed only	54.7	66.4	57.5
sold	45.3	33.6	42.5

Source: KIDS

The majority of farming households consumed their produce and this trend is consistent through time. The literature notes that urban agriculture involves petty entrepreneurial activity in the home and spontaneous opportunities to earn money around the community. With regards to urban agriculture providing incomes for households, the results showed that this is minimal, as the contribution of agricultural income to total household income is very low. Expectedly, the proportion of marketed crops was lower than that of consumed produce. In a study from Ethiopia, most crop producers were found to be autarkic households, who were poorer in many respects than households who sold crops (IFPRI, 2007). Important factors contributing to

increased sales of produce were found to be increased access to roads, land and farm equipment. Traders were key to enabling the production and commercialisation of crops.

Some of the difficulty experienced with separating crops produced for consumption from those produced for income was that, in actual fact, most households produced for consumption and those who did sell any produce, did not produce solely for the market. There was often a mix between the two, however.

The literature indicates that urban agriculture is most likely to occur if other necessary resources are available, largely land. I calculated this for all survey waves of KIDS. Following the KIDS researchers' convention, all plot units were converted into hectares, using the conversions: 1 soccer field = 0.5ha; 1 acre = 0.4ha and 1 m² = 0.0001ha.

Table 6.18 shows the minimum and maximum plot sizes of urban agriculture households for each wave. Average plot sizes were 0.04 ha in each year. Access to more plots did not increase over time, further testament to why the majority of these households produced crops largely for consumption purposes. This might indicate that households did not have access to any other cultivated plots. This scale signifies that most of these were possibly home-garden type (as opposed to farming vacant land in public spaces).

Table 6.18: Plot sizes

Plot sizes (ha)	1993	1998	2004
min	0.0001	0.0003	0.0003
max	0.403	0.401	0.505
<i>n</i>	45	136	146

Source: KIDS

Overall, most households surveyed across the years did not have a member belonging to a community garden or farmers' association (only five households in 2004; three and two in 1998 and 1993, respectively). This suggests that this type of urban farming was mostly of home-gardening type. In this scenario, dwellings occupy only part of the sites, leaving space for the establishment of small home gardens (plot sizes and urban land and space limitations attest to

this). However, a possible error might exist with this finding, especially in consideration of the fact that that this question was asked retrospectively in the 1998 survey.

As a point of inference, May (2004) analysed the size of cultivated plots by farming households for the entire KIDS cohort (i.e. not differentiated according to spatial location). His results indicate a similar trend, with households averaging in land sizes from around one hectare in 1993 and 1998 to 2.7 hectares in 2004. The big differences between May’s analysis and mine is that urban land spaces tend to be limited compared to rural areas where land for cultivation may be in abundance. In comparison to other cities, e.g. in Mozambique (Maputo), Malawi (Lilongwe) and Ghana (Accra), securing access to land was the basis for improved livelihoods and food security (African Union Consultative Workshop, 2006).

Table 6.19: Proportion of households hiring temporary labour

Hiring of temporary labour	1993	1998	2004
%	9.4	8.1	6.9

Source: KIDS

In terms of labour utilisation and inputs, the proportion of farming households which used temporary hired labour for work in their gardens declined from 1993 to 2004 (Table 6.19). This was expected, given the fact that most of these are home garden-type and practised on a very small land area. Any labour that would be used would be hired for specific tasks during the farming cycle. It is unlikely that households farming on home gardens would retain labour on a full-time, paid basis. This type of farming uses mostly household labour. Household members would thus fill in wherever necessary and only in the busiest of times and/or as and when needed, extra hands would be employed to help out in the gardens, although this could have been seasonal.

Other variables related to agricultural production that I investigated were the use of inputs and services, including the use of physical equipment and farming implements. These were listed as: ploughing services, seeds/seedlings, fertilizers, sprays/herbicides/insecticides, gristing/milling services, haulage/transport, petrol, oil or agricultural machinery, manure and other inputs. Table

6.20 shows the proportion of farming households which made use of a mixture of these inputs in each wave.

Table 6.20: Proportion of households using inputs

Use of inputs	1993	1998	2004
%	33.6	52.7	61.8
<i>n</i>	29	135	146

Source: KIDS

With regards to the use of *other* inputs and services (including extension), households showed a decrease over time (results not shown). Given that the plot sizes were relatively small, and households did not hire much labour, it was to be expected that there would be little investment made in their own home strategies. The calculation of the value of inputs of the households that did use inputs showed that this value decreased over time. These values, which were all adjusted for CPI, were R88.80 in 1993, R47.04 in 1998 and R12.04 in 2004. Although seemingly contradictory, the proportion of households using inputs in their agricultural activities increased across time, while the monetary value of these inputs decreased. This is explained by the very low investment households made in their farming activities overall, not least because of the associated cost of inputs.

In relation to input usage, a study from Harare found that the price of inputs, such as fertilizer, were beyond the reach of most of the urban farmers (Kutiwa, Boon and Devuyt, 2010). This resulted in the majority of the respondents resorting to using uncertified seed and reducing the size of agricultural land, both of which contributed to reduced yields (*ibid*). This indicates a relationship between plot size and input usage.

The land size in which urban agricultural activities were undertaken by farming households, although small but with a gradual increase over time, and the fact that there is a small but gradual increase in the percentage of households selling their produce, means that the economic potential for this to expand exists and cannot be ruled out. Indeed, literature cites many sources which attest to the growth of agribusiness and how these usually start out small and, given time,

adequate resources and proper support, grow into fully fledged small-scale businesses (Ndokweni, unpublished Masters thesis, 2002).

Where people have access to larger plots of land for the cultivation of their crops, along with all the necessary skills, extension, market information and access, as well as an enabling policy environment in general, their endeavours can become more of a commercial enterprise. In the literature review chapter, there were plenty of examples of this. Where people who have access to more land, and in spaces that have been termed ‘open space’, and in areas that have been zoned particularly for this in urban areas, usually in the form of community gardens, and along with the necessary support, these endeavours can become commercially viable.⁵⁶

The conclusion to be drawn from these results is that these were mostly household endeavours of the home-gardening type, as opposed to large-scale and open space urban agriculture of the community gardening type. The small land sizes of home-gardens mean that households who participate differ in terms of their agricultural inputs, production yields and income generated from those who engage in larger parcels of land. While the (relatively) small home plots may help the household address food access, they also have considerable opportunity costs. Mostly these are household endeavours geared towards home consumption and hardly any households produce crops for sale. Even when they do, the income derived from them is so low that the contribution made towards total household income is miniscule and even negligible. These are mostly a survival type of production and are not to be considered as employment creation *per se*.

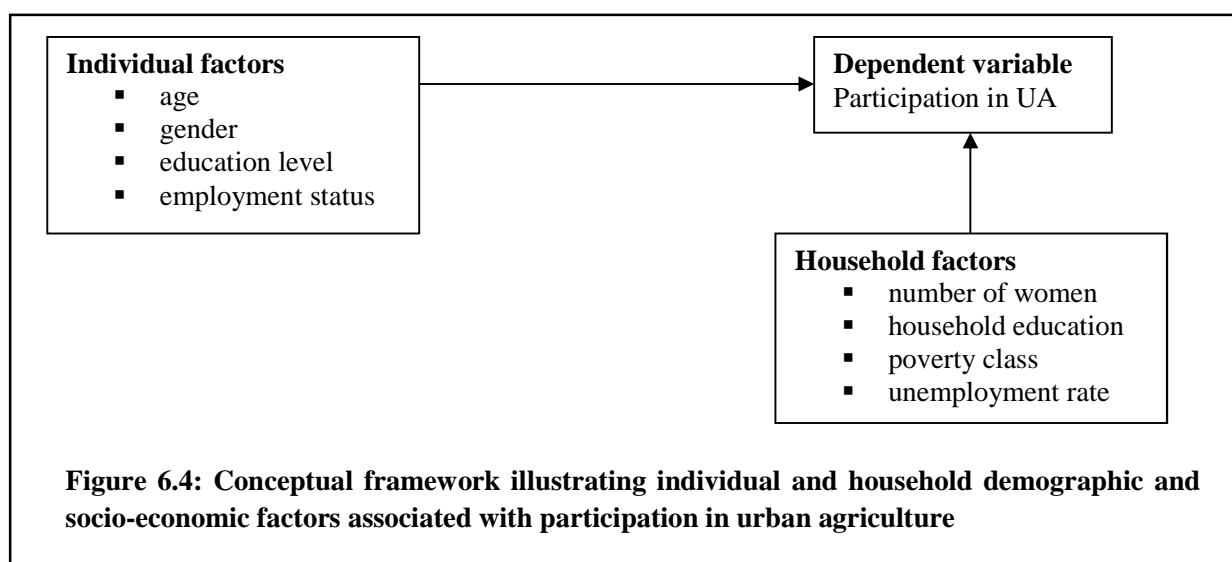
Theory and logic would suggest that if there is prolonged urban agricultural participation, then urban agriculture must have something to offer by way of income generation or expenditure substitution, so that these people would continue to endeavour to produce food over time. However, as a percentage of total household income, as the data show, agricultural income contributes very little. It is possible that urban farming performed other important functions besides the objectives of income generation and expenditure substitution. I delve deeper into these various motivations behind urban agriculture in Chapter Seven, using the results from the qualitative component of the study.

⁵⁶ These dynamics were investigated for this study and are discussed at length in Chapter Seven.

6.6 THE ODDS OF ENGAGING IN URBAN AGRICULTURE

The increasing number of people who engage in urban agriculture has been associated with a decline in formal economy employment, as a result of economic crises. These people come from poor and poorly educated households that have large household sizes and are populated by women.

To construct my model, I used data on individuals in the KIDS survey from 2004 (analysed in Chapter Five) and household level variables for the corresponding year (analysed in Chapter Six) in a combined model. The conceptual framework for my analysis is depicted in Figure 6.4.



An individual's motivation to participate in urban agriculture is thought to be influenced by several factors, including their age, gender, education and employment status and household income. The framework shows the factors that are associated with participation in urban agriculture. Hence, I strove to calculate the odds of engaging in urban agriculture.

My study focused on the individual participant factors (gender, age group and employment status) that were viewed as influential in engagement in urban agriculture. The employment status of an individual combined regular, casual and self-employment categories. The analysis

utilised a sample of working age individuals from non-farming households⁵⁷ and compared this sample to working age participants in urban agriculture. The household socio-economic factors that these individuals came from (household size, household education and poverty class) were also brought into the analysis.

I undertook logistic regression analyses and fitted three logistic models for the participants and their households in urban agriculture to ascertain the effect of these covariates on participation (Table 6.21). For my analysis, participation in urban agriculture was modelled via a logistic regression equation. Logistic regression analysis models the relationship between a binary or ordinal response variable and one or more explanatory variables. The logistic regression model uses the explanatory variables to predict the probability that the response variable takes on a given value. The response variable can take on one of two binary values or one of a (usually small) number of ordinal values.

For this study, the correlates of urban agriculture were isolated using a logit model, in which a dichotomous variable representing whether or not a person farms was regressed on a set of expected exogenous explanatory variables. This approach is in line with Allen and Thompson (1990), Coulombe and McKay (1996) and Appleton (1996).

Participation in urban agriculture was correlated in 0,1 scale. For such a binary response, the predicted probabilities were obtained from a logistic regression. This called for a transformation to the probabilities because the relationship between the probabilities and the covariates is typically not linear. The logistic regression model formulation specified that the probability of the 'event' (i.e. participation in urban agriculture) was related to the associate variables x_1, x_2, \dots, x_m via a link function:

$$\log \{p/(1-p)\} = \alpha + x_1\beta_1 + x_2\beta_2 + \dots + x_m\beta_m + \text{selected (interactions and quadratics)} \quad (1)$$

where α = intercept

⁵⁷ The full methodology employed in the selection of this is provided in the methodology section (Chapter Four, Section 4.3.2).

x_1 = gender of the individual

x_2 = employment status of the individual

x_3 = age group of the individual

x_4 = mean years household education

x_5 = mean household size

x_6 = household poverty class

β are the corresponding coefficients

and

$$p = 1/e (\alpha + x_1\beta_1 + x_2\beta_2 + \dots + x_m\beta_m + \text{selected (interactions and quadratics)}) \quad (2)$$

The $\text{logit}(p)$ is the log of the odds, $\log \{p/1-p\}$. The log odds are written as an intercept (α) plus a combination of explanatory variables multiplied (x) by the appropriate parameter values (β). The odds ratios are then obtained by taking the exponential for each covariate ($=e^\beta$).

Table 6.21: Combined people and household model, by selected characteristics, 2004

Variable	Model 1	Model 2	Model 3
	OR	OR	OR
Gender (male) female	1.70**	1.65**	1.67**
Mean years education	0.88***	0.88***	0.90**
Employment status (other) lost employment	1.33	1.41	1.23
Age group (16-26) 26-36 36-46 46-56 56-64	1.11 1.87 1.21 1.16	1.10 2.09* 1.42 1.41	1.24 2.54 1.89** 1.99
Mean household size		1.10***	1.10***
Poverty class (non-poor) poor			2.07**
Model 1: Log likelihood -262.40521 Ch ² (7) = 39.00*** Model 2: Log likelihood -251.61929 Ch ² (8) = 60.58*** Model 3: Log likelihood -247.69245 Ch ² (9) = 68.43*** *p<.10 **p<.05 ***p<.001			

Source: KIDS, 2004 (n=544)

Model 1 included variables associated with a person's gender, mean years of education, employment status and age group⁵⁸, Model 2 included the mean household size, while Model 3 incorporated the poverty class of the person's household.

