

**ASSESSING STRATEGIES TO UP-SCALE URBAN AGRICULTURE FOR INCOME  
GENERATION AT ESIKHALENI TOWNSHIP, RICHARDS BAY, SOUTH AFRICA**

**KHULEKANI SICELO TEMBE**

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**ASSESSING STRATEGIES TO UP-SCALE URBAN AGRICULTURE FOR INCOME  
GENERATION AT ESIKHALENI TOWNSHIP, RICHARDS BAY, SOUTH AFRICA**

**By**

**KHULEKANI SICELO TEMBE**

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for the degree of Master of Arts in Development Studies, in the Department of  
Anthropology and Development Studies at the University of Zululand**

**Supervisor: Dr. SS Nhlabathi**

**Kwa-Dlangezwa**

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## ORIGINALITY DECLARATION

I, Khulekani Siculo Tembe, would like to declare that I have read and understood the policies and rules of the University of Zululand pertaining to postgraduate research. On that note, I would like to declare that I have complied with the specified requirements. As a result, I obtained an Ethical Clearance Certificate for the study in November 2017 (Ethical Clearance Certificate Number: UZREC 171110-030 PGM 2017/426) and I have complied with the special conditions set out in the certificate. I would further like to declare that this work is my own effort and it has not been submitted for any degree purposes or published elsewhere, either in whole or in part. I have complied with the University of Zululand's Plagiarism Policy; hence the study has undergone text-matching and similarity-checking procedures to ensure it is free of plagiarism.

Moreover, I would like to declare that the research project titled: "Assessing strategies to up-scale urban Agriculture for income generation at Esikhawini Township, KwaZulu-Natal, except where it is indicated in the text, is as conceptualised and executed by me. All sources of information employed in the study have been fully acknowledged and this research dissertation has not been previously submitted for academic purposes to any institution of higher learning and training.

Candidate's signature: .....

Date: 2019

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## **DEDICATION**

This research is dedicated to my father, my late mother, Eunice Manyoni, and my late sister, Nonhlahla Tembe; may their souls rest in peace.

## ABSTRACT

Since 2014, the South African government has recognised township economies as important components for attaining improved and inclusive rates of economic growth. Consequently, the government implemented the strategy of township economic revitalisation through urban agriculture. Thus, this study assessed strategies that those involved in township urban agriculture could use so that they could up-scale their township agricultural activities from subsistence and survivalist economy to income generating ventures. This study was conducted in Esikhaleni Township, city of Richards Bay, KwaZulu-Natal.

The literature of this study showed that urban agriculture was not a recent phenomenon, but, was an important element of urban living, mostly during the period of great depression in the early 1930s. However, urban agriculture did not start in the 1930s, as it dated back to the 19<sup>th</sup> century in the USA and in Europe. From the USA and Europe, it was to spread to Africa as a result of industrialisation, which was an offshoot of colonisation. Urban agriculture was mostly practiced for survival. Urban agriculture could be theorised from the Neo-liberal and Neo-Marxist perspectives. Under the Neo-liberal framework, it was shown that urban agriculture could be viewed in three ways, that is, as a form of municipal entrepreneurship, as part of greening cities, and as shared political spaces.

The municipal entrepreneurship views urban agriculture as formal business activities that contribute towards urban economies. Further, as part of greening cities, urban agriculture was understood as a way of keeping city green and beautiful. Lastly, as shared political spaces, urban agriculture was seen as an activity to unite communities. On the other hand, neo-Marxist theory understood urban agriculture as an activity that perpetuates capitalism and exploitation of workers. Literature also showed that there were no economic benefits that could be obtained from urban agriculture.

The study used the interpretive philosophy and thus adopted a qualitative research approach. The participants of this study consisted of urban agricultural practitioners (n=28) of the study area, and public officials (n=2): an official from the city of Umhlathuze and the other official from Agricultural Department of the province of KwaZulu-Natal. Data

was collected using semi-structured interviews. Though the study was principally qualitative, however, some of the data was quantitative. Qualitative data was analysed by developing themes out of the interview narratives while the quantitative data was analysed using the statistical package for the social sciences, SPSS. The main finding of the study was that the security and certainty about the availability of land for gardening. This hampered the capacity of the urban agricultural practitioners to produce quality products which could be sold to wholesalers. Furthermore, the study revealed that there were two role players in urban agriculture in the study area: the uMhlathuze Local Municipality and the KwaZulu-Natal Department of Agriculture and Rural Development. The uMhlathuze Local Municipality understood urban agriculture as both an entrepreneurial and an income generation strategy, which would contribute to the economic development of the local municipality. With regards to the KwaZulu-Natal Department of Agriculture and Rural Development, the study showed that the department did not have any concrete policy on urban agriculture.

The study also found that there was a potential to up-scale the agricultural activities as the uMhlathuze Local Municipality organised workshops to help with the agricultural and business skills. Secondly, the strategy to sell the products directly to the customers or selling from door-to-door helped in building mutual trust between the sellers and the buyers. However, there were challenges, such as land issue and market access, that hindered urban agricultural practitioners in their efforts to scale-up. Urban agricultural practitioners reported that they did not own the land they farm on, as the land was owned by municipality who could claim it any-time.

In terms of marketing, it was shown that urban agricultural practitioners relied on informal market to sell their products as local wholesalers and shops did not buy from them and they appeared not to have trust in the local agricultural producers. With regards to municipality, the study recommended that the municipality find ways to assist with agricultural land and policy formulation. Finally, further research can be carried out to assess the factor of trust between small scale urban agriculturalists and the market, as the study found that there was a lack of mutual trust between the local wholesalers and local urban agricultural practitioners.

**Key words:** Urban Agriculture, Neoliberalism, Neo-Marxism, Scaling-up, Qualitative, Esikhaleni Township, Richards Bay, South Africa.