Several things emerged as interesting in this model (Table 6.21; Model 3). Women predicted *more likely* odds of farming, by a factor of 1.67 times. With every unit increase in the number of years of education of an urban agriculture participant, this *decreased* the odds of engagement in urban agriculture, by 0.90 times. If a person had gone from being employed in 1998 to being unemployed in 2004, this *increased* their odds of engaging in urban agriculture by 1.23 times. People in the age group 36-46 years predicted the *highest likelihood* for engagement in urban

⁵⁸ Adapted from population studies; population pyramids of separating age groups into intervals, 10-year age gaps were chosen for these models.

agriculture, by a factor of 2.54 times. Every unit increase in household size predicted odds *more likely* to engage, while poor households also predicted odds *more likely* to engage, by a factor of 2.07 times. All models are significant. What these results show is that personal and household characteristics have a bearing on participation in urban agriculture. These results go some way towards answering my question about a lack of employment (in this case losing employment) being associated with engagement in urban agriculture. Employment status is not shown as being significant and I have not been able to sufficiently prove this.

6.7 CONCLUSION

Urban households are impacted upon by the wider macroeconomic environment as well as unemployment and the requirements of the urban labour market. Many of the poor and unemployed in South Africa have to venture into the informal economy to raise income. This is also notwithstanding their typical household structures. Engagement in urban agriculture for income generation purposes might not be as prominent or as strong as we might like to think. Indeed, there are greater income contributions to the total incomes of urban agriculture households from other sources. Nevertheless, urban agriculture is still a sector that people join when there are no other economic opportunities available.

Most of these urban agriculture activities are of the backyard gardening-type, on a very small scale. Most produce is for consumption purposes and there is very little contribution towards lowering food costs. Expenditure substitution is very limited. Most urban agriculture participants are women and older people.

From the results presented here, it would seem that urban agriculture gives people something to do, but they are not benefitting much by way of food production (subsistence) and/or income. There are also a number of challenges which encumber the efficiency of urban agriculture, e.g. small land sizes and inefficient use of resources. Urban agriculture for these households provides very few economic benefits. Personal and household characteristics have a bearing on participation in urban agriculture. In Chapter Seven, I explore this in some detail, using results from the qualitative survey component of the study.

CHAPTER SEVEN WHY DO PEOPLE GET INVOLVED IN URBAN AGRICULTURE?

7.1 INTRODUCTION

This is the last analysis chapter of the thesis. The chapter analyses results from the qualitative survey component of the study to provide an insight into ‘why people engage’, which quantitative data cannot answer.

In a similar study conducted on Durban, May and Rogerson (1995) found seven different socio-economic categories of households involved in urban agriculture. The first three categories of households, *viz.* marginalised, welfare-dependent and remittance dependent, were found to be the ones that deeply experienced poverty. The last four categories of households, classified into wage committed-average earning, wage committed-high earning, mixed income source-wages and mixed income sources-wage households, were less affected by the economic crisis. The interpretation from these findings was that the first group of households practised a subsistence-oriented urban agriculture for their survival, while the second group was practising entrepreneurial-oriented urban agriculture for income generation.

The objective of this study was to find out if people unable to secure formal wage employment become involved in urban agriculture. Chapter Six utilised the quantitative KIDS data to analyse trends in participation and to ascertain ‘who participates’. In this chapter I am going to analyse the responses given by participants in urban agriculture to the themed questions used as the interview guide in the qualitative component of the study (Appendix A). Narratives of their experiences serve to provide verbatim testimonials about their specific reasons for participating in urban agriculture.

Chapter Seven comprises five sections. Apart from this introduction, the context in terms of agricultural support services provided by various organisations in the study communities is given in section two. Section three provides the agricultural production context in terms of the investments made, crop production activities and the challenges that participants faced in these

study communities. The participants' motivations for farming are dealt with in some detail in the fourth section of the chapter. The fifth and final section concludes the chapter. The main focus throughout is on the types of people in the labour market who engaged in urban agriculture. This was in an endeavour to ascertain their motivations, or rationales, for participating in urban agriculture. Narratives of their experiences serve to provide verbatim testimonials about their specific reasons for urban agricultural participation. The terms participants and farmers are sometimes used interchangeably in the chapter.

7.2 AGRICULTURAL SUPPORT SERVICES CONTEXT

The category of farmer and land under cultivation had a bearing on the level of institutional support administered to farmers by various organisations that were working in the community at the time.

The community of eNdaleni was recognised as poor, with high unemployment levels.⁵⁹ Since 2002, the KwaZulu-Natal Department of Agriculture (DoA) had been supporting vegetable garden projects at eNdaleni. Support initiatives that assisted with the provision of extension services were mostly geared towards farmers engaged in community gardens and very little support, if any, was given to home gardeners. Aliber and Hart (2009) and Monde and van Averbeké (2004) found that community gardens are the most common types of intervention of provincial Departments of Agriculture in most townships.

The community gardens were started as an initiative from the KZN DoA, together with the local municipality, after they had consulted with community members and identified starting community gardening projects as a job creation initiative. Many people from the community were active in these projects. There were at least four community gardening projects that I could identify in the wider community at the time of the study that were dispersed throughout the area. One of the extension officers working in the community admitted that the exclusive focus on community garden projects meant that extension services only reached those people participating

⁵⁹ This is cited in the 2004 Richmond Integrated Development Plan, which eNdaleni falls under.

in the projects, to the exclusion of individuals who produced food in home gardens (Phakathi, 2004).

Other organisations actively working with farmers involved in community gardens were NGOs such as the Farmer Support Group (FSG), African Co-operative Action Trust (ACAT) and an agricultural training college. FSG and ACAT were involved in mentoring farmers in crop production techniques while the agricultural training college performed on-site visits to demonstrate to farmers the proper use of chemicals (such as pesticides) and to conduct trials.

The major focus of each of these organisations was to foster economic development under various programmes, with the overriding understanding that a lack of knowledge among urban farming households impeded their access to markets, or prevented them from producing for markets, even when it could have been lucrative to do so. The most important of these role-players was the KZN DoA, which was at the forefront of government's efforts to deliver services to farmers in the community of eNdameni.

Table 7.1: Access to agricultural services by participants engaged in different types of urban farming, n=21

	Endaleni		Cliffdale
Theme	Home gardening	Community group gardening	Market gardening
Support	Do it alone	Extension services by DoA, agricultural training college and FSG	Extension services; crop insurance; Land Bank loans

Source: Fieldwork, 2004

In Cliffdale, market gardeners benefitted in terms of extension support from the DoA. Market gardeners were also successful in obtaining agricultural support services in the form of loans from the Land Bank and in negotiating for crop insurances, although this had taken place years before and participants mentioned that they were still servicing these loans.

The DoA and other NGOs working with farmer groups in the two communities saw the provision of training as their major concern. Specific training included skills transfer, appropriate

technology use and collaboration on matters such as the purchase of seeds, tools and equipment. Site visits and demonstration trials were organised for community gardeners by a local agricultural college to show farmers the correct use of chemicals (such as herbicides and pesticides) and to generally provide a forum for exchanging information, as well as playing a mentoring and advisory role. Community gardeners received some assistance in the form of infrastructure, such as water pumps and fencing for their gardens. Further to the provision of inputs, these organisations helped facilitate gardeners' access to markets, assisted with the enhancement of agricultural produce among local farmers and encouraged them to participate along the value chain.

Home gardeners as a group stated that they did not benefit from any extension support services. Members of this group practised urban agriculture on an individual basis, on household plots that were very small, on an *ad hoc* basis and were not organised into groups (such as a recognised farmers' association). These were some of the reasons that they were omitted as a target group that would be in line to receive agricultural development programme support. This was verified by the DoA extension officer, who was interviewed as a key informant. The officer explained that the DoA's focus was on job creation and the promotion of economies of scale. The DoA's initiatives thus aimed at spreading the benefits to a larger group of households. Community gardeners, by comparison, were relatively easily reached. It was more efficient to deal with farmer groups than individual farmers. Indeed, the level of institutional support given to those who farmed in urban areas seemed to be dependent on the category of farmer, which could be linked to their areas of cultivation.

Perusal of the 2006/2007 financial year Richmond Municipality Integrated Development Plan (IDP) at the time revealed that plans had been underway by the local government to extend their service delivery to individuals who farmed on household plots. The 'one home, one garden' campaign is the KwaZulu-Natal food gardening initiative which has resulted in a number of established gardens across the province. The strategy involves the distribution of seed and fertilizer packages, which are distributed to people to commence their gardening activities. Co-operatives are then formed so that training and support services are provided. There is also a mechanisation programme by the provincial Department of Co-operative Governance and

Traditional Affairs. The provincial DoA also works with farmers and provides support to co-operatives/groups/farmer associations, typically in community gardens, although market gardeners have also been the recipients of this support in the past.

7.3 AGRICULTURAL PRODUCTION CONTEXT

To re-cap, my analysis of urban agriculture using qualitative data from two communities in KwaZulu-Natal differentiated urban agriculture into three groups, purposely chosen, as described in Chapter Four, according to three categories, *viz.* home gardeners, community gardeners and market gardeners. Farming in the community of eNdaleni took place in two localities, in home gardens and in community gardens. Farming of the home gardening type was the most prevalent and almost every household had an on-plot garden.⁶⁰

Land holdings for home gardeners were generally a very small piece of land adjacent to the house. By contrast, land designated for community gardens was allocated by the local municipality, church groups, rented out or borrowed land to community groupings, or people had permission to occupy (PTO) the land. In comparison, in Cliffdale, land was mostly privately owned, but some farmers had obtained additional plots of land to expand their farming operations through rental arrangements (Table 7.2).

Table 7.2: Land holdings for participants engaged in different types of urban farming, n=21

	Endaleni		Cliffdale
Theme	Home gardening	Community group gardening	Market gardening
Land location	On-plot, adjacent to household	Off-plot, in open space	On-plot and off-plot
Tenurial rights	Own land	Permission to occupy	Own/leased land

Source: Fieldwork, 2004

⁶⁰ Experiences that differed from these were where the household had no available space on which to grow vegetables (typically land was taken up by extra dwellings that had been erected on available land), or if there was space available, there were no household members who were interested in using this for farming, and/or there were no household members available to do the work, because they worked elsewhere, outside of the community.

Subjective field observations of relative plot sizes of each of the three categories of farmer from the qualitative survey showed that home gardeners had plots that were no more than 4m², on average. For urban farmers working in community gardens, the average plot sizes were 1.2 hectares and these were shared among 12 to 15 farmer members. Cliffdale market gardeners, who had a fully-fledged commercial operation, had plots that were in excess of two hectares each, on average.

Market gardeners' landholding rights differed within the group. Some farmed on one big plot, adjacent to their residential property. Others farmed on more than one plot and some of these were located away from the homestead, i.e. off-plot. Not all of the market gardeners owned their land; some had long-standing leases of more than 15 years.

Table 7.3: Group affiliation for participants engaged in different types of urban farming, n=21

	Endaleni		Cliffdale
Theme	Home gardening	Community group gardening	Market gardening
Group affiliation	Independent/do it alone	Phumelela Farmers' Club; Bhekohlulwayo Farmers' Club	Cliffdale Farmers' Association

Source: Fieldwork, 2004

Home gardeners farmed independently of any group. Participants belonging to this category of urban producers were not affiliated to any farmers' associations in the community. Since the general perception with this group was that gardening was 'something to do', participants in this group did not have any great aspirations about expanding their operations beyond just producing extra food for the table, as some said during the interviews. On the other hand, a strategy of the participants involved in the community gardening projects was to form farmers' associations. The community gardening participants I interviewed belonged to two different farmers' organisations, viz. the Bhekohlulwayo and the Phumelela Farmers' Clubs from Endaleni (Table 7.3).

The general consensus among community gardening participants was that forming themselves into a farmers' group ensured recognition, so that if there were potential development initiatives

that outside institutions wanted to launch in their community, this then ensured that as a farming group, they stood a better chance of being the recipients of this development assistance, as opposed to people who farmed on an individual/independent basis. This was confirmed by the DoA official who worked with the community gardening groups from Endaleni as an extension officer.

Community gardeners from Endaleni marketed their crops collectively within their local community, although some people took their share of produce and marketed this individually at stalls located by the main road leading into the community. One Endaleni community gardener occasionally sold his produce at the nearby Richmond town “*when they had a good harvest.*” A share of the produce and/or whatever surpluses the farmers could not sell was consumed by their households.

In the market gardening group, farmers were formalised into a group – called the Cliffdale Farmers’ Association – which had been formed many years ago (dating back over two decades). Membership in this group was by default and the farmers who belonged to it simply ascended to the position which their fathers before them had occupied. Market gardeners had long established marketing networks in Pinetown and in Durban and, in this way, the farming businesses were efficiently run, with established clients, negotiated prices, cargo transportation and guaranteed incomes. The marketing arrangements were also something that the farmers had inherited along with their family businesses.

Among the three categories of urban producers, these differed in correspondence to the scales of production, the level of investment made in the operation, equipment used, outputs and land under cultivation. These variables could be related to their purpose of production, or rationale for farming. Home gardeners (six out of seven) largely produced similar traditional-type crops that their forefathers had produced, which had little commercial value and were geared more for household consumption. Predominantly, maize and beans were produced by this group, with a few rows of vegetables such as cabbage and spinach by some. Participants in this group relied mostly on their own indigenous knowledge and understanding of producing these crop types,

without having had any formal training or skills. The resources used in their garden operations by way of agricultural inputs such as fertilizers and pesticides were minimal, if at all.

For community and market gardeners alike, however, production units tended to be more specialised and participants grew commercial crops such as cabbages, green peppers and tomatoes in their gardens. These crops needed some investment in their production in terms of agricultural inputs, which had to be bought. Inspection of the farmers' gardens belonging to each of these two groups showed that the commercial crops that were grown in these gardens were supported by agricultural inputs such as pesticides and fertilizers.

Table 7.4: Garden inputs for participants engaged in different types of urban farming, n=21

	Endaleni		Cliffdale
Theme	Home gardening	Community group gardening	Market gardening
Equipment used	Hand tools and simple garden implements	Semi-sophisticated	Sophisticated and mechanised
Labour	Own and/or family	Own and/or hired	Hired

Source: Fieldwork, 2004

From my field observations and informal conversations, most home gardeners used simple production equipment such as garden hoes and other rudimentary implements for ploughing, and crops were mostly rain-fed. In comparison, participants in the community gardening group used semi-sophisticated equipment such as hiring cattle and a plough and using water pumps for irrigation, supplied by the major participating stakeholder, working with farmer organisations in the community, e.g. the DoA. It was thus possible for these farmers to have a commercial orientation to their production activities. With the market gardening group, the commercial orientation came with attendant investments made in their farming operations and all participants in this category used mechanized equipment such as tractors and utilised hired labour in their production activities.

Many (five out of seven) home gardening farmers stated that they did not think about investing in their farming activities because they did not consider this to be a serious occupation or geared for commercial gain. It was “*something to do on a part-time basis to derive some extra food for*

their household tables.” Two of the households in this group had bought fertilizer at a cost of R40 each. In terms of the division of labour with home gardeners, household members, including children, helped out with various tasks and at various stages during the farming season.

Table 7.5 shows an analysis of some of the financial resources used in financing production activities, classified according to the three farmer categories. Home gardeners used some of their state support grants (e.g. old age pensions) and remittances, while participants in the community gardening groups used the same resource, as well as income sources from stokvels, however modest.

Table 7.5: Resources used in financing the agricultural operation for participants engaged in different types of urban farming, n=21

	Endaleni		Cliffdale
Theme	Home gardening	Community group gardening	Market gardening
Resource	Various state grants and remittances	Various state grants, stokvels and remittances	Crop insurance, land bank loans and retirement funds

Source: Fieldwork, 2004

Two of the study respondents support this:

“I am left behind at home to look after my son and daughter’s grandchildren who both work away from the community in Durban and only come home to visit during the holidays. My children do not send me any money except occasionally. Since I have become a pensioner, my grant is the only regular means of income. I sometimes use money from this to buy cabbage seeds which I plant in my garden in order to provide us with fresh vegetables.” [Interview 2; home gardener; age 67]

“I am involved in a stokvel scheme with some members from my community garden and community at large. As a member of the community garden, we are required to contribute towards buying inputs for our gardening activities and for paying our membership fees. I sometimes use some of the money that I obtain from my stokvel to contribute towards this.” [Interview 4; community gardener]

In comparison to the fully fledged commercial farmers in the market gardening group, the financial sources used included crop insurance and Land Bank loans (four out of seven), as well as some of their retirement funds (five out of seven).

The statement of one of the members of the market gardening group attested to this:

“As a member of the farmer’s association, we have to market as a collective in order to ensure that we retain our markets. I cannot afford to fall behind on my quotas on this. When I obtained access to a second plot of land, I had to obtain a loan from the Land Bank which I used to fund my production activities from the garden.” [Interview 17; Indian market gardener]

The income derived from farming activities was not provided per household, such that the value of crops grown is unknown, or the contribution of this towards household food needs and savings from food costs. Since income data on urban agriculture activities was not provided by the participants, only anecdotal evidence and personal testimony from the gardeners exists to prove this (see Section 7.4). The overall results from the analyses seem to indicate that urban agriculture had little to offer in relation to monetary gain.

Table 7.6: Challenges faced by participants engaged in different types of urban farming, n=21

	Endaleni		Cliffdale
Theme	Home gardening	Community group gardening	Market gardening
Challenge	Lack of seeds	Lack of adequate land and infrastructure	Marketing speculators; theft

Source: Fieldwork, 2004

There were also a number of challenges which hindered the efficiency of urban agriculture in the three different categories (Table 7.6). While a lack of seeds was stated as the number one challenge for home gardeners, community gardeners stated that small land sizes (a lack of space to expand operations) and a lack of infrastructure were their biggest challenges. Market gardeners, on the other hand, were constrained by marketing speculators who tampered with

market prices, such that these farmers obtained incomes that were lower than the effort they expended towards their crop-producing activities.

7.4 MOTIVATIONS FOR FARMING

Participants were asked to tell why they had become involved in urban agriculture. These stories were useful in understanding the benefits of urban agriculture. There were many stories told by various participants about what meaning urban agriculture had in their lives. These differed to a certain extent among the three types of farmer category that were surveyed, with some overlap between home gardeners and the community gardening groups. Table 7.7 shows the main reasons given by participants as their reason for engaging in urban agriculture, differentiated according to the category of farming that they were engaged in.

Table 7.7: Reasons for participants to be engaged in different types of urban farming, n=21

	Endaleni		Cliffdale
Theme	Home gardening	Community group gardening	Market gardening
Main reason	Response to poverty and unemployment	Response to poverty and unemployment	Entrepreneurial capability
Other	Hobby and leisure; Knowledge of farming; Gender and cultural roles	Socialisation and networking; Culture of farming; Gender and community spirit	History of farming; Inheritance; Family business

Source: Fieldwork, 2004

From my survey, at the core of the reasons for home gardeners and community gardeners alike, was food production for consumption and/or food production for income generation and practicing urban agriculture as a leisure activity. For market gardeners, the core reason was food production as an entrepreneurial activity. To summarise, I discuss the specific reasons participants gave for engaging in urban agriculture and I distinguish these according to 1) a survival strategy; 2) an entrepreneurial activity; 3) a commercial activity; and 4) a leisure activity. Each of these typologies reflects the heterogeneity of urban agriculture and is discussed, in turn.

7.4.1 A survival strategy

The significance of this type of urban agriculture is born out of a reaction to survive and as a strategy employed by individuals and households to cope with economic crises. Dominantly, it is used for home consumption by the urban poor and is practised mainly on home gardens, particularly by women. Several researchers have pointed to this connection between the urban poor growing food crops for their survival and due to economic decline (Hovorka, 2004; Nugent, 2000; Mougeot, 2000).

Farmers from eNdaleni who practise urban agriculture on homegardens identify poverty as one of the major reasons that caused them to farm. When asked the question ‘*why do you farm?*’, selected responses from the individual home gardeners from eNdaleni were:

“I am trying to save on costs of things I can produce on my own rather than buy these”
[Interview 1; home gardener]

“I have eight grandchildren from three daughters to look after and to support. The first two daughters both died of HIV/AIDS-related illnesses. The third daughter lives away from home and sends money irregularly. Moreover, none of the fathers of these children support them. I have to make do with my state old age pension. Hence I plant a few vegetables in my garden because I need to provide some nutrition for my grandchildren and I need to save on food costs I need to purchase from the shops. Besides, working in my garden keeps me busy and one does not need to have gone to school to learn how to do that.” [Interview 2; home gardener]

Generally, in the community of eNdaleni, almost every household had a plot of land adjacent to the site that they used to grow vegetables. Very small occasional surpluses were sold, but were usually bartered with neighbours for other things. The primary benefits of the gardens were found to be more poverty-related. One respondent stated:

“I have not been employed for a long time now. At the same time, I still need to take care of my family. I have been producing my own vegetables from my garden for some time now.

Apart from a few cents here and there that I obtain from my children who now live away from home, I have no other means to support myself.” [Interview 3; home gardener]

Losing formal employment, coupled with the realisation of never being able to get back into formal employment, was a reason for some getting involved in urban agriculture. Two participants’ responses, which capture this aptly, were recorded:

“I used to be employed as a policeman until I was retrenched. I run a spaza shop on the side and farming is also one of the things I do. I am no longer interested in finding a job anymore as I have gotten used to supporting myself in this way.” [Interview 4; home gardener]

“I used to work in Durban for over 10 years until 2000 when I was asked to stop. In 2001 I started a vegetable garden because that was the only available job and times were hard, with no one else bringing in an income in my household. My eldest son works in Pretoria as a prison warder and rarely ever sends money home, and the family needed to survive somehow. One of my daughters is also disabled and receives a disability grant while another daughter is unemployed with two dependents. The unemployed daughter receives the state’s child support grant for the two children and somehow we manage to survive on this.” [Interview 1; home gardener]

The literature talks of the process of informalisation which happens when firms downsize. The number of hours worked decrease, as do the wages of workers, such that they have to find other means to augment their incomes. Urban agriculture participants exhibited a continuum from informal to formal workers, in line with the theory on the informal economy. From the qualitative survey results, some people who were engaged in urban agriculture, while at the same time were engaged in wage employment, gave a variety of reasons for doing so. This was summed up for one respondent:

“I do a lot of piece jobs and I get sub-contracted by companies from time to time throughout the year. I decided to grow a small garden patch to start producing a variety of vegetables

every season as a way to support my family during times when I have no income to support myself.” [Interview 5; home gardener]

The literature mentions people who engage in urban agriculture on a part-time basis (either because they need to supplement) or as a pastime (because this is something that they like to do), rather than unemployed people who do this for a living. Indeed, some respondents did not regard themselves as agriculturalists, further proof that this is something that they did in the meantime, while searching for other, more desirable, work. Others depended on transfers from formal employment and government state grants to support themselves. For one respondent, urban agriculture was not considered to be ‘real work’ and she was actively looking for a job. Her response was:

“When I finished school last year I found myself unemployed. My father also stopped working in the same year. I have three kids of my own to support, and the situation at home was dire and many of us were not working. Hence I do this (farming) along with other things to bring in an income and to save on some of the food items I have to buy by producing my own. I am not going to be doing this forever and I keep looking for work in Richmond which will bring in a decent income.” [Interview 6; home gardener]

The fact that food was produced on an *ad hoc* basis, and largely as a supplement, meant that very little produce is sold. Even when farmers produced a surplus, the transaction costs of selling this to outside markets, where they may obtain higher prices, prevented them from doing so. Most ended up bartering with their neighbours. One of the survey participants said:

“I cultivate my garden every season. I sometimes have a surplus which I exchange with some of my neighbours (who also farm) for things that I have not produced in my own garden. That way I am able to supplement my family’s nutritional needs and I avoid having to go and buy the stuff from the shops.” [Interview 7; home gardener]

I posed this question to another qualitative survey respondent and the response given reflects this same sentiment. Asked why he did not sell his produce, the answer given was:

“I do not produce enough in the limited space of my back garden to derive any surpluses that could be sold.” [Interview 2; home gardener]

Even households that planted one row or a few heads of vegetables were considered to have home gardens. Almost all home gardening participants reported zero incomes from their activities. This is in keeping with a significant number of people who work in informal enterprises and with my quantitative findings, most of whom reported earning nothing. For home gardeners, the economic benefits of urban agriculture were indeed limited, given that the quantities produced were so insufficient that they could not cover household food needs. Consistently, the explanation put forward by the respondents was that this was due to the restricted nature of their activities. This, in turn, was impacted upon by the low number of hours dedicated to their gardens, which was on an intermittent and *ad hoc* basis. Although many people grew vegetables, the crops did not provide enough income. Urban agriculture was thus predominantly used primarily for home consumption.

As far as informality is viewed through the employment status of households, results show that, for the majority of home gardeners, this was mostly self-employment of the unpaid kind and constituted largely semi-subsistence, which could be classified as a survivalist activity. This was also due to the majority of participants cultivating crops for consumption purposes rather than for economic gain.

7.4.2 A survival-entrepreneurial activity

The study also surveyed a group of farmers who produced food in community gardens. This was compared with the experiences of those who engaged in home gardens. I identified community gardeners as a group who were engaged in a survival-entrepreneurial strategy, because their primary reason for engagement in urban agriculture was mixed. These farmers hoped to eventually launch their activities into commercial operations. With the assistance of farmer support groups, these farmers hoped to move from the survivalist to the entrepreneurial type of farming, by expanding their operations.

For most participants in the community gardening activities, getting involved in urban agriculture was mostly because they needed to work, but could not find their desired source of employment.⁶¹ For others, urban agriculture was an attractive option and they chose to farm out of many other work-related options. Several community garden members indicated that they farmed in the meantime, producing food and selling some surplus, while searching for other (more desirable) employment. The results of informalisation and scaling down of employment in response to changing economic conditions had clearly affected the people of the community of Endaleni. This coincided with the period of economic transition in the country which began with the demise of apartheid.

Out of the seven farmers that I interviewed who were involved in community garden projects, one case stood out as being a testament to this:

“I am a founding member of this community garden. I worked previously as a welder in Durban until I was retrenched. After this I decided to concentrate on farming because I was nearing retirement and I knew how to farm. I needed to do this to sustain myself and my family although the income I make is not enough. I believe that if we as a group work harder we will be able to produce more and sell more and therefore make more money.” [Interview 8; community gardener]

Some literature sources have discussed how urban agriculture is rarely seen as the answer to formal employment, but it is regarded more as a temporary interlude until one gets a job (Rogerson, 2004). For the economically active members of the community gardening group, agriculture was something to fall back on when there was no other alternative or preferred jobs to do elsewhere. One participant who can be classified as the searching unemployed was a young

⁶¹ Note: the majority of the individuals who were participating in various community gardening ‘projects’ in the community of eNdaleni had been chosen based on some criteria, depending on the project owners. The projects that had been initiated by NGOs and the provincial Department of Agriculture in this community targeted people who were unemployed. This was part of their job creation initiatives in the area. It is important to note that a possible selection bias existed with this reference group, as the unemployed may have been selected into community gardening projects, but may have not been urban agriculturalists had this not existed.

adult who had completed her education and was looking for something to do in between jobs. Her explanation to the question ‘*why do you farm?*’ was:

“I grew up in a farming household and have always known how to farm, as most people in the area do. I became involved in the community garden in 2003, at first on a part-time basis and on behalf of my grandfather who had been a member. When I finished school last year I found myself unemployed. My father stopped working in the same year. I have three kids of my own to support and the situation at home was dire as many of us were not working. Hence I do this (farming) along with other jobs to bring in an extra income.” [Interview 6; community gardener]

Urban agriculture for this participant was practised because she was unemployed, but she did not perceive it as a form of employment. She farmed as a way of ‘filling in the time’ and her testimony illustrates that urban agriculture was not her first choice. She was merely helping out by participating in the community garden until something else came along.

eNdaleni’s positioning geographically is akin to an apartheid design, where the township is located on the edge of Richmond town. It serviced the many commercial farmers in the area. In September 2004, when I visited the area, a common experience among urban agriculture participants in general (both home gardeners and community gardeners), had been redundancy as farmworkers from the nearby farms surrounding Richmond. A common experience by the economically active participants who farmed in community gardeners (mostly men) had been redundancy as migrant/contractual labourers from nearby cities such as Durban and some from as far away as Johannesburg.