## **ACRONYMS AND ABBREVIATIONS**

GDP	Gross Domestic Products
GHG	Greenhouse Gas
GYO	Grow Your Own
LED	Local Economic Development
NGO's	Non- Government Organisations
SPSS	Statistical Package for the Social Sciences
UA	Urban Agriculture
UK	United Kingdom

## TABLE OF CONTENTS

ORIGINALITY DECLARATION .....	i
DEDICATION .....	iii
ABSTRACT .....	iv
ACRONYMS AND ABBREVIATIONS .....	vii
LIST OF TABLES .....	xiv
LIST OF FIGURES.....	xv
CHAPTER ONE .....	1
ORIENTATION TO THE STUDY.....	1
1.1 INTRODUCTION .....	1
1.2 PRELIMINARY LITERATURE REVIEW .....	2
1.2.1 Definition of urban agriculture .....	2
1.3 STATEMENT OF THE PROBLEM.....	3
1.4 THE AIM AND OBJECTIVE OF THE STUDY.....	4
1.4.1 Aim of the study .....	4
1.4.2. Objectives of the study .....	4
1.5 RESEARCH QUESTIONS .....	5
1.5.1 Main research question .....	5
1.5.2 Secondary research questions .....	5
1.6 THE INTENDED CONTRIBUTION TO THE BODY OF KNOWLEDGE .....	5
1.7 RESEARCH METHODOLOGY .....	6
1.7.1 The research paradigm of the study .....	6
1.7.2 Research design.....	7
1.7.3 Target population of the study .....	7
1.7.4 Sampling and sample size.....	7

1.7.5 Data collection techniques .....	7
1.7.6 Data Analysis .....	7
1.8 PROPOSED LAYOUT OF THE CHAPTERS .....	8
1.9 CONCLUSION .....	9
CHAPTER TWO.....	10
LITERATURE REVIEW .....	10
2.1 Introduction .....	10
2.2 HISTORICAL DEVELOPMENT OF URBAN AGRICULTURE .....	10
2.3 STUDIES RELATED TO THE CURRENT STUDY .....	12
2.4 PROCESSES AND DYNAMICS OF URBAN AGRICULTURE PRACTICES.....	15
2.4.1 Urban agriculture in practice .....	15
2.4.2 Factors that determine the success or failure of urban agriculture .....	16
2.5 URBAN AGRICULTURE AND SCALING-UP .....	19
2.5.1 Contract farming .....	20
2.5.2. Integrating small emerging farmers .....	22
2.6 CONCLUSION .....	23
CHAPTER THREE .....	24
3.1 INTRODUCTION .....	24
3.2 CONCEPTUALISING URBAN AGRICULTURE.....	24
Figure 1.1 conceptualising urban agriculture (source: Author) .....	25
3.2.1 Urban agriculture and neoliberalism .....	25
3.2.2 Neo-Marxist theory .....	30
3.5 CONCLUSION .....	31
CHAPTER FOUR.....	32
RESEARCH METHODOLOGY .....	32

4.1 INTRODUCTION .....	32
4.2 DESCRIPTION OF THE STUDY AREA.....	32
Figure 4.1 Provides uMhlathuze municipality map (source: Author) .....	33
4.3 RESEARCH DESIGN AND PHILOSOPHY.....	33
4.4 RESEARCH APPROACH OF THE STUDY .....	35
4.5 RESEARCH METHODS .....	35
4.5.1 Target Population intimidate .....	36
4.5.2 Sampling method.....	36
4.5.3 Sample size .....	37
4.5.4 Recruitment of participants .....	37
4.5.4 Data Collection Techniques .....	37
4.5.5 Data Analysis.....	38
4.6 PLAGIARISM.....	38
4.7 DISPOSAL OF THE RESEARCH DATA AND RECORD.....	39
4.8 ETHICAL CONSIDERATIONS AND SAFETY ISSUES .....	39
4.10 VALIDITY, RELIABILITY AND TRUSTWORTHINESS .....	40
4.11 CONCLUSION .....	40
CHAPTER FIVE .....	41
DATA PRESENTATION AND ANALYSIS.....	41
5.1. INTRODUCTION .....	41
5.2. DEMOGRAPHIC CHARACTERISTICS OF URBAN AGRICULTURAL PRACTIONERS.....	41
5.2.1 Gender of the respondents .....	41
Table 5.1 Gender of the respondent .....	42
5.2.2 Age of the respondents.....	42

5.2.3 The Employment status of respondents .....	43
5.2.4 The agricultural skills of the respondents.....	44
5.2.5. Urban agriculture in practice .....	46
5.3 THE PRACTICE OF URBAN AGRICULTURE AT ESIKHALENI .....	48
5.3.1 Unemployment as a motivating factor.....	48
5.3.2 Poverty as a motivating factor to practice urban agriculture .....	49
5.3.3 The One Home One Garden as motivating factor for the practice of urban agriculture.....	50
5.3.4 Urban agriculture as an opportunity to exercise their bodies .....	50
5.3.5 Parental influence as a motivating factor to practice urban agriculture .....	51
5.3.6 LAND AVAILABILITY .....	51
5.3.7 WATER ACCESSIBILITY FOR AGRICULTURAL PRACTICE .....	53
5.3.8 Agriculture as an activity to access food and income .....	53
5.4 CHALLENGES AND ATTITUDE OF COMMUNITY TOWARDS AGRICULTURE ENDEAVOURS.....	54
5.4.1 Crime .....	54
5.4.2 Pests and diseases.....	55
5.4.3 Roaming domestic animals.....	55
5.5 THE TYPES OF FARMING PRACTICES .....	56
5.6 THE AGRICULTURAL INCOME .....	57
5.7 MARKET ACCESS .....	58
5.8 THE ROLE OF WARD COUNCILLORS TOWARDS URBAN AGRICULTURE ...	59
5.9 URBAN AGRICULTURE AND SCALING-UP .....	60
5.9.1 Potential for scaling-up urban agriculture to formal businesses.....	60
5.9.2 Strategies to scale-up urban agriculture .....	62
5.10 URBAN AGRICULTURE IN THE UMHLATHUZE LOCAL MUNICIPALITY .....	64

5.10.1 Local economic development and urban agriculture.....	65
5.10.2 The urban agriculture and revitalising the economy of the study area.....	66
5.10.3 The role of the UMhlatuze Local Municipality in agricultural projects.....	66
5.10.4 Policy(s) that guide the practice of urban agriculture .....	68
5.10.5 The impact of zoning by-laws in the practice of urban agriculture .....	69
5.10.7 The role of the municipality in the practice of urban agriculture in the study area .....	69
5.11 CONCLUSION .....	70
CHAPTER SIX .....	72
SUMMARY, EVALUATION, RECOMMENDATIONS, AND CONCLUSION .....	72
6.1 INTRODUCTION .....	72
6.2 SUMMARY OF THE STUDY .....	72
6.3 EVALUATING THE FINDINGS OF THE STUDY .....	74
6.3 RECOMMENDATIONS.....	78
6.3.1 Recommendations for uMhlatuze local municipality .....	78
6.3.2 Recommendation for urban agricultural practitioners .....	79
6.4 AREAS FOR FURTHER STUDIES.....	79
6.5 LIMITATIONS OF THE STUDY .....	79
6.5 CONCLUSION .....	80
REFERENCES .....	81
APPENDIX A: INFORM CONSENT FORM.....	102
ISIVUMELWANO SOKUZIMBANDAKANYA OCWANINGWENI .....	103
CONSENT FORM .....	104
APPENDIX B: INTERVIEWS QUESTIONS .....	106
The research interview questions for the urban agricultural practitioners .....	106