Formal sector or stable employment was hopelessly beyond the reach of very many in the community, especially the youth. Many honed their skills as best they could in disparate nooks and crannies of the informal economy. Young people who were out of school were “just helping out” in their household gardens, looking to ‘fill the gap’ and as “something to do”, while still searching for “more desirable” or “more lucrative” formal employment opportunities. The women farmers, in particular, depended on irregular or seasonal farm, garden or domestic work.

The youngest female member of the community gardeners who had not obtained employment since leaving school, lamented her situation as follows:

“I would have liked to have worked for a regular income outside of the community since finishing school four years ago. I have not been successful in doing this, except for piece jobs. I have worked as a domestic in the surrounding white farms and also obtained part-time employment in a shop in Richmond. These were both temporary jobs. Even though I never expected farming to be the bulk of the work that I do during the year, it has turned out to be that.” [Interview 6; community gardener]

Other studies have found that many participants in urban agriculture community projects tended to neglect their garden plots the moment a job opportunity came along and many of these were found to be unemployed (seeking employment). In their analyses of transitions in urban agriculture, Jacobs and Xaba (2008) found that unemployed (and often poorly educated) women from Cape Town townships would participate in community garden projects, but when “the project ended” they would simply move on to “the next project.” The next project might have been something unrelated to farming, such as a sewing group project, for example. Urban agriculture has been identified as a temporary activity in Tshwane, where it was used by many people as an interim employment opportunity and urban agriculture was abandoned in favour of a more reliable source of income when other employment opportunities arose (CSIR, 2002). Consequently, many participants did not invest much time and resources in their activities.

The qualitative survey sought to investigate this employment-unemployment aspect of engagement in urban agriculture. There were a few cases of the types of people who can be said to have ‘*lost employment*’ and had given up searching and as a result, took up farming. The main incentive for participation in urban agriculture for these people was the production of a surplus of food above their own requirements. They relied on the spontaneous distribution of these surpluses through trading, as their agriculture involved some commerce. One respondent stated:

“I used to work in Pinetown until I stopped working in 1996. I received a cash payout from my previous employer of R1000 lots for about a year after this until this stopped. I started a

vegetable garden in one of the vacant community plots at the same time on a part time basis. Alongside this, I also buy cabbages from the nearby commercial farms in Richmond and re-sell in the community to make a profit. I also collect firewood from a nearby forest and sell this in the community. Further to this, I run a spaza shop on the side. I have become used to supporting myself and my family this way and have no inclination of going back to work again.” [Interview 10; community gardener]

The absence of formal wage employment for some, and the fact that they had never been able to get into formal employment, as opposed to having lost employment, was the reason for their engagement in urban agriculture. One participant was different from the others and thought that he could expand the activity into something larger:

“I started farming as a side activity whilst looking for other jobs in the forestry industry in Richmond. When this was not forthcoming, it was then that I decided to focus on the community garden as a form of full-time employment. It provides some food for the family and we have aspirations of expanding the operation into a commercial business in the near future.” [Interview 12; community gardener]

There were two distinguishing typologies of those who farmed in urban community gardens at Endaleni. One group (type A) farmed and marketed their produce collectively, while another group (type B) farmed individual sub-divided (smaller) plots, which altogether formed part of what was recognised as one community garden. The latter either marketed their produce individually or collectively, as and when the need to do so arose. For both types, the use of community gardens came out very clearly as a strategy against unemployment and the poverty that participants faced.

These farmers and their households had daily routines which involved a set amount of time that each farmer member of the group spent in the garden, daily. This routine, which was mandatory to all members and was akin to holding a job, as members ‘came to work’ in the garden each day. This not only ensured consistency and regularity of hours worked by each member on a daily basis, but also ensured that the garden was tended to at all times.

In the type A group, members had a high level of internal co-operation. Members took turns at farming and each put in an equal amount of time and labour into the operation. If a member could not put in their time in the garden, they sent along their spouse or child to stand in for them, so that they still covered their share of the work by proxy. Members worked in the garden daily and treated the garden as a regular activity. Profits from the sale of their produce were divided among participants at the end of each season, although they were not prepared to say how much the profits were.

Individuals in this group averaged seven working hours every day and worked six days a week on farming. On Saturdays, a few members would be elected to work in the garden for a few hours (typically two or three) on a rotational basis. One member who lived near the community garden had the task of overseeing the garden after hours and keeping a watch for risks associated with livestock invasions and crop theft.

This is how this operation was described by one of the community gardeners involved in this scheme:

“One has to put in one’s time to ensure fairness and equal effort in maintaining the garden. If one cannot make it to the garden for any particular reason, they get a one of their household members to represent them. That way, they are still able to pick up their share of the garden duties.” [Interview 14; community gardener]

In the type B community garden operation, farmers had subdivided individual plots on the same piece of land, which was recognised by authorities as one garden. Their farming activities were on an individual effort basis and members farmed each of their plots separately. This community garden had been started by one farmer, who had retired from working in the neighbouring white farms as a labourer and wanted to plough his skills into his own gardening venture. He explained why the garden was initiated:

“My intention was to be exemplary to my community members and I wanted to demonstrate to everybody that it was possible to produce for one’s own food needs as well as support oneself from this. I initially obtained a small piece of the land from the local church which was unused but strategically located near one of the main roads. As time went on, I requested and was given more land by the church on which to expand my activities. When my garden started producing and selling more volumes of vegetables, I started employing some community members to help. Eventually, I allotted my regular assistants with their own subdivided plot of land to start farming in their own right.” [Interview 9; community gardener]

Members of this type of community garden had a good working relationship with their fellow gardeners and produced vegetables for the purpose of producing a surplus and marketing as a collective. This case provided evidence of the potential for informal economy employment, which links with theory.

eNdaleni has the distinctive features of many townships all over South Africa and community garden ‘projects’ that were promoted by various organisations working in the community in an effort at job creation could be observed around the area. As new opportunities for small-scale group-gardening farming opened up in the form of community gardening projects, there were those who aspired to farm commercially. Some had had the experience of farming and this, overlayed with a lack of jobs, made many began to realize their ambition. One respondent related:

“I joined the community gardening club as a member in 1999 after I retired from my job in Cato Ridge. The club’s garden on which we plant a variety of vegetables was initially a small plot of land which belonged to one of the club members. We then decided as a group to formalise this into a farmer’s club in order to open up employment opportunity for ourselves and the vast numbers of the unemployed in our community. We did this in order to be eligible for Government funding of community projects in the area. On recognising our endeavours, the municipality has also allocated an extended portion of land for us so that we could expand our farming activities.” [Interview 13; community gardener]

Taking up farming as a part-time and seasonal job was a reason for engagement in urban agriculture. One of the study participants was a young man who was in between assignments and who worked in the construction industry on contract in Durban. He was usually home for a few months every year, “before the next assignment came along”. This participant explained that he was committed to continuing with these series of contracts, often with the same company. He further explained that when he was out of work, he ‘did not want to sit at home and do nothing’, and so joined a community gardening group to earn an extra living. He said:

“I am a bricklayer by profession and I am involved in the construction industry. This job provides the main income for my family. I am however out of work at certain times of the year during which time I have nothing to do and I still have to support my family. I joined this community garden in 2001 and it provides food and some income here and there until I am called back at work. My wife fills in for me while I am away that way I am able to maintain my membership in the community gardening club on a perpetual basis.” [Interview 14; community gardener]

People who are seasonally employed say they are employed even when they are home for months at a time. This has to do with retention and cycles of employment. The nature of urban agriculture is seen as a source of transitional job opportunity. From the qualitative survey findings, a young economically active man who was involved in a community gardening project from eNdaleni, upon being asked why he farms, responded:

“I usually farm when I am in-between jobs. I am employed contractually away from home for months at a time in Durban. When I am home and while I am waiting to be called up for the next assignment, I usually spend time helping out in the garden. This also affords me the opportunity to engage with my fellow neighbours, to socialise and catch up on the latest developments in the community while I was working away from home.” [Interview 7; community gardener]

The wife of this man, who did not have much education (Grade 6), or work experience outside of the community, and had young children to look after, was the official member of the community

gardening group. This example illustrates several issues as far as engagement in urban agriculture is considered. First, the lack of commitment to urban agriculture by those who are still economically active and have the opportunity to work elsewhere, who would rather work in formal employment than in urban agriculture. Hence, even when the young man is involved in the more promising type of urban agriculture that is commercially viable, it would seem that this is not regarded as work, but something to do between formal employment spells.

A female respondent stated that she had decided to farm rather than get a job because she had children to look after:

“The community club that I currently belong to was formed by a group of local unemployed women as a strategy to help themselves. I joined as a member in 2004 so that I could have something to do with my time. I needed to do this to contribute to my household’s food needs. My husband is sick and no longer employed and I have young children to look after at home. Employment outside the community was not an option for me hence the community garden provides me with some income and an opportunity to engage with the other women, whilst it also allows me to take care of my family at the same time.” [Interview 11; female community gardener]

Another respondent indicated that she farmed because she could not get a job elsewhere, “due to her lower educational qualifications”. The most she could hope for was work as a domestic cleaner in nearby Richmond, in white peoples’ homes. This woman doubled up her work on the community garden by working at a nearby crèche as a cook, preparing meals for the children and getting a salary for this, albeit as a part-time job when school was in session. The community gardening job seemed to be something that was flexible and could fit in with another part-time job or self-employment.

For this participant, even though she stated that she worked on the community garden because she could not get a high-paying formal job elsewhere, she could only work formally as a domestic worker. She had another job as a cook at the local crèche, part-time. She also indicated that she had young children of her own to look after and that her husband worked away from

home. This was given as a further reason for her for choosing to work in the community garden, which kept her in the community rather than seeking a job elsewhere. This means that they farm by default and, because of the fact that they are women, it is their perceived duty to work in the garden. Explaining this further, she stated:

“Working away from the community would have required me to hire childcare for my children. Since it is my duty to look after and raise our children while my husband is away working in the big cities in Durban and Johannesburg, it is my responsibility to stay at home and take care of my family. Hence, working in the community garden provides me with the opportunity to combine my duties as a woman and mother.” [Interview 11; female community gardener]

The literature indicated that, for gender reasons in some contexts, women are forbidden to work away from home (Nugent, 2000). Consequently, for women, urban agriculture affords them the opportunity to tend to household tasks as well as combine this with some form of work. Van Averbeké’s research (2007) showed how women considered the production of food for their families as one of their roles in the household. His research found that it was common practice among working men to expect their spouses to manage domestic affairs with a specific amount of money that they allocated to them every month, including food provision, although this is not an issue in South Africa.

Because the activity involved work in the home or the surrounding community, it could be combined with other informal activities. Indeed, other participants were engaged in other forms of employment, working different jobs in the local community, as well as outside. One respondent stated that in conjunction to his participation in a community gardening group, he also supplemented his income by transporting small children in his van to and from school every day. Another participant ran a spaza shop, while others took on different piece jobs on the side, such as selling alcohol, sewing, arts and crafts and cleaning jobs.

Two key factors emerge regarding engagement within the labour market and participation in urban agriculture. On the one hand, there are those who do both, i.e. they do this on a part-time

basis, whilst engaged in gainful employment. On the other, there are those who engage in urban agriculture on a full-time basis because they have exhausted the search for wage employment. I concede that there is a further group of people who choose to make urban agriculture their preferred economic strategy because of the opportunity structure available to them (such as women for whom urban agriculture fits in with their lifestyle) and a group comprising those that are no longer economically active (such as pensioners and retirees).

The participants who have given up searching are the so-called 'officially unemployed' for reasons emanating from the broader macro-economic context. With very high unemployment, these people resort to the informal sector. It appears as though people who work in urban agriculture are informally employed and are not unemployed. Some work in urban agriculture, while others do so while they are still part of the mainstream economy of wage workers.

Most community gardeners said that they were engaged in these projects as well as elsewhere outside farming, thus making farming a complementary activity. Gefu (1992) has pointed out that the escalation in part-time farming in urban Nigeria represents a survival strategy for many urban wage earners to supplement declining real wages in the wake of structural adjustment measures. Other literature sources maintain that urban agriculture is more of an interim strategy rather than a choice. Jacobs and Xaba (2008) provided some evidence of this from their research conducted in Cape Town with women in community gardening 'projects'. The authors reported that the women abandoned this activity as soon as the next 'project' came along. They explained that this new community project did not have to be necessarily related to farming. There could be new community development projects initiated by organisations working with women from the community, things like sewing and candle-making, and the women would simply move on to this, seeing it as a new economic opportunity.

I found that the situation at Endaleni was rather different. People were passionate about their gardens and some had been established as early as five years earlier and they were still maintaining these gardens. Not only did people like farming but some viewed it as a job. The main point I am trying to make here is that it was not sufficient work and this suggests that urban agriculture is employed as one of many income-earning activities and as a strategy against

poverty and unemployment, by some. Some participants had a long history of involvement and they would leave their portion of the garden if an employment opportunity came about, but they would always go back to it when this work ceased to exist.

These stories encapsulate the themes with unemployment in South Africa, where the experience of urban agriculture participants of being casually employed and/or being retrenched from nearby farms reveals the general trend with economic informalisation and redundancy and a lack of formal sector jobs. In an effort to secure better livelihoods for some farmers and their families, to augment/supplement, or to improve, wages, they join the informal urban agriculture sector.

These trends demonstrate the social and economic vulnerability, not only of those who have already been displaced from other formal sector employment, but of those who are still employed in other precarious forms of formal employment.⁶² Most believe that their enterprises have no possibility of creating employment in the true meaning of the notion of work.

Contrary to some literature sources about urban agriculture being the activity that is partaken by recent arrivals to cities, there were no participants in my study who would have been classed as recent migrants. Most people I interviewed had either moved to the community a long time ago (over 25 years) or had been born and raised in the community.

Because of the effects of economic transformation, many argue that people who cannot get into the formal sector join the informal economy (Chen *et al.*, 2001). The impact of this economic transformation in South Africa has been measured by the growth in the informal sector, akin to experiences from other developing countries (May and Meth, 2007). This has been directly related to the swelling of the ranks of the unemployed and the increase in the number of poor people, particularly those residing in urban areas (Rogerson, 1996). Because of this, urban agriculture as an informal sector activity has become prominent in the many strategies employed by the urban poor and unemployed (CSIR, 2002).

⁶² Chen, Jhabvala and Lund (2001) outline the type of risks faced by those who operate in the informal economy.

Urban agriculture for many people was found to be important in varied ways. The literature features all kinds of people who engage in urban agriculture. These results indicate that having lost employment is not the biggest reason for people getting involved in urban agriculture, but being unemployed presents a stronger case for engagement in urban agriculture.

7.4.3 An entrepreneurial activity

The study also surveyed another example of urban agriculture in KwaZulu-Natal, i.e. the Indian market gardeners, and used their experiences to contrast with those who engaged in home gardens.

This type of urban agriculture differs from the survival-type or the survival-entrepreneurial type, as it constitutes a system of farming aimed primarily, or exclusively, at commerce and income generation. Farmers falling under this category lived in planned urban areas, where urban agriculture was particularly zoned for this purpose. Horvorka (2004) and Tambwe (2010) have identified these as a distinct group of urban farmers in Botswana and the Democratic Republic of Congo, respectively. May and Rogerson (1995) identified such a group involved in the entrepreneurial-oriented urban agriculture for income generation in their study conducted in Durban.

Cited in the literature as a pull factor, urban farming for a living and as a choice can also occur, as was evidenced in the market gardeners' case. In Cliffdale, the relatively more well-resourced market gardeners offered a different perspective of participation in urban agriculture. Farming for the majority in this group gave them the opportunity to sell their surplus produce and generate an income. This came with the availability of land and the necessary support from organisations working with farmers.

The market gardening-type of urban agriculturalists are among the largest in KZN, in terms of land under cultivation. These consist of individual household plots which are not farmed as a collective, as in the case of community gardening projects from Endaleni. All of the market

gardeners interviewed for the study sold the majority of their produce, as opposed to producing for own consumption purposes.

Market gardeners represented a group of producers who were trying to compete in national markets. They supplied their produce to big chain supermarkets through long-standing marketing arrangements that had been established by their predecessors. They sold their produce in the cities of Pinetown and Durban, as well as to middle-men who bought directly from their farms (on site) in bulk. The produce was then transported to other distant cities, such as Johannesburg, for sale at the highest profit. At the time of conducting the survey, all market gardeners obtained most of their income from their plots.⁶³

Farming as a family business was clearly captured as the main reason for engaging in urban agriculture for most of the market gardeners. These participants stated that their families had been “*involved in the farming business for years*” and so for them it was the natural thing to do, to “*carry on with the family tradition*”, since they would “*not know what else to do.*” Having been involved in farming for a long period of time was one of the main pull factors that resulted in the farmers becoming producers in their own right.

When the same question ‘*why do you farm*’ was posed to this category of farmers, three of the responses given shed light on their motivations for engagement:

“I farm in order to provide an income for my family. I have the knowledge to do it. I also did not want to do any other work that would take me away from home. I am closer to the land and I can work on the farms mechanically.” [Interview 15; Indian market gardener]

“Farming is a family business. My father was a farmer before me and his grandfather before him. My father’s family moved to the area from Greytown for the sole purpose to farm because the land is more fertile here and we are closer to the markets in Pinetown and in Durban. I started out helping my father work in the gardens when I was a teenager and it was only

⁶³ Farmers were reluctant to disclose their income information and the sizes of their plots were also not measured.

natural for me to go into farming after my father retired and I took over from him.” [Interview 16; Indian market gardener]

“I bought my own farm and wanted to branch out from the family business and farm on my own after I had acquired enough skill helping my father work in the family farm from when I was young. Once I had secured enough money I rented my own plot of land over ten years ago and began farming from then. I now rent a total of three plots not far from my home on which I produce fresh vegetables for the market, such as spinach, lettuce, green beans and carrots.” [Interview 17; Indian market gardener]

“I am helping out my father so that we can try and retain the family farming business” [Interview 20; Indian market gardener]

The benefits derived from farming came out clearly from the participants’ responses. Two of the market gardeners explained their situation as follows:

“The total income for my household does not only come from farming however farming provides the main income source. Because I do nothing else other than this activity, my family’s daily living depends exclusively from market gardening. The income I derive from this activity affords me the money to buy clothes, food, education for my children, and other to provide for other household needs.” [Interview 21; Indian market gardener]

“With the money I make out of farming, I am able to look after my family. It is this money that helps me to pay for various other household expenditures.” [Interview 18; Indian market gardener]

Participants also referred to their skill in farming and marketing as the reason for getting involved in urban agriculture, as illustrated by the following response:

“I have the skill to farm and the know-how to market. I had obtained the necessary experience to farm when I took over the farm from my father.” [Interview 18; Indian market gardener]

For market gardeners, all of whom were male, gardening was a lifelong activity and an activity that could be easily integrated into family life.⁶⁴ This was generally the case for all farmers in this group, regardless of their age and this was strictly farming as an entrepreneurial activity.

Given that Cliffdale farmers have a history of farming, which dates back by two or three decades and was favoured by apartheid zoning laws and legislation such as the Group Areas Act, this made farming favourable to these farmers (Freund, 1991). Generations thereafter simply carried on with the family tradition and there does not seem to be a compelling case for unemployment as the prime motive for farming. This was rather a commercial strategy to bring in an income for the market gardeners. Market gardeners had a commercial orientation complete with well-established marketing arrangements. This put these farmers ahead of home gardeners and community gardeners from eNdaleni.

Even though farming for this group seemed to be a lucrative business, it was not without its challenges. Almost all the respondents (five out of seven) were unhappy with the prices they obtained from their produce sales. Some of their responses were:

“I don’t make very much money from the sale of our produce because of speculators. They fix the prices and we have produce that is perishable and we need to sell and move the material quickly otherwise it will rot and spoil and we will lose our money. Speculators take advantage of this and underpay us for our produce.” [Interview 21; Indian market gardener]

Another farmer complained:

⁶⁴ Akin to the selection bias stated earlier for community gardeners, eligibility mattered for this group as well. The people that were purposively selected for participation in the study from this group were farmers from a specific area known to be market gardeners. As such, a possible selection bias exists with this group.

“Most people do not understand the hard work that goes into farming. The amount of effort that I put into farming and the prices that the speculators pay often does not correspond. Even though they come to the farm to buy produce from us, thereby decreasing our transportation costs to our other markets which we have to supply, often it is better to sell directly to these markets in order to make the most profit. The only problem is the material has to be moved quickly otherwise the shelf life is very small and the produce perishes very quickly. [Interview 19; Indian market gardener]

Complaints about speculators seemed common among most of the participants who attested to the fact that speculators rule the market because they can negotiate for higher prices. They eventually sell the produce, while obtaining the produce from the farmers at the very lowest possible price.

Market gardeners were also trying to compete in export markets (to other provinces), in an effort to boost their incomes. They found it very hard to compete, especially for fair prices, in outside or national markets.

Although market gardeners provided overlapping reasons for engagement in urban agriculture, and often these had the same interpretation, ranked in order of importance production was mainly to derive income. Market gardeners had a long history of engagement in urban agriculture, were more successful in terms of commercial sales of their produce and hence derived their income from their agricultural engagement, compared to the more *ad hoc*, short-term participant households who farmed in home gardens and community gardening plots at eNdaleni.

7.4.4 A leisure activity

There was another interesting dimension to engaging in urban agriculture. Some people engaged in community gardens worked together and supported each other when they faced problems in other areas of their lives. Such was the case for one woman whose husband worked away from home for months at a time. She responded that she was seeking a sense of belonging, so she

could tune in and find out about any developments in the community from other members of the community garden:

“I farm because it provides me with an opportunity to socialize with my fellow community members. It keeps me busy and gives me something to do during my retirement. And anyway most of us old people do not want to leave the community in search of something to do outside“. [Interview 5; community gardener]

Slater (2001) provided evidence of similar experiences from research she conducted in Cape Town with women involved in community gardening projects. Her research concluded that urban agriculture was employed as a community development strategy to increase social capital and community spirit and to provide a refuge for women afflicted with many social crises in their homes. Women seeking to find ‘an outlet’ joined a group so they could escape their situation at home and socialize with other women who worked in community gardens.

As was illustrated, many respondents still attached great importance to their food gardens, even though they did not earn a significant income from their activity. The fact that some of the reasons given for engaging in urban agriculture were *“I like the taste of my produce; it’s better than supermarket purchased vegetables”*; *“I have a passion for farming; it is what I have always done”*; *“it keeps me active”*; *“it is my duty to work in the garden as my husband works away from home”*. This shows that urban agriculture has multiple meanings in the lives of the participants, such that producing their own food and deriving an income from it was not the only motive.

For some people engaged in home gardens, involvement in urban agriculture was in conjunction with doing other things, such that this was much more than merely to derive another income source. For others, farming could easily be integrated into their lives. In particular, the ageing participants involved in farming, particularly on home gardens, gave the reasons of their physical and mental health as motivations for farming.

“Farming gives me something to do in my old age. I have an old age pension which also helps to support my family and produce food from my garden primarily for consumption and as an extra source.” [Interview 2; home gardener; age 67]

Most elderly farmers from the study were not consistent in their activity. They produced vegetables on an *ad hoc* basis. Other members of their households, often grandchildren, would tend to the garden when it was neglected. Usually the garden belonged to the elderly person, who was regularly involved in gardening. Indeed, farming seemed to be somewhat of a pastime for elderly participants and many stated that they were doing this because they wanted to keep active.

Farming provided some with an opportunity to interact with their neighbours. This kind of social networking was particularly true of one elderly participant involved in a community gardening project. She explained:

“The community garden provides me with the space to socialize with my neighbours and exchange ideas about farming techniques. Even though I am a member of this community garden, I also have another small piece of land at home on which I grow more vegetables.”
[Interview 5; community gardener; age 64]

At least among the more elderly participants, the clear pattern that emerged from the survey data was that, in addition to producing food as an extra source, they wished to have something to do once they were no longer economically active, rather than increase cash income or obtain employment. This implied a different and more recreational impulse behind their motivation for farming.

From my qualitative survey participants who were in formal employment, other reasons given for participation in urban agriculture were that people did this because *“they have a passion for farming”* and they worked in their gardens in the afternoons after work, on weekends and in between engaging in other economic activities. These findings lend support to the idea that some

people get involved in urban agriculture simply because they favour gardening over not performing any activity. It is in some ways a form of leisure.

The survey results of farmers' attitudes towards farming revealed that there was a culture of farming. Many people had either been brought up in a farming household, had worked on a farm at some point in their life, the community in which they lived was a predominantly farming community. This means that they were exposed to farming so much in their lives that it seemed like a natural thing to do. Even though their household benefitted from it, it seemed that individuals took care of their gardens because they received fulfilment and enjoyment from farming activities.

The heterogeneity of urban agriculture is such that it cannot be classified under one broad category. There are activities of a different scale, practised on different locations, for different purposes. The demographics of those who engage also differ and women are disproportionately represented among the poor urban producers. The findings presented in this chapter provide some insight into the many functions of urban agriculture, which could not be immediately gleaned from the analysis of quantitative data presented in the previous two chapters.

7.5 CONCLUSION

Whether or not people farm as a result of unemployment, results from the qualitative survey reveal a number of equally important reasons for engaging in urban agriculture. From the results, and in concurrence with findings from other researchers in the field, urban agriculture activities are rarely regarded by many participants as the answer to formal employment. Instead, urban agriculture is seen merely as a temporary interlude until one gets a job.

In the realm of urban food production, there are people who do it because they like it and there are those who do it because they are struggling to find jobs. Qualitative survey findings seem to indicate that home gardeners mostly like urban agriculture, while community gardeners are trying to earn an income. So there is a level of people choosing to participate and for them urban agriculture is a better option, because it fits into their life better. It does not generate as much

money, but there are other non-labour income sources, or other informal sector activity, and there is some other way in which money is coming in. In most cases, urban agriculture does not yield sufficient quantities of produce and participants derive small incomes from it. Exceptions are possible, and the Cliffdale farmers show that, for some, urban agriculture can represent form of employment. This may apply to small-holder farmers who now find themselves being integrated into the urban fringe, as cities expand. The Cliffdale farmers did not mention this as a problem, as far as I could ascertain, but it is possible that they might find it increasingly difficult to operate as commercial farmers as population densities increase in the areas around their farms. Income is often assumed to be the most significant motivator for urban gardeners. However, the circumstances that provide a profit to home gardeners are limited, as the quantitative results in the previous chapter showed. The qualitative survey results in this chapter showed that urban agriculture may be profitable to those who farm on community gardens and to the market-oriented market gardening groups. It would seem that for people in the home-gardening group, food supplementation results in these people engaging in urban agriculture. There are some that have retired or have been retrenched in near old age. It would seem that with the small-scale nature of home-gardening in particular, the main motivation for engagement is farming as a side activity, and to produce food as a supplement for the family, and perhaps to save on food costs.

For individuals with bigger plots of land, and for those who farm in groups, in particular in community gardeners, there is evidence that urban agriculture might be employed as a strategy to derive extra income, as a survival-entrepreneurial strategy. However, with this category of participants, there also seems to be a compelling case for people engaging for more reasons than the economic benefits that they derive from the activity.

Given my research question, I was interested to discover if there were individuals who engage in urban agriculture as an employment strategy, whether due to there being no work available or because there was not enough work. This was the idea behind my purposive sampling of the individuals who engage at different scales of production and of whom I had prior knowledge, namely home gardeners, community gardeners and market gardeners. The motivations are largely similar for individuals in each group, distinguished by the scale and purpose of their

farming activity, as well as the level of investment in their farming operations, which may be as a result of either push or pull factors, or both (see Section 8.2.1).