RESEARCH QUESTIONS FOR LED OFFICER AT uMHLATHUZE MUNICIPALITY  
..... 112

## LIST OF TABLES

Table 5.1: Gender of the respondent.....	42
Table 5.2: The employment status of respondents.....	45
Table 5.3: The number of years practising urban agriculture: The agriculture skill of respondents cross-tabulation.....	46

## LIST OF FIGURES

Figure 1.1: Conceptualising urban agriculture (source: Authors) .....	25
Figure 3.1: uMhlathuze municipality map (source: Authors).....	33
Figure 5.1: The age group of respondents (source: Authors).....	44
Figure 5.4: The relationship between location and size of the gardens (source:Authors).....	48
Figure 5.5: Type of farming practice.....	58
Figure 5.6: Agricultural product monthly income.....	59

# **CHAPTER ONE**

## **ORIENTATION TO THE STUDY**

### **1.1 INTRODUCTION**

The South African government has focused its drive on empowerment, transformation, and an inclusive growing economy. The revitalisation of township economies has emerged as one of the tools of government to achieve an inclusive and growing economy (Manzini, 2016). The government's vision is that of vibrant and viable township enterprises, which include the mobilisation of township purchasing power, in order to improve income and investment in productive activities and in the process, build the economic strength of township communities. Urban agriculture has emerged as one of the instruments that could be used to revitalise township economies. Through urban agriculture, townships are expected to play the role of functional economic centres (Manzini, 2016).

Urban agriculture is expected to play the role of being a catalyst in the drive to attain the idea of economic inclusiveness. It is in view of the foregoing discussion that this study was undertaken. The study explored the role of urban agriculture in the revitalisation of township economies. The study sought to determine how urban agriculture, specifically crop farming, could be scaled up so that township communities could generate income from it. The study was conducted in Esikhaleni Township, KwaZulu-Natal. This chapter is an introduction to the study. It is organised into the following subsections: the preliminary literature review, followed by the statement of the problem, the aim and objectives of the study, the description of the study area, and methodology. Other important aspects of the chapter include issues bordering on ethics and the time line of the study.

## **1.2 PRELIMINARY LITERATURE REVIEW**

This section briefly discusses the definition of urban agriculture and the theory that underpinned the study, which is presented details in chapter two. This section opens by defining urban agriculture.

### **1.2.1 Definition of urban agriculture**

There are various definitions of urban agriculture (Alexander, 2014; Rogerson, 2011). Van Averbeke and Khosa (2007) define urban agriculture as the means of food support, which is normally practised for purposes of subsistence farming. Rogerson (2011) and Alexander (2014) agree with Van Averbeke and Khosa (2007) but they further state that urban agriculture is the growing of plants and rising of animals for food and income generation purposes. Mthethwa (2012) views urban agriculture from economic perspective, and submit that people could increase their local economy through urban agriculture. In addition, Lovell (2010) emphasises that growing crops and rearing animals, as income generators, could serve as significant sources of enhancing economies. Furthermore, Van Averbeke and Khosa (2007) point out that small-scale farming contributes into household's income in South Africa. This income, according to Mashamaite (2014), enables households to purchase food and other basic needs to fight poverty.

### **1.2.2 Theory of the study**

This section briefly discusses the theories of the study. The detailed discussion of the theories is found in chapter three.

Literature shows that urban agriculture could be conceptualised in terms of two perspectives, that is, the neoliberal and Marxist perspective. Urban agriculture in the neoliberal perspective has three assumptions: as a form of municipal entrepreneurship, as part of greening cities, and as a shared politic of spaces. The municipal entrepreneurship views urban agriculture as formal business activities that contribute towards urban economies. Municipal entrepreneurship further understands that urban agricultural practitioners practice urban agriculture as business to receive income, which

they spend in local markets. Furthermore, as part of greening cities, urban agriculture is understood as a way of keeping the city green and beautiful. Neoliberal framework shows that greening cities also contributes to mitigating climate change. Lastly, as shared politics of spaces, urban agriculture was seen as an activity to unite city communities, especially as community gardens are viewed as spaces where community change societal issues.

On the other hand, the neo-Marxist framework takes urban agriculture as an activity that perpetuates capitalism and exploitation of workers, who have to do double, jobs at work and at home. Past studies also show that there were no economic benefits that could be obtained from urban agriculture. This is because urban agriculture is viewed as a sessional or temporal activity, which also provides temporal and seasonal income.

### **1.3 STATEMENT OF THE PROBLEM**

Recent developments, especially the programmes of the government, have focused on building township economies in what has been called Radical Economic Transformation. In view of this, this research project explored the strategies that could be implemented so as to move urban agriculture at Esikhaleni Township from a survivalist undertaking to an endeavor for income generation, and in the process build and transform the economy of the township. The assumption was that most activities in townships were survivalist in nature and did not contribute much too economic development; however, this study opined that tapping into urban agriculture could help to transform economies of townships.

Urban agriculture plays a significant role in enhancing the standard of living in urban areas (Seeth *et al*, 1998). Moreover, it has the ability to generate small and medium agricultural enterprises, which would create and increase employment opportunities for people in urban areas, who are experiencing food shortages and lack of income (Kekana 2006). Thom and Conradie (2012) reiterate that urban agriculture could help to uplift the standard of living in urban areas. Moreover, Onyango (2010) and Spies (1998) highlight constraints and dynamics that can hinder the growth of urban agriculture. This study assesses how urban agriculture could be up-scaled for income generation purposes at Esikhaleni.

There are some related but different studies have been done on the subject of urban agriculture and the possibility to up-scale; what is notable about these studies is that they have tended to focus on the role of urban or peri-urban agriculture on food security and poverty alleviation (Kekana, 2006; Onyango, 2010). Onyango (2010) went further by exploring the weaknesses of urban farming systems and the ways the sector can be improved as a means of income generation, employment, and improved living standards for those involved in farming activity. The role of non-governmental organisations (NGOs) in agriculture has also received attention (Olivier, 2015). Olivier (2015) examined NGOs in Cape Town in order to determine the characteristics of urban agriculture and the opportunities for, and limitations to, urban agriculture in the area. None of these studies focused on how urban agriculture can be up-scaled. The only study closely related to the current study is that of Smith (2012), which looked into the strategies required to grow urban agriculture. However, the study of Smith (2012) was carried out at Trenton and Newark, in the United States. Studies on the subject of urban agriculture in South Africa and locally (KwaZulu-Natal) are scarce; hence, the present study was undertaken to fill this research gap. The study assesses how urban agriculture could be up-scaled for income generation purposes at Esikhaleni.