The results illustrate the diverse roles of urban agriculture, other than just unemployment. The conclusion to be drawn from this is that farming is undertaken by those seeking to make ends meet, to make a living and as a lifestyle choice.

CHAPTER EIGHT

CONCLUSIONS, SUMMARY AND RECOMMENDATIONS

8.1 INTRODUCTION

An increase in the pattern of participation in urban agriculture was observed to coincide closely with increasing trends in poverty and unemployment in South Africa and a growth in the informal economy. This increase in urban agriculture was directly linked to a period of economic liberalisation and transformation, following the demise of apartheid in South Africa. The analysis in this thesis set out to discover the reasons for engagement in urban agriculture for individuals and households, framed in the theory of the informal economy.

I investigated these reasons for individual participants and examined the households from whence they came. The quantitative KwaZulu-Natal Income Dynamics Study (KIDS) panel data which was collected over 10 years spanning the period of democratic transition in the country, was used to analyse these reasons. I employed regression modelling techniques to investigate the likelihood of participation in urban agriculture by individuals and households alike. This KIDS data was complemented by a qualitative survey. This was undertaken with farmer households belonging to three distinct categories of urban farmers from KwaZulu-Natal, *viz.* home gardeners, community gardeners and market gardeners.

Chapter Eight revisits the study's research questions and summarises the key findings of the thesis, after which I comment on some of their implications for theory and policy.

8.2 SUMMARY OF FINDINGS

The specific research questions and sub-questions addressed in this section are: 1) who gets involved in urban agriculture? What are the demographic and socio-economic characteristics of urban agricultural participants and households in the province of KwaZulu-Natal? Are there differences between different forms of urban agriculture practice and, if so, what are the reasons

for this and 2) What are the motivations leading to participation in urban agriculture and do these differ by gender, age and social group?

8.2.1 Individual and household participation in urban agriculture

There were clear gender roles connected with participation in urban agriculture. Urban agriculture was predominantly practised by 24.07 percent middle-aged women in the age group 36 to 46. The education level of these women was lower than that of their male counterparts. In terms of main activity status of participants, overall, all kinds of people in the labour market participate in urban agriculture. Those who were in regular employment make up the largest proportion of all participants.

The key findings were that urban agriculture is a result of both push and pull factors. People engage in it neither as a survival strategy nor an entrepreneurial strategy only. The types of people that participated included all types of people in the labour market, *viz.* the regularly employed, casually employed, self-employed, the unemployed and the economically inactive.

The majority of home gardeners fit the demographics of other urban farmers from other parts of the world. The majority were actually in paid employment and, at the same time, engaged in urban agriculture. Urban agriculture was practised alongside various other informal activities that participants undertook to augment their incomes. These results may support evidence from elsewhere, which suggests that, in addition to being a source of income for the unemployed, urban agriculture has something to do with inadequate wages such that people may find the need to supplement their incomes.

On a household level, most poor households farmed for consumption. In terms of the contribution urban agriculture makes to total household incomes, and to reducing household food expenditure, the results showed that it was miniscule. Community gardeners, by comparison, became involved in urban agriculture due to a lack of jobs, or because they were transitioning into self-employment. There is also a component of urban agriculture as a leisure activity, especially for the non-economically active such as the retired.

Post-apartheid unemployment posed a serious social and economic problem in South Africa. The unemployed sought means to earn a living in the informal economy and urban agriculture falls within this rubric. The burgeoning informal sector, generally, and an observed increase in urban farming, particularly in many developing countries undergoing economic transition, has been touted as a response to a lack of formal employment and economic informalisation. There was some evidence of this in the study from farmers who cultivate home gardens and in the community gardens in KwaZulu-Natal.

8.2.2 Motivations for engagement in urban agriculture

Supplementing bought food was more prevalent than contribution to household incomes and/or employment creation. People farmed because they did not have a job and they farmed to obtain food, but it was by no means a form of employment and the enterprises were not expansionist. So, the unemployed, instead of doing nothing, like Kingdon and Knight (2004) argue, worked in urban agriculture. This was not preferable or sufficient employment and many still hoped to obtain other work. For some, they would abandon the activity if a formal employment opportunity opened up. Most of these always went back to farming when the formal job came to an end. The case of the community gardener who worked in the construction industry on a contractual basis for part of the year and went back to farming in between these assignments represents two things. When people are not in formal employment, they do not 'do nothing' instead, they work. Urban agriculture seems to be their preferred informal employment strategy because they always return to it. Then there was a woman who worked at temporary jobs as a domestic worker and another for a nearby school as a cook, part-time. Other cases that bear testament to these linkages were obtained from the quantitative data analysis, where those who were in formal wage employment constituted part of the sample of the participants in urban agriculture.

Two further important points are illustrated by these examples and these have relevance for this study. First, they illustrate cases of clear linkages between the formal and informal economy. Second, due to the method of operation of the formal economy, these individual transactions illustrate how urban agriculturalists were engaged in relationships that would release them when

their services were no longer required, requiring that they go back to farming, in between. Home gardeners practised urban agriculture as a survival strategy, while people who farmed on community gardens engaged in a mixed survival-entrepreneurial type of urban agriculture. For market gardeners, theirs was an entrepreneurial strategy that was purely market-oriented. These individuals farmed for income-generation purposes.

Home gardeners were largely made up of people who farmed perpetually, over a long period of time, on an on and off basis, and the farming operation would be abandoned if another, more lucrative, employment opportunity came along. Other family members (usually children, young adults who were engaged in formal education and/or the retired) would take over until the primary farmer returned. Farming was a lifelong and continuous activity, which contributed very little, if anything at all, towards generating an income. The vegetables were produced on a small piece of land adjacent to the household. The level of technology used was very low and, as a result, yields were poor.

Community gardeners, by comparison, were made up of a reference group such as the unemployed and women. They were mostly specifically attracted to engage in urban agriculture as an income-generation strategy by the extension officers who worked in the community. Members of this group farmed continuously throughout the year, on plots specifically allocated for this within their community. They usually formed themselves into associations, to give themselves an identity and in order to stand to benefit from support services.

In my analysis of this group, community gardeners had indeed formed themselves into groups. One group had been allocated land by the local municipality and another by a local church. Both groups received support in the form of extension services such as farming implements, seeds and marketing expertise, as well as support from an NGO working in the community. The output from their labour was mostly consumed by their households and a small surplus sold to local markets. While their operations might have a long-term employment generation strategy, at the time of doing the survey this group was making very little money from their farming activity, compared to what they consumed.

Market gardeners made urban agriculture an income-generation strategy. They had high levels of investment in their operations and farmed larger pieces of land (even larger than community gardens). They employed labour and produced a variety and large quantities of crops and vegetables. These were then marketed in supermarkets in nearby cities. This type of market-oriented urban agriculture is important both in terms of volume and economic value.

Motivation for engaging in urban agriculture was different for different individuals in each of these groups. Some chose to farm while others chose not to. In the home gardening group, I can conclude that urban agriculture was as a part of their survival strategy, aimed primarily at the production of food for home consumption.

The results of the analyses of the motivations for engagement presented for these three categories of urban agriculture address one of the research questions that I set out to answer. I wanted to examine the ways in which agriculture in the urban areas of KwaZulu-Natal was a response to the absence of formal wage employment. The experiences of some of the community gardeners seem to indicate that the lack of formal employment was indeed a factor in engaging in urban agriculture.

I found further evidence of people for whom urban agriculture was practised as a leisure activity. This demonstrates the heterogeneity of urban agriculture and its many purposes for participants. For these farmers, urban agriculture was not for profit maximisation *per se* (very few farmers could be located in this category). For those who practiced urban agriculture for leisure, it was still of value in their lives.

8.2.3 Urban agriculture as a sub-sector of the informal economy

This section aims to address another very specific research question that this study set out to answer. Should urban agriculture be regarded as a sub-sector of the informal economy in KwaZulu-Natal?

As a sub-sector of the informal economy, many informal enterprises or own account operators produce and exchange goods and services with formal firms. These sub-sectors form networks of

independent units involved in the production and distribution of a product or commodity. In such networks, individual units are involved in transactions with suppliers and customers. The terms and conditions of these transactions are governed largely by the more competitive firm in specific transactions, but also by the 'rules of the game' for the sub-sector as a whole, which typically are determined by dominant firms in the sub-sector (Chen, 2007). The more competitive firm in terms of market knowledge and power, as well as the ability to adjust if the transaction does not proceed, controls the exchange or transaction.

Urban agriculture enterprises of the survival kind, i.e. on home gardens, operated in total isolation and I found no evidence of these being linked to the formal economy in any way. For this reason, they would not qualify as a sub-sector.

Community gardeners and market gardeners, however, had linkages to the formal economy. Though community gardeners sold their produce, this was mostly done in local community markets, usually on pension pay days (these occurred once a month). There was some evidence that community gardeners infrequently sold to outside markets, in the nearby town of Richmond. Community gardeners were involved in one of two types of urban agriculture *viz.* individually and collectively, and their marketing arrangements were also individual or collective. The community gardeners who farmed individually on a sub-divided community garden plot would not be regarded as sub-sector gardeners. They exchanged the bulk of their produce (fairly frequently) with locals from their community. There was some evidence of produce being sold in nearby markets in Richmond when there was surplus produce. As both these types had no marketing arrangements, they would not qualify as a sub-sector.

Market gardeners, who also sold their produce, can be regarded as a sub-sector of the informal economy in KwaZulu-Natal. This is because they had marketing arrangements with formal businesses to which they supplied their produce, such as supermarkets in nearby cities such as Pinetown and Durban. They also supplied their produce to markets in Johannesburg, through intermediaries in the form of marketing speculators. Two market gardeners voiced the frustration that these farmers felt due to being undercut by these speculators.

Regarding urban agriculture in KwaZulu-Natal, therefore, market gardeners represented a true sub-sector, whereas home gardeners and community gardeners would not qualify.

8.3 CORE CONTRIBUTIONS

This section outlines the major contributions of the study within the broader research question.

Urban farming performed other important functions besides providing food and temporary employment, including a leisure benefit. Quantitative research results showed that participants and their households do not make much money, even given the length of engagement, illustrated that there were other benefits to participation in urban agriculture. For some participants, urban agriculture was practised as a leisure activity. Some farmed because '*they liked it*' or '*had the time to do it*'. The culture of farming and existing capabilities of people engaged in the activity were thus important motivations. The history and culture of farming also has a bearing on the continuity of farming, because if people had experience in farming they tended to become involved in urban agriculture.

This thesis has some unique contributions in the field in terms of analysing transitions in urban agriculture to reveal what the impact of macroeconomic policies had on individuals participating in the activity. This allowed for analysis of the same individuals engaged in urban agriculture and assessment of the level to which changes in their main activity statuses had on participation in urban agriculture.

In terms of the transitions into urban agriculture, I found that people who had 'lost employment' did not make up the largest proportion of people who engaged in urban agriculture, as I had expected to find. In order of decreasing proportions, participant activity transitions into urban agriculture comprised almost half (46.1 percent) of those who *stayed in regular wage employment* during both times of the KIDS surveys five years apart (i.e. from 1998 to 2004); 27.6 percent were those who *stayed unemployed*, while 18.4 percent moved from being in regular employment five years prior to being unemployed and engaged in urban agriculture five years later (i.e. lost employment). The smallest proportion were those who moved into formal employment, at 7.9 percent. The implication of this is that the change in main activity status was

not the main reason for people getting involved in urban agriculture. If the crisis of losing employment is said to be part of the reason why people join the informal economy and, in this case, practise urban agriculture, this does not appear to be the main reason. Most other studies report that urban agriculture is a result of economic crises. While this is true for my study, the change does not have a main effect. This ties it with the results of the qualitative data analyses, wherein urban agriculture serves many purposes in the lives of the participants.

Perhaps resonating with findings from other scholars, this begins to lend some weight to the argument that urban agricultural activities in South Africa are not expansionist. May and Rogerson (1994) found that, due to there being greater returns to land and labour which may be earned from backyard shacks and informal income opportunities in the city, the urban agricultural sector in South Africa remains underdeveloped.

Households may gain access to more land than is available in their home gardens. This has increased the production of food from mere household consumption to generating an income. Forming a group to access agricultural support is a strategy that is employed by those who wish to transcend from farming as a survival strategy to an entrepreneurial one. I found that community gardeners regarded their activities as expansionist in the long-term. Farmers who belonged to this group lacked the necessary investments to turn this into a reality, however. They relied mostly on the assistance of farmer support groups, NGOs and the provincial government's Department of Agriculture for assistance. Farmers would enter and leave urban agriculture at different times of the year if another opportunity came along. It appears that some people engaged in the interim, as a temporary solution and as part of a diversification of economic activities.

The direction of causality with this and the analysis of transitions is still unclear. It is unclear whether people farmed because they were not in formal employment, or whether they were in formal employment and still needed to supplement their incomes. There seems to be evidence to support both cases. However, as a case for future critical research in this field, it would be of great interest to unravel this.

One of the fundamental questions about engagement in urban agriculture that the study intended to investigate was why some people get involved in urban agriculture and others do not. Using regression analysis to examine this, I was able to isolate certain specific individual and household characteristics that demonstrated a correlation between them and participation in urban agriculture. The comparisons between individuals and households from farming and non-farming households revealed that certain characteristics are correlated to engagement in urban agriculture. These characteristics will now be discussed.

Information on individual variables combined with household-level data showed that it matters where people come from in terms of their household structures. Women were more likely to engage, as were 27.03 percent of people in the age group 36 to 46. People with fewer years of education also predicted odds more likely to engage. The odds were also more likely if a person had lost employment. The logit model I constructed was a two-level analysis of participants and their households, used in multivariate modeling, and is a new contribution. In terms of their household odds of engagement, being poor was correlated to engagement in urban agriculture, while larger household sizes also predicted odds more likely to engage. These variables were all correlated to engagement in urban agriculture, but they do not prove causality.