## **1.4 THE AIM AND OBJECTIVE OF THE STUDY**

### **1.4.1 Aim of the study**

The aim of the study was to assess strategies to scale-up urban agriculture for income generation purposes at Esikhaleni Township.

### **1.4.2. Objectives of the study**

1.4.2.1 To find out socio-political factors that influence urban agriculture at Esikhaleni Township.

1.4.2.2 To find out environmental and land factors that influence urban agriculture at Esikhaleni Township.

1.4.2.3 To study economic factors that determines the success or failure of urban agriculture at Esikhaleni Township.

1.4.2.4 To determine the potential for economical scaling-up of urban agriculture at Esikhaleni Township.

## **1.5 RESEARCH QUESTIONS**

### **1.5.1 Main research question**

What are the strategies to scale-up urban agriculture for income generation at Esikhaleni Township, KwaZulu-Natal?

### **1.5.2 Secondary research questions**

1.5.2.1 What are the socio-political factors that influence urban agriculture in the study?

1.5.2.2 What are the environmental and land factors that influence urban agriculture at Esikhaleni Township?

1.5.2.3 What are the economic factors that determine the success or failure of urban agriculture in the study area?

1.5.2.4 What are the economic potentials to scale-up urban agriculture in the study?

## **1.6 THE INTENDED CONTRIBUTION TO THE BODY OF KNOWLEDGE**

Since the South African government has focused on empowerment, transformation, and an inclusive growing economy through the revitalization of township economies, this study will help contribute to understanding the concept of urban agriculture in the study areas, and in other similar areas as well. Apart from increasing the body of knowledge with regards to urban agriculture, this study will also be available to urban agricultural practitioners who might implement some of the recommendations from the study.

## **1.7 RESEARCH METHODOLOGY**

This section covers the research paradigm; it also discusses the research design of the study. The research design comprises the target population, sampling method, and research instruments, as well as data collection. The section opens by discussing the research paradigm.

### **1.7.1 The research paradigm of the study**

There are two broad ways of understanding the world of research: positivism and interpretivism. Positivism is a scientific method that is based on trust and reality (Chilisa and Kawulich, 2012). Positivism could be traced back to Auguste Comte, who first showed that knowledge is based on direct experience (Makhtar, *et al.*, 2016). Positivism is also understood as a quantitative method that is based on numerical and statistical analysis (Kura and Sulaiman, 2012). Positivism has to do with variables, which involve a number of theories about the social world and how it should be explored. Positivism also aims at measuring the variables of a social phenomenon through quantification.

As has been stated above, another way to understand the world of research is through the interpretive philosophy. Interpretivism is a general method in social science research that involves phenomenological sociology, philosophical hermeneutics and constructionist perceptions (Kura and Sulaiman, 2012). It is posited that interpretivists tries to comprehend knowledge that is constructed on social reality through detailed understanding and clarification of meaning of proceedings and specific life experiences (Mubecua, 2018). Interpretivism uses research approaches that understand the details of interaction of participant in their contexts (Houghton, 2011). The interpretivism philosophy allows researchers to engage with participants directly during the interview (Engel and Schutt, 2014). In this study, interpretivism was adopted as the objectives of the study are qualitative in nature and require the philosophy that is qualitative.

### **1.7.2 Research design**

As this study assessed the strategies that could be used to scale-up urban agriculture for income generation purposes, the qualitative approach was employed and in order to solicit the views of the respondents, the study used interviews.

### **1.7.3 Target population of the study**

Determining the target population is crucial for a researcher in a study (Creswell, *et al.*, 2013). The study targeted Esikhaleni residents who practice urban agriculture. Furthermore, as the study wanted to understand policy issues about urban agriculture, officials of the local municipality and the provincial government were also interviewed.

### **1.7.4 Sampling and sample size**

This study adopted purposive sampling. Purposive sampling is a non-probability sampling method that can be used in a specific condition, where the sampling is conducted with a particular motive in mind (Creswell, *et al.*, 2013). In this study, the motive was that most of the urban agricultural activities are practiced for survivalist, not for commercial purposes. Sample size is the calculation of the right number of subjects needed for a study (Cornforth and Mordaunt, 2011). The study selected twenty-eight urban agriculture practitioners and two uMhlathuze local municipality officials.

### **1.7.5 Data collection techniques**

The study used semi-structured interviews to collect data. Semi-structured interview was used because it provides a chance for the researcher to prepare questions before the interview day and to be able to ask follow-up questions (McLaughlin, Bush and Zeeman, 2016).

### **1.7.6 Data Analysis**

This study used both content analysis and SPSS to analyse the collected data. Content analyses allows researchers to create themes and group together similar information that was record during the interview. However, the statistical package for the social sciences (SPSS) allows the researcher to code some of the information such as demographics and to present the findings with tables and graphs.

## 1.8 PROPOSED LAYOUT OF THE CHAPTERS

This study will be organised into five chapters, as follows:

**Chapter one:** This chapter introduced the study and outlined how it was conducted. It contains introduction, definitions of concept, statement of the problem, aim and objectives of the study, research questions and research methodology, and the intended contribution to the body of knowledge.

**Chapter two:** Chapter two provides the literature review on urban agriculture. The information from existing literature covers the study subject, which is urban agriculture. The chapter will also discuss historical development of urban agriculture and related studies.

**Chapter three:** This chapter discusses the theories of the study- namely, the Neo-liberalism and the Neo-Marxist theories. This chapter also provides theories on the processes and dynamics of urban agriculture practices, and the up-scaling of urban agriculture.

**Chapter four:** Chapter four discusses the methodology of the study. This chapter also describes the study area, discusses research design and philosophy, research approach, and the research methods. It also further discusses the recruitment of participants, data collection techniques, data analysis, plagiarism, disposal of the research data and records. Lastly, in this chapter, also discussed were: ethical considerations and safety issues, and validity, reliability and trustworthiness.

**Chapter five:** This chapter presents the results of the analysis of the data collected from participants who practice urban agriculture at Esikhaleni Township. In this chapter, the study formulated themes according to the responses of participants and then reported based on it. The chapter covered demographic characteristics of urban agricultural practitioners, the challenges and attitudes of the community towards agricultural

endeavours, and others, which include: urban agriculture and scaling-up in the uMhlathuze local municipality.

**Chapter six:** Chapter six presents the summative evaluation of the study, conclusion and recommendation of the study. It also discusses areas for further research; the chapter concluded by providing the limitation of the study.

## **1.9 CONCLUSION**

The chapter has provided the background to the study, the statement of the problem, and the aim and objectives of the study. The chapter went further to discuss the research methods of the study and also justified the reason for using the chosen methods. The following chapter comprises the literature review.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter reviews the literature on urban agriculture. It further explores how urban agriculture could be scaled-up for income generation. The chapter is organised as follows: it opens with a historical development of urban agriculture, which is followed by a review of studies that are related to the present one. Moreover, it further discusses the processes and dynamics of urban agriculture practices and lastly, discusses urban agriculture and scaling-up.

#### **2.2 HISTORICAL DEVELOPMENT OF URBAN AGRICULTURE**

Urban Agriculture is not a new phenomenon, but has been practised throughout the ages; however, since the 19th century, and particularly since industrialisation, it has become a dominant activity in various parts of the world (Dunn, 2010; Mthethwa, 2012). Mthethwa (2012) and Reynolds (2010) state that in North America (USA) during the 19th century, round about the 1890s, urban agriculture was mostly practised in the form of garden plots within and around cities. And in 1890, the first documented form of urban agriculture was a project called Pingree Potato Patches, named after the mayor of Detroit (Hazen Pingree). Hazen Pingree supported the idea of urban gardens as the strategy to address food shortages and the idea was perpetuated in many cities around North America (Reynolds, 2010).

The idea of urban agriculture developed even further, during the Great Depression (1929-1939) when people adopted it to address the problems of food shortages (Keshavarz and Bell, 2016). Urban residents did this by producing their own food in urban garden plots and this advanced employment through jobs generated on city farms (Lovell, 2010). The idea of producing their own food spread even to the United Kingdom (UK) in the 1940s, where informal campaigns to inspire households' food production were initiated. In the UK, this informal campaign was called "Grow Your Own" (GYO) (Touliatos, 2011). The movement was supported by the government and public officials. Urban agriculture was viewed as a solution to food shortages. It was further viewed as a solution to health-

related matters, and to the incomes of the people, mostly the poor (Lovell, 2010). Still, in the UK, some people practised urban agriculture for commercial purposes.

In the context of Africa, during the pre-colonial era, most Africans were engaged in agriculture in the form of traditional hunting and gathering activities (Munzwa and Wellington, 2010). The economy at the time was not a cash economy as trade was done in the form of barter trade system (Bohner and Minner, 2017). During this time in Africa, agriculture was practised as an activity for daily survival. In terms of urban agriculture, in Africa, Reynolds (2010) and Mthethwa (2012) state that it existed during the pre-colonial era and extended to the colonisation period. During the colonial era in Africa, urbanisation, and industrialisation were the main causes for the creation of urban agriculture (Bohner and Minner, 2017). Zimble (2007) indicates that industrialisation had an influence on the creation of urban agriculture since people had migrated from the rural to urban areas for job opportunities. When people travelled to the cities they were faced with problems of unemployment (Reynolds, 2010). As a result, they started using their backyard to grow some small gardens for survival. Also, the economic system of the time and World War II made the problem of poverty a pressing one (Allen, 1999).

With regards to South Africa, urban agriculture is also not a new phenomenon. Since the last two decades, urban agriculture in South Africa has enjoyed increasing attention in various cities (Webb, 2011). In South Africa, urban agriculture has been noted in the post-apartheid era as a strategy for poverty alleviation through food provision (Thornton, 2008). Urban agriculture in South Africa has been mostly practised in the form of livestock, that is, cattle and goats breeding and crop farming. Rogerson (2011) documents the widespread practice of maintaining cattle and of associated backyard dairies in Johannesburg during the first two decades of the twentieth century. This case documented what was a widespread practice of urban agriculture in South Africa during post-apartheid. The practice of urban agriculture in South Africa has now spread to almost all South African cities (Magidimisha, 2009; Onyango, 2010). Urban agriculture in South Africa has been practised mostly by low-income households in black townships (homeland) and squatter settlements (Thornton, 2008). The practice of urban agriculture

in South Africa is interpreted in two forms- namely, spontaneous expansion (unplanned cultivation) and planned promotional efforts.

In terms of planned promotional effort, Cape Town is one of the cities that have supported urban agriculture (Kanosvamhira, 2018). Cape Town has a programme called Harvest of Hope that has been established to support townships' farmers by providing credit access to inputs and market for selling their organic vegetables (Dyer, Mills, Conradie and Piesse, 2015). Literature (Nel, 2012; Anaïs, 2017) shows Cape Town as a place where most urban agricultural practice takes place in South Africa.

### **2.3 STUDIES RELATED TO THE CURRENT STUDY**

The research findings (Lovell, 2010; Eriksen-Hamel and Danso, 2010; Bafana *et al.*, 2012; Nel, 2012; Chimbwanda, 2014; Malan, 2015; Korir, Rotich and Mining, 2015; Sunduza, 2017) show that there are some related but different studies that have been done on urban agriculture. What is noticeable about these studies is that most of the studies placed emphasis on five perspectives: poverty alleviation, food security, urban land use, environmental sustainability, and lastly, household's economy. None of the studies focused on the strategies to up-scale urban agriculture for income generation purposes.

The first group of studies understand urban agriculture as a part of food security (Hovorka, 2006; Chimbwanda, 2014; Eriksen-Hamel and Danso, 2010; Malan, 2015; Korir, Rotich and Mining, 2015). These studies show that urban agriculture plays an important role towards meeting households' food needs in cities. Korir, Rotich and Mining (2015) argue that urban agriculture is regarded as an instrument that tackles household food insecurity as it promotes urban food production. The urban food production in the city has been structured as an area of urban life (Hovorka, 2006). Further, Hovorka (2006) argues that the promotion of urban food production contributes towards household food supply, in particular during the times of economic hardships.

Bafana *et al.*, (2012) agree with Hovorka (2006) economic hardship leads to food insecurity, which would lead to the practice of urban agriculture as a response to economic hardship. During the times of economic hardships urban agriculture is practiced by various households with an aim of feeding their families and ensuring dietary diversity

and healthier food supply (Eriksen-Hamel and Danso, 2010; Korir, Rotich and Mining, 2015). Moreover, to improve food supply and food security urban agriculture has two types of food production that ensure households food security in the city, namely, subsistence production and commercial food market.

In as far as subsistence food production is concerned, small farmers practice urban agriculture to provide food for their families (Gilimani, 2005). The author further indicates that subsistence farming contributes positively towards ensuring that households have food on their shelves. However, with regards to commercial production, Chirwa and Matita (2012) argue that commercial production provides farmers with income, which they use for household's expenditure.

The second perspective outlines urban agriculture as an instrument to alleviate poverty (Onyango, 2010; Nel, 2012; Sunduza, 2017). Onyango (2010), states that poverty alleviation is at the centre of the plans of the most governments in the developing countries. Furthermore, in developing countries, poverty reduction is seen as the hardest goal to achieve due to various reasons, such as high levels of unemployment and declining economies. However, to manage the perpetuation of high level of poverty, urban agriculture is seen as an important strategy that could offer food security and prevent cases of worsening poverty (Ncube, 2013; Malan, 2015; Bafana *et al.* 2012). Moreover, through urban agriculture, farmers are able to generate income to supplement basic needs. In such cases, according to Rogerson (2011), urban agriculture is viewed as an economic benefit to low-income households. In addition, urban agriculture has a potential to improve the socio-economic issues of food and income. The practice of urban agriculture in urban areas plays a significant role amongst the poor in that small agricultural produce makes a huge difference.

The third perspective outlines the studies that conceptualise urban agriculture as a promoter of environmental sustainability (Bird *et al.*, 2013; Adeoti, Cofie and Oladele 2012; Wang and Nevius 2013; Korir, Rotich and Mining 2015; Thom and conradie, 2015). Urban agriculture plays a progressive and important role in urban areas, as a part of environmental sustainability programmes (Wang and Nevius, 2013). The environmental sustainability programmes have implications for climate change. Urban agriculture

contributes towards mitigating the impact of greenhouse gas emission (Wang and Nerius, 2013). Crops, plants and trees reduce the effects of urban heat and regulate temperature (Pillay, 2002). The sustainability of the environment is one of the important strategies to reduce climatic change (Fadana, 2014). The sustainability of environment further ensures that air and water pollutions are minimised. Moreover, urban agriculture is seen as a promoter of urban greening as a strategy to keep cities beautiful and attractive.

The fourth perspective explains urban agriculture as part of households' economy. Urban agriculture is an economic support mechanism for low-income households in cities (Malan, 2015). This economic mechanism plays a vital role in ensuring that the urban poor remain income secure (Memon, and Lee-Smith, 1993). Urban agriculture is an alternative way to promote economic development by creating small agricultural businesses. These small agricultural businesses focus on growing and selling fresh food to the markets (Thom and Conrade, 2015). The small agricultural businesses provide farmers with income, which benefits and gives them opportunities to maximise their standard of living. Urban agriculture, through small agricultural businesses contributed approximately 12% of South African Gross Domestic Product (GDP) (Fadana, 2014).

Lastly, related literature views urban agriculture as urban land use (Mendes *et al.*, 2008; Lovell, 2010; Forster *et al.*, 2010; Forkuor, and Cofie, 2011; Fadana, 2014). Urban agriculture is an alternative urban land use that integrates multiple functions in one area (Lovell, 2010). Urban agriculture offers a new line for urban land use planning and landscaping, which designers could explore as they transform cities for sustainability (Fadana, 2014). Fadana (2014) maintains that urban planners and designers need to manage the use of urban land such that agricultural practice is included in planning and designing for the purposes of agricultural development. Further, it is noted that land use for urban agriculture is becoming increasingly scarce due to high competition from other land users (Forkuor, and Cofie, 2011). Furthermore, urban planners use satellite images to map land change, because it is noted that satellite data provide accurate and up-to-date information about land cover and land use (Forster *et al.*, 2010; Forkuor, and Cofie, 2011). Land cover and land use highlight the significance of urban agriculture production and improve land development and planning. Mendes *et al.*, (2008) argue that urban

planners and locals should document policies that will permit and give free space to the practice of agricultural activities in the city.

Drawing from the above studies, it becomes clear that none of these studies focused on the strategies that could be used to up-scale urban agriculture for income generation purposes, which is what the current study is about. The reviewed studies have dealt with urban agriculture but they differ from the present study in terms of focus. While some studies (Memon, and Lee-Smith, 1993; Malan, 2015) have focused on urban agriculture as a provider of income; the current study looks at the strategies to up-scale urban agriculture for income generation. In summary, most of the reviewed studies have focused on poverty alleviation, food security, and the relationship between agriculture urban land uses. The next section discusses the processes and dynamics of urban agriculture practices.

## **2.4 PROCESSES AND DYNAMICS OF URBAN AGRICULTURE PRACTICES**

This section explores the processes and dynamics that are involved in the practice of urban agriculture. This discussion is two-fold; first it aims to look at the participants of urban agriculture and to further unearth the challenges that are faced by urban farmers.

### **2.4.1 Urban agriculture in practice**

Urban agriculture is common and widely practised in cities all over the world. The practice of urban agriculture contributes to the availability of food and extra income mostly among poor households. This worldwide practice is dominated mostly by women of low and middle income households (Alexander, 2014). These women are of various age groups, who are employed, or unemployed or pensioners. These women practice both commercial and subsistence farming (Muzari, Gatsi and Muvhunzi, 2012). The practice of urban agriculture is not only to produce fresh food, but also to feed themselves and their families. Urban agriculture further subsidises household income when the produce is sold (Fadana, 2014). Mwachungu (2014) reports that women practice urban agriculture for various reasons, due to cultural practices that they learnt from early childhood. Others follow suit due to unemployment and lack of income and hence, do so in a bid to ensure

that food is put on the table (Mwathunga, 2014). The rest are mostly interested in the activity as a hobby.

In addition, a majority of the women practice urban agriculture in the form of co-operatives. This practice is seen as a strategy for combining scarce resources to produce and maintain the production of more food, without the prospects of failure (Fadana, 2014). Co-operatives are regarded as a strategy that could stimulate economic development and reduce poverty (Muzari, Gatsi and Muvhunzi, 2012). It is believed that this supportive system helps farmers address numerous challenges that they face individually, such as barriers to market access. By forming the agricultural co-operatives, farmers have the privilege of easier access to market and thus become globally competitive; due to the various collections of ideas amongst themselves (Alexander, 2014). However, strategic vision in planning prices and marketing is an imperative requirement in-order to succeed in the global market (Alexander, 2014). This is of particular importance because the major cause of failure or poor performance among co-operatives is lack of transparency and accountability among team members, and not understanding their vision as a co-operative (Oancea, 2012). It is believed that the system surrounding agricultural co-operatives drives marketing campaigns that build awareness around them as being the preferred suppliers of goods to the farming community.