More importantly, the study has demonstrated that urban agriculture is not only a last resort in the quest for formal employment. It is integrated into the lives of the people and has always been a part of the informal economy. It is not due to urbanisation or migration, as other studies have found. It is not likely that it will disappear, as the modernisation theorists argue. People who farm have always farmed, regardless of the changes in their employment status. The absence of employment is not the sole or main reason for engagement in urban agriculture.

Using panel data not to only examine the same participants in urban agriculture but also to examine the households from whence they came was a particular nuance of the study.

8.4 IMPLICATIONS FOR THEORY

The study adopted an informal economy approach in seeking to identify urban agriculture strategies in the post-apartheid era in South Africa. During this period, it was noted that some of

the growth in the economy may also be a consequence of the inability of the South African economy to create formal sector jobs for an ever-increasing supply of labour (Muller, 2002). During the same time there was an observed proliferation of informal activity and urban agriculture falls within this rubric. This study focused on urban agriculture because of its potential in food provision and income generation for individuals and households in KwaZulu-Natal.

Agricultural production in KwaZulu-Natal has emerged in previous surveys as the destination of almost half of all 'dissatisfied' informal producers. Between 1993 and 1998, May and Meth (2007) illustrated, using the KIDS data (for the entire cohort), how there was an increase in the number of households surveyed in 1993 participating in agricultural production. This increased the proportion of African and Indian households involved in this work to 49 percent. My study also analysed the KIDS quantitative data, including the latest wave of the survey in 2004, and narrowed this to urban areas and crop production activities only. My analysis was complemented by a qualitative component which purposely identified farmer groups from KwaZulu-Natal, including Indian market gardeners, who are a unique group for KwaZulu-Natal.

The informal economy perspective has facilitated the identification of the pull and push factors which motivated people to farm. This illustrated how urban agriculture participants may be pulled into/attracted to perform this activity by its economic functions, *viz.* food supply and income generation. Indeed, urban agriculture became an option when people were out of work or did not have sufficient employment. However, urban agriculture performed other functions in the lives of the participants, e.g. as a leisure activity, especially for those who were not economically active. This multi-functionality of urban agriculture contributes to prolonged engagement in this activity.

The contribution of urban agriculture to total household incomes may seem not to be economically viable for the majority of the participants in KwaZulu-Natal. An increase in this contribution over time may mean that it cannot be simply ignored. The potential of urban agriculture for income generation purposes is linked to the support it receives from farmer support groups and from the government. Through various initiatives and programmes at

provincial level, farmers who were organised into associations enjoyed support from these initiatives and programmes. The viability of urban agriculture is feasible when access to investment opportunities exist and the land under cultivation expands. Urban agriculture would need to diversify its functions and types of crops marketed in order to meet the diverse needs of urban farmers.

I take the view that urban agriculture has always been a part of the informal economy and is not caused by urbanisation and migrant labourers, as some literature has argued (Rogerson, 1996; van Averbeke, 2007). I also take the view that urban agriculture has both potential implications for income and employment generation and should be viewed as part of the enterprising informal economy. Urban agriculture also consists of survival-type activities of people struggling to survive. Home gardening provides a measure of survival and a basic standard of living, even though participants in this category do not invest much by way of inputs.

There are people who engage in urban agriculture on a sustained basis, despite low incomes derived from it. Households who engaged on a sustained basis appeared to have been more numerous than those who farmed for one time only, or two out of three times during the three-wave KIDS study. May and Meth (2007) supported this using the two waves of KIDS from 1993 to 1998. This shows that people who farm have always farmed and that those who enter and exit this activity are fewer than the people who have always farmed.

Although most urban agriculture is very small-scale and does not yield much by way of food and incomes for the participants, results show that this is still a lifelong engagement for many and will not disappear anytime soon. It is not unimaginable that urban agriculture will increase if the trends in urban poverty and a lack of formal employment opportunities are not reversed. Policies will need to address the concerns of those who engage, including access to areas for food production. A pro-poor urban agricultural approach to address the plight of resource-poor farmers will be required.

8.5 POLICY IMPLICATIONS

Access to agricultural support services may still be the exclusive preserve of those who farm in community ‘projects’, or for those farmers who engage as a group. Although the South African government has introduced gradual support to farmers of all types since 1994, this support remains piecemeal. Very little attention is given to the plight of resource-poor individuals who farm independently in their home gardens.

The case studies of individuals engaged in urban agriculture on community gardens and market gardeners illustrated how they benefit from extension support of the provincial Department of Agriculture and NGOs working in the communities, as well as support from a local municipality and a local church in terms of land allocation for urban agriculture. As a result, participants in these groups differed from those in home gardens because they could use urban agriculture not only to produce food for home consumption to also to use urban agriculture as an entrepreneurial strategy, although to varying degrees. While the study found that home gardeners do not engage for commercial reasons, they would still benefit from support in terms of boosting their production, even if this is largely for their own consumption. This is in light of the poverty situation which the majority of these households face, especially in view of high urban living costs.

In the various debates about the informal economy, Chen (2007) distinguishes between two types of linkages in the informal economy: 1) formal economy linkages, comprising regulated economic units and protected workers, and 2) formal regulatory environment linkages, comprising government policies, laws and regulations. To the extent that market gardeners had links to the formal economy, this was in the form of their marketing arrangements with supermarkets and speculators. This was not evident in the case of community gardeners, who were still hoping to expand and grow their enterprises before establishing regular markets outside their community.

The study combined the economic analysis with an in-depth qualitative analysis of three categories of urban farmers, which pointed at their motivations for engagement. Closer analysis of the characteristics of the farmers who are currently generating an income out of urban

agriculture showed these were the ones who farmed on community gardens (survivalist-entrepreneurial) and the market gardeners (entrepreneurial). These two groups farmed on bigger plots of land and made investments in their farming operations. These were factors contributing to the income generation of their activities. Larger areas being used for crop production resulted in the sales of the crops.

Being organised into farmers' associations also benefitted these farmers in terms of being easily identified to be able to receive farmer support from various groups operating in their communities. The motivation for engagement for some of community gardeners was a lack of alternative employment. For this reason, urban agriculture was used to supplement their household incomes. In order for these farmers to increase their incomes and make urban agriculture a viable employment strategy, they would have to increase their inputs and yields and find more markets outside their local community. An investigation of what the best market would be for the farmers and what the farmers would have to do to capture this market, is one way of dealing with this issue.

The market gardeners who engaged in urban agriculture as a viable commercial activity were at risk of decreasing their profit due to marketing speculators. For this reason, some farmers belonging to this group felt that their efforts in farming did not translate to the desired profits that they expected to receive. The sustainability of their farming operations was at risk, as the farmers felt that there was not enough profit being generated. Indeed, some stated that there was no logic in continuing to farm in the future, if the current situation persisted. If these farmers are to continue farming therefore, they would need to obtain decent prices for their produce. One way of dealing with this issue would be to find new direct markets and avoid having to go through middle-men in the form of marketing speculators.

The research of May and Meth's (2007) on the assessment of poverty, inequality and employment in South Africa made some notable observations regarding the linkages between the first and second (including informal) economies. They noted that there was more to the nature of the South African economy than a dual economy. Second, they noted that the persistence of poverty in South Africa post-apartheid, even in the face of economic and political reforms,

represented a case of underdevelopment which had been set in motion during apartheid, rather than a case for dualism. They noted how the linkages between the two economies could be either inclusive or exclusive. In conclusion, they noted that these linkages would determine the size and future of these two economies in South Africa.

The relevance of these arguments is presented by the two examples of market gardeners who were frustrated by the method of operation of marketing speculators, who undercut their prices. Because of this, one of the farmers said that if this persisted, he would be forced to give up farming. There would be no logic for him to continue to farm if his farming enterprise and the level of effort he put into farming was not matched by the profit he realised. Echoing these sentiments, the other frustrated farmer stated that, breaking away from tradition, he would not encourage his son to go into the family farming business. These cases represent the exploitative relationship and the method of operation of the formal economy relative to the second and informal economy. These cases bear testament to the theories of structuralists, when they argue that both informal enterprises and informal wage workers are subordinated to the interests of capitalist development, providing cheap goods and services.

To the extent that market gardeners and community gardeners alike had links to the formal regulatory environment, this was demonstrated by the provincial government's extension support services that they extended to both categories of farmers. In particular, they assisted eNdaleni community members to establish community gardens and provided extension support (such as training and site demonstrations) in the development of these gardens and as part of the policy of the provincial Department of Agriculture.

This provides a further example of the linkages between farmers and the formal (regulatory) environment. It renders the usefulness and the correctness of the argument made by proponents of a dualistic economy that is structurally disconnected from the first, erroneous. Given these scenarios, the formal economy would continue to grow at the expense of the poor, who are marginal to it.

Market gardeners represent a unique case of farming in an urban area in KwaZulu-Natal. These farmers had been farming in this area for a period exceeding 30 years and theirs was a family business where the children took over from their parents. In section 8.2.4 I argued that market gardeners could be considered a sub-sector of the informal economy. Indeed, the farmers had established direct markets with other supermarkets in the nearby cities of Pinetown and Durban. However, based on their method of operation with speculators, in particular, who served as intermediaries and were linked to formal companies that they supply to, farmers were not realising the incomes they desired. Rejected goods were commonplace for most of farmers in this group and they were at the mercy of the markets due to their goods being of a perishable nature. If there were delays, the produce would go bad and fetch lower prices at even their long-established markets at supermarket chains in the nearby cities. This posed a threat to the future of this sub-sector of the KwaZulu-Natal economy, which had been long touted as a successful example of farming in an urban area.

There was clearly a need to strengthen the linkages between the farmers and marketing agents that they sell their produce through. Farmers were exploited by, and were at the mercy of, the agents. It is enough to confirm the structuralists' arguments of informal enterprises and informal wage workers being subordinated to the interests of capitalist development, providing cheap goods and services. The operation of the formal economy via marketing agents exacerbates the vulnerability of these farmers by their being undercut. For community gardeners (survivalist-entrepreneurial) and market gardeners (entrepreneurial), it is unclear whether the De Sotoan claims of these being the true micro-entrepreneurs and the real revolutionaries ring true. A policy that would look at the power relations between these farmers and the economic connections to which they are connected is necessary.

While the study gains in-depth analysis by focusing on urban agriculture, as it is particularly practised in KwaZulu-Natal, and this is particularly true of the unique group of the Indian market gardeners, it must be acknowledged that this is limited. Although the sample of individuals and households gives a picture of farming in the post-apartheid era, more research is needed to enable broader generalisations.

The three-wave KIDS data only collected data on individuals engaged in urban agriculture in the latest wave. Future data collection will allow other studies to examine, in more detail, the transitions into and out of urban agriculture. The individual participants sample was not perfect. The data collected was on the three most involved people in agricultural activities. In some cases, the information captured only one person who was involved in the entire household, in some cases there were two out of three people identified from the same household and, in others, there were three different individuals identified from the same household. Farmers from the same household, except for their individual characteristics, would have come from a household with identical household characteristics. It is possible that there were variations that I could have observed which I missed, had I obtained a different sample. If I had had a 'pure' sample of individuals involved from each farming household, different results could have been obtained. Nevertheless, the findings presented in this study go some way towards elucidating the participation in urban agriculture by people and their households.

This study has revealed the types of people engaged in urban agriculture, the categories of people engaged in food production, the various motivations, including a unique leisure effect, the transitions in urban agriculture, odds of farming and comparisons between farming and non-farming households and the nature of support from development agencies to promote urban agriculture.

The dominant function of urban agriculture still remains contributing to food provision and income generation. However, this should not overshadow other functions, such as the importance urban agriculture has in ways less directly related to monetary gain. The motivations for urban agriculture extend beyond economic notions to include a leisure effect.

It is vital to recognise the heterogeneity of urban agriculture and that it is not going to disappear soon. This points to the need for multiple and flexible approaches to policy formulation. These approaches should be undertaken on a basis of recognising the differing requirements of sets of survival enterprises, on the one hand, and of micro-enterprises, on the other.

There is a need for collaborative work from all role-players from the private sector, to government departments (and not just a single department, Agriculture) before an appropriate strategy to support those who engage may be developed. Some of the initiatives that had been started in the community of eNdaleni, working with community gardeners, are laudable. The training and support that these farmers received from various organisations, most notably the provincial Department of Agriculture, are clearly useful. It shows that the government is not necessarily opposed to local development.

8.6 CONCLUDING REMARKS

I do not wish to overemphasise the potential role that urban agriculture could play in addressing issues of unemployment. This is because the agricultural production of participating households is minimal, as indicated by the contribution of agricultural income to total household incomes (Chapter 6, Section 6.4).

I take the view that a more balanced, evidence-based approach than what is found in some of the existing literature is needed. While some of the literature on urban agriculture is driven by advocacy purposes and is therefore sometime guilty of ‘promoting’ the sector based on scant data, that argument should not be used to dismiss all arguments in favour of urban agriculture. Whether urban agriculture makes economic sense is an empirical question, and will depend on its profitability and on the extent to which it provides food and income for individuals and households at a lower opportunity cost in the use of their resources than alternative means of income generation. Whether or not urban agriculture is worthy of policy support is debatable and not a question this study can address, as each case requires exploring possible alternative measures to increase household’s access to food and income, be it through the promotion of different income generating activities and employment opportunities, or by improving the efficiency of the urban food markets they rely on. This is particularly so for community gardeners, who sometimes in between formal contract employment spells, or those who wish to get back to formal employment and farm, due to a lack of these alternative or desirable employment opportunities.

The segmentation of urban agriculture in this study revealed that it was mostly of the self-employment type, in small informal enterprises. Very few farming households hired temporary labour (Chapter 6, Section 6.5 shows that this declined over time) and, where there was evidence of this, they were unpaid family members who helped out.

In this thesis I have shown that a close analysis of urban agriculture, as it takes place in KwaZulu-Natal, comprises different categories: survival, survival-entrepreneurial and entrepreneurial types. Most government initiatives expose the obvious shortcomings of the trickle-down theory. Though they are purportedly focused on the informal economy, it is hard to see how they can be of benefit to any of the survival-type strategies within the urban agricultural spectrum of activities.