#### **2.4.2 Factors that determine the success or failure of urban agriculture**

However, it is important to note that there are various factors that contribute to the success or failure of any project. The success of urban agriculture involves factors pertaining to land, finance and the availability of technical skills to farm, amongst other issues (Muzari, Gatsi and Muvhunzi, 2012).

##### **2.4.2.1 Farming technical skills**

The first factor that contributes to the development of urban agriculture relates to technical skills. The inadequate possession of technical skills by farmers is seen as one of the important constraints facing small-emerging farmers in the business (Voigt, 2011). Most small and emerging farmers have limited technical information, thereby making it hard for them to interpret the trends in the market. Nowadays, technologies have become the most

effective tool to speed up agricultural production and to promote small emerging businesses to become globally competitive (Oancea, 2012). However, Moyo (2014) indicates that most small emerging farmers lack education, making it difficult for them to adapt to modern technology and accomplish activities that previously did not require technological skills. Technology is widely available for farmers to access, but due to limited skills and knowledge on how to utilise it, as well as the poor rate of its adoption, there are negative impacts on production (Mariano, Villano and Fleming, 2012). Technology helps minimise costs while maximising on time, thus leading to higher amounts of production in comparison to using traditional methods of production, which take too much time and incur unnecessary costs. In the absence of technological improvement and their inability to manage technological skills that could assist them in various ways, including how to interpret various markets, small-scale and emerging farmers cannot progress into productive farming (Oancea, 2012). The lack of important information on how to use technology to understand the effective control of diseases and other farming threats may lead to loss of crops and decrease in production (Muzari, Gatsi and Muvhunzi, 2012).

#### **2.4.2.2 Land access**

With regards to the issue of land, D'Alessandro, Hanson and Kararach (2018) indicate that due to the fact that urban areas have been expanded as a result of sprawl, agricultural land has been consumed by developments. As expansion occurs, land becomes increasingly expensive and farmers may be pushed further away from the urban centre. For this reason, it is extremely difficult for urban farmers to access and own land because they lack the funds to purchase it; hence, they use their small backyards for farming. In many cities around the world, potentially cultivable land is scarce (Buckley, 1997).

#### **2.4.2.3 Access to finance**

The third factor relates to access to financial support. The lack of financial support and access to financial capital often leads to less production. Farmers fail to pay for, or to buy inputs, for production purposes (Salami, Kamara and Brixiova, 2010). Financial support, for the payment of transporting goods and labour, additionally plays a crucial role in agriculture. Without adequate assets, it is impossible for small and emerging farmers to

achieve favourable market requests (Smit, Nasr and Ratta, 2001). Due to such reasons, farmers resort to loans as a means to finance their businesses and purchase much needed resources (D'Alessandro, Hanson and Kararach, 2018). Due to their level of income, some banks reject their applications, while others, by some form of luck, are granted their request. However, even those opportune to qualify for loans frequently struggle to repay their debts, due to excessive interest charged (Salami Kamara and Brixiova, 2010). In addition to these excessive rates, banks do not give farmers enough time to pay back the money and farmers end up using their insufficient income to pay.

#### **2.4.2.4 Education and training**

The fourth factor that contributes to the development of urban agriculture relates to education and training; and these two important aspects are usually lacking among small and emerging farmers (Mengezi, 2013; Guta, 2007). Due to lack of adequate education and training, most small and emerging farmers fail to enhance their farm operations (Mengezi, 2013). The little training that government gives farmers often focus on high-cost and high risk commercial production, which is unfortunately inappropriate for farmers who are still at the grassroots level (Guta, 2007). Education and training are, therefore, one of the most important aspects that farmers should possess in order to move from subsistence to commercial farming. Subsistence farmers in general lack knowledge and information as a result of limited personal contact with extension workers at the grassroots level (Harry, 2012). Agricultural knowledge is crucial for increasing productivity in agricultural sectors (Munyua, 2011). Most farmers rely on indigenous knowledge that has been passed down to them from previous generations. However, times have changed, so there is need to expose farmers to new and improved technology through education and training.

#### **2.4.2.5 Assets and conflicts on resources**

Literature has shown that deficiency of assets and conflicts on resources could be the reason for the lack of urban agricultural advancement (Bird *et al.*, 2013). The politics of space is one of the major constraints that confront urban agriculturists (Coracan and Kettle, 2015). In developing countries, the politics of space is a typical issue where certain groups fight for land due to historical background (D'Andrea, *at el.*, 2015). It is

understandable that land is one of the most pivotal resources needed to practice farming, without which the latter is impossible. Owing to this issue, productions always decline each year by at least 2 per cent (Van den Brink, 2003), and needy individuals remain landless, utilising constrained backyards to plant. Additionally, the absence of access to land is one the dynamics that hinders urban agricultural improvement.

Onyango (2010) additionally expresses that the politics of space influences urban agriculture when land that has been utilised by farmers for the sustenance of many generations is suddenly taken away by metropolitans for town improvement purposes. Armstrong (2000) further contends that land is the essential hotspots for urban agriculture and that without owning it, agriculture becomes a very hard practice.

#### **2.4.2.6 Access to inputs**

The last constraint faced by urban farmers is related to the lack of access to inputs (Smit, Nasr and Ratta, 2001; Anupindi and Stieth, 2010). This includes access to seeds, fertilisers and water for irrigation, without which there will be poor and low productivity for small and emerging farmers (Abebe, *et al.*, 2013). Adequate access to inputs and output markets is viewed as the key pre-condition for the transformation of the agricultural sector from subsistence to commercial production (Salami Kamara and Brixiova, 2010).

The above has explored the dynamics of urban agriculture; the following discussion explores the processes of scaling-up.

### **2.5 URBAN AGRICULTURE AND SCALING-UP**

Scaling-up is defined as the means by which commercial-scale agriculture becomes part of the mainstream in food supply system through the enhancement of urban agricultural productivity practices (Dzansi, 2015). Duressa (2010) states that scaling-up could be defined in two perspectives: as a way of spreading simple growing approaches throughout the city that involves different people in various places and as the process of improving the productivity of urban agricultural practices; that is, the development of commercial-scale agriculture such that it is capable of becoming part of the mainstream food supply system. However, for the purpose of this study, scaling-up is defined as the

strategy to improve urban agriculture so that it could contribute to the city's economic development, social and environmental sustainability. Literature (Anim, Raphala and Mandleni, 2008; Poulton, Dorward and Kydd, 2010; Khapayi, and Celliers, 2016; Onyango, 2010; Moyo, 2014; Xaba, and Urban, 2016; Swain, 2011; Freguin-Gresh, d'Haese and Anseeuw, 2012) shows that there are two strategies that could be implemented to scale-up urban agriculture. Contract farming and integrating small emerging farmers are the strategies that this study discusses. The following section opens with discussions on contract farming, which is then followed by theory relating to integrating small emerging farmers.

### **2.5.1 Contract farming**

Recently, there have been rising concerns on making small-scale farmers progress from practising subsistence farming to practising commercial farming, and this view has attracted global attention (Xaba, and Urban, 2016). These small-scale farmers are known to face numerous challenges, which disturb them from shifting from subsistence farming to market oriented levels (Ayinke, 2011; Khapayi, and Celliers, 2016). The development of small-scale farming refers to the transformation from subsistence to market-oriented farming, with the aim of contributing to household income. This transformation is highly linked to the availability of resources, such as: financial support, mechanisation services, seeds, fertilisers, access to market and entrepreneurial skills (Anim, Raphala. and Mandleni, 2008). In the absence of these resources farmers find it difficult to fully participate in the economy (Anim, Raphala. and Mandleni, 2008). However, there are strategies that seek to help farmers progress from subsistence farming to market oriented agriculture.

Contract farming is one of the strategies that are designed to help small emerging farmers to scale-up urban agriculture from subsistence to commercial farming (Swain, 2011; Freguin-Gresh *et al.*, 2012). Contract farming is understood as an agricultural agreement between the farmer and the marketing firms to produce and supply agricultural products (Anim *et al.*, 2008). This agreement involves the market firm providing production support through the supply of inputs and technical advice. Moreover, the market firm is committed to supporting the farmer's yield and produce purchase. On other hand, the farmer

commits to providing high quality commodities in desirable quantities to the market firm (Adewumi *et al.*, 2010). Such agreement is generally considered as an attractive tool for introducing small-scale farmers to the open-market (Poulton *et al.*, 2010).

Furthermore, contract farming is a strategy that aims at improving agricultural production by introducing small-scale farmers into the market place to generate income (Mansur *et al.*, 2009). It is noted that in China, most small-scale farmers, who engage in contract farming receive high incomes as compared to independent producers (Nguyen *et al.*, 2015). The difference between these two types of farmers may be explained by greater value of agriculture equipment, entrepreneurial skills and the high quality products that contract farming provides (Aliber and Hall, 2012). It is for this reason that contract farming is seen as a strategy that provides farmers with a long-term plan solution. Furthermore, contract farming prepares farmers to become globally competitive in the market. Ayinke (2011) explains that, contract farming can introduce farmers to the market by first providing them with agricultural training skills. This empowers farmers with knowledge on how to sustainably practice commercial farming at the global level. Most small-scale farmers lack entrepreneurial skills, thus providing them with such could assist their farms improve in the agricultural industry (Shukla and Goyal, 2011; Nguyen *et al.*, 2015).

Contract farming also has an interest in achieving the transfer of agricultural technology from large firms to small-scale farmers (Anim *et al.*, 2009). Since firms have direct interest in improving the quality of their grower's produce, technological assistance is therefore provided. This labels contract farming as an important aspect of the agricultural sector that may aid in modifying traditional farming to modern agriculture. In recent years, agricultural sector has seen a major improvement in agricultural technologies, as a result of different programmes for agricultural development (Drsquo *et al.*, 2013). Novel agricultural technology holds the promise to improve the standard of agricultural production such that farmers have the means to work, using a combination of both traditional and modern technology in order to progress in agriculture (Mansur *et al.*, 2009; Freguin *et al.*, 2012). Through modern technology, agricultural businesses now have the ability to network and determine how to grow agriculture as a modern business (Asanzi-Mbeyata, 2013). Contract farming provides farmers with the opportunity to acquire

technological equipment and was established to eliminate all the challenges farmers face by providing them access to market, financial aid and educational training to prepare them for global competition (Poulton, 2010).

### **2.5.2. Integrating small emerging farmers**

The second strategy in up-scale urban agriculture relates to the integration of small emerging farmers. The integration of small emerging farmers is understood as the formation of co-operatives of various small emerging farmers with the aim of growing their informal agricultural businesses to become globally competitive (Bird *et al.*, 2013; Van Buuren, *et al* 2013). In addition, the integration of small-emerging farmers is aimed at embarking on farming as the major source of income (Harry, 2012). The integration of small emerging farmers has been promoted as a mechanism for driving agricultural growth, improving farmers' capacity by improving their agricultural technical skills, management techniques and marketing strategies (Nganwa, 2010; Moyo, 2014; Xaba and Urban, 2016). These skills help farmers become globally competitive, being able to manage their individual businesses and empowered to seize economic opportunities through self-help (Nefale, 2016). Apart from providing technical skills, the integration of small emerging farmers allows for the pooling of resources and multidisciplinary approaches (brilliant ideas, skills and experiences) in dealing with agricultural problems collectively. The integration of small emerging farmers is viewed as a warehouse for generating new ideas and accelerating capacity building for farmers (Harry, 2012). It is for this reason that governments in most developing countries, like South Africa, choose to recognise the integration of small emerging farmers or co-operatives as a viable form of economic growth and sustainable development for disadvantaged, vulnerable, and marginalised groups, as well as those with limited resource capabilities (Poulton *et al.*, 2010).

Recently, the integration of small emerging farmers has been viewed as one of the key contributors and key players as an economic engine in developing countries that ensure household income generation (Chibanda, 2009). In addition, the integration of small emerging farmers into the commercial agricultural market is a crucial element for economic development, and has become a part of developmental strategies for

developing countries (Rantlo, 2018). Chibanda (2009) argues that integrated small emerging farmers or cooperatives are means of working towards sustainable social, environmental and economic expansion.

Working as a group assists most emerging farmers to boost their confidence to supply the right inputs at the right time and reduce transaction costs (Randela, 2018). It also improves negotiation power for smaller farmers to attract buyers in the market, in order to compete with large agricultural businesses that have loyal buyers. Working as a group is a strategy that increases and facilitates easy channels to access various markets and to avoid the hazards of being encumbered with perishable crops that have no demand (Xaba and Urban, 2016).

## **2.6 CONCLUSION**

This section discussed the historical development of urban agriculture, revealing that urban agriculture has been practiced since time immemorial. The chapter