Many of the proposals contained in the informal enterprise development policies (e.g. White Paper on SMME development) lack any kind of traction on the difficult realities faced by those at the ‘margins’ of the formal economy. Instead, they appear to be aimed at “businesses” and “enterprises” that are already much more advantageously positioned. This could be seen as an attempt to eliminate informal enterprises by formalising their enterprises and/or trying to direct their participants towards formalisation. This has connotations of the modernisation theory, however. As the evidence on the informal economy has shown, it has persisted and continued to grow over time. There is no illusion about whether it will eventually disappear however; it is here to stay. This should be enough to raise questions about the theories of modernisation and capitalist integration.

These conclusions are only relevant to the study areas and it would be presumptuous to imply that they can be generalised to the whole province of KwaZulu-Natal. The strategies that were illustrated by the different farmer categories are found there and are appropriate adaptations to the realities of the environment in which they survive. The scope of urban agriculture is wide. The qualitative data revealed the importance of the heterogeneity of urban agriculture as a concept. Future research would benefit by analysing different types of urban agriculture to reveal more about within-sample heterogeneity.

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APPENDICES

Appendix 1 Semi-Structured Interview

KwaZulu-Natal Urban Agriculture Survey – 2004 Discussion Theme Guide for Farmer Survey

Good (morning/afternoon), I'm _____ and we are conducting a survey for the University of KwaZulu-Natal in Durban. The survey is part of a research project designed to understand people's living conditions and the impact of government policies on their lives. This information has been used to inform government about how the economy works for people like you. Your community and/or household have been purposively selected to participate in this study to explore the reasons for your involvement in agriculture, and your contribution, extent and variety of asset utilisation in this activity.

The survey will take about three hours to conduct. You will be asked questions about your daily life and work, and that of your family members.

As part of the survey we need to ask you to assist us in documenting the agricultural activities you and your household members conduct and your opinion about employment prospects in relation to your agricultural activities.

The study will pose no risks to you or to your household members. You may refuse to answer any question without penalty. You may also choose to discontinue your participation in this study at any time.

You will not personally benefit from this study. We will however do our best to make sure that South Africa benefits from this study and what we can learn about how to make the economy and government work better for more people.

All information that you give to us will be kept confidential. You and your household members will not be identified by name or address in any of the reports we plan to write.

“I have read the information sheet about this study (or understood the explanation of it given to me verbally). I have had my questions concerning the study answered and understand what will be required of me if I take part. I agree to take part in this study”

Signature
(or mark) Date

Witnessed
(ONLY IF ILLITERATE)

DO YOU AGREE TO PARTICIPATE IN THIS STUDY? Yes / No

INDEX

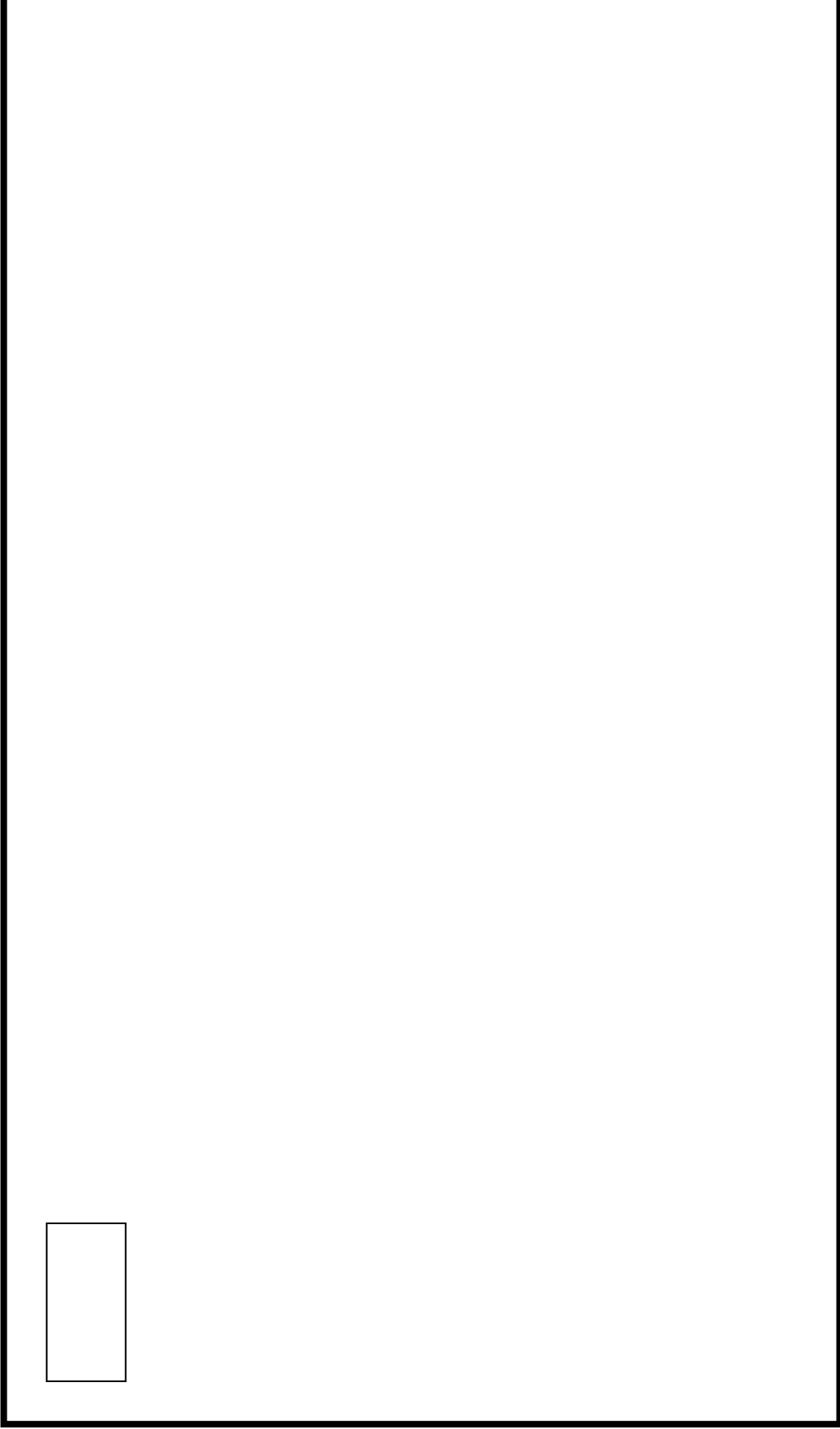
Section No	Themes	Page No	Instructions
1	Farmer particulars	2	Questionnaire
2	Household members		Family Tree Exercise
3	Household history	8	Time line and events map on brown paper
4	Farmer networks	8	Time line and events map on brown paper
5	Work and livelihoods	8	Questionnaire, Time line and events map on brown paper (Participant Observation also to be used here)
6	Farming activities	10	Questionnaire
7	Low risk and high risk crop production activities	11	Questionnaire(Participant Observation also to be used here)
8	Low risk and high risk crop marketing activities	13	Questionnaire, Time line and events map on brown paper
9	Farming economic assets	15	Questionnaire, Time line and events map on brown paper
10	General	16	Questionnaire

1. FARMER PARTICULARS: Complete table

Questionnaire number:	Survey date:	Farmer name:	Farmer Tel/Cell:	Farmer Category:	Name of Isigodi/Section:
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2. HOUSEHOLD MEMBERS

Family Tree exercise indicating name, sex, age, person's main activity, resident household member (lived in Household in the last 15 days) /not, lines that link family ties.



3. HOUSEHOLD HISTORY

- 3.1 When (what year) did the family move to the area?
- 3.2 Where did you move from and why?
- 3.3 Who did you move with? (*Probe whether other family members and other families moved at the same time*)
- 3.4 How did you go about obtaining the piece of land where you live now?
- 3.5 What rights do you have to this piece of land? (*Probe whether owned, rented, hired, bought, leased, inherited, borrowed, etc.*)

4. FARMER NETWORKS

- 4.1 How long have you been involved in agriculture, here and elsewhere?
- 4.2 What made you decide to get involved in agriculture, here and elsewhere?
- 4.3 Are you a member of a farmers' organisation? **Yes / No.** *If Yes, complete table below, if No, skip tabled questions.*

4.4 When was the organisation formed?	4.5 What year did you join the organisation?
4.6 Why did you join the organisation?	4.7 What role / position do you hold in the organisation?
4.8 What are the benefits of being a member of your organization?	4.9 What are the constraints of being a member of your organization?

Please explain how you went about obtaining access to the plot(s) of land where you currently farm?

Plot No.	4.10 Plot location (<i>Probe for on-plot or off-plot, eg community garden</i>).	4.11 How did you obtain access to this plot?	4.12 Who owns the land on which you farm? (<i>Probe for borrowed land / inherited land / community garden / vacant (municipal) land / leased / rented / bought / owned</i>).

5. WORK AND LIVELIHOODS

Official Unemployment Definition	Expanded Unemployment Definition
5.1 What kinds of work have you done in the previous seven days?	5.4 Why did you get involved in agriculture? (Too discouraged to look for work?)
5.2 Would you be available to start non-farm related work in the next week?	5.5 Do you still want a job in a non-agriculture related job? Where? Why?
5.2.1 What kind of work?	
5.3 Have you been actively looking for work in the previous month?	5.6 Do you still hope to find employment in a non-agriculture related job?
5.3.1 What type of work	
5.3.2 Where?	

6. FARMING ACTIVITIES

6.1 What are the different types of crops that you grow and why do you grow the kinds of crops that you do? (Reasons could be consumption, tradability, risks of losing crop? Risk of theft? Whole year harvest?, etc. On the table below first list ALL crops grown and then give reasons for growing this crop).

	Name of crop	Reasons for growing
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Agricultural stage	Time period required	Purchased inputs and cost	Non - purchased inputs and cost	Equipment needed and cost	Own labour time and cost	Family member labour time and cost	Hired labour time and cost	Challenges / Constraints	Benefits / Advantages
Post harvest packing and/or processing	L								
	H								
Transport to market	L								
	H								
Post harvest packing and/or processing	L								
	H								
Other									

7. NOW LET US TALK ABOUT YOUR CROP MARKETING ACTIVITIES.

- 7.1 Which 3 crops that you are producing are currently the most marketable?
- 7.2 Which of the crops that you are currently marketing result in higher profit returns?

Marketing comparisons between low risk and high risk crops	Most selling crop	2 nd most selling crop	3 rd most selling crop
7.3 Name all your current markets for these?			
7.4 How often do you market these?			
7.5 What are the different units in which you market these and at what cost per unit ?			
7.6 How much income did you derive from selling this crop over the last year?			

- 7.7 What are some of the things that you **are able** to achieve with the income that you derive from your farming in order to support you and your family?
- 7.8 What are the things that you are **not** able to achieve with the income that you derive from your farming in order to support you and your family?
- 7.9 Are there any specific market(s) which you would like to have access to for the sale your crops?
- 7.10 Why are these markets inaccessible to you at the moment?

7.11 On the table below and ONLY FOR THOSE MARKETS OUTSIDE OF YOUR LOCAL COMMUNITY, indicate what marketing skills you and/or your family members possess as household that runs a farming business.

	Has any resident household member (including children) used this marketing skill in the past year? Y/N	Who are the household members that have used this marketing skill in the past year? Enter up to 3 resident household persons		
		Person 1	Person 2	Person 3
Bookkeeping				
Pricing				
Advertising				
Processing				
Packaging				
Financial management				
Transport to market (e.g. truck driver)				
Selling				
Marketing agents				
Marketing plans				
Promotions				
Other				
Other				

8. FARMING ECONOMIC ASSETS

- 8.1 What other livelihood strategies do you and your household members engage in for income besides farming? Please list all these **household income sources**
- 8.2 Where do you obtain money from to finance your **crop production** activities? (*Probe for money used to buy seeds, fertiliser, pesticides, water, etc.*).....
- 8.3 Where do you obtain money from to pay for your **machinery and tools** used in your farming activities? (*Probe for money used to pay for tractor, truck, garden implements, etc.*).....

8.4 Where do you obtain money from to finance your **marketing** activities? (*Probe for money used to pay for delivery truck, packaging, market stalls, etc.*)

8.5 Comparing sources of finance. Tick if yes.

Types of lenders	Have you borrowed money from this source to finance your <u>crop production</u> activities?	Have you borrowed money from this source to pay for your <u>machinery and tools</u> used in your farming activities?	Have you borrowed money from this source to pay for your <u>marketing</u> used in your farming activities?
Institutions:			
Banks			
Trading store or shop			
Moneylenders			
Churches			
General NGOs			
Microfinance NGOs			
Community leaders			
Stokvels			
Other (specify)			
Individuals:			
Family			
Friends			
Landlord or employer			
Other (specify)			

8.6 How much income do you derive from farming over the period of a year?

8.7 What are some of the things that you **are able** to achieve with the income that you derive from your farming in order to support you and your family?

8.8 What are the things that you are **not** able to achieve with the income that you derive from your farming in order to support you and your family?

9. GENERAL

9.1 Indicate with a tick if Yes / No to the following as being crucial to access for your Agriculture Operation's Success.

Key to Agriculture Operation's Success	Yes	No
Water		
Time		
Seeds		
Land		
Tractor		
Gardening tools / equipment (such as hoes, etc)		
More farming Information / Knowledge		
More marketing Information / Knowledge		
Financial Assistance (e.g. access to credit)		
Processing / processing Facility		
Credit (including access to micro finance)		
Employment and income		
Savings (in banks, building society and/or stokvels)		
Pension and other grants / state benefits, private pension		
Labour		
NGO's, Government extension workers, private organization, etc.?		
Less Government intervention		
More Government Intervention		
Enough rain		
Enough sunshine		
Enough air / wind		
Other		

END OF FARMER HOUSEHOLD SURVEY

Thank you for participating in the survey and sharing your views and experiences on your farming activity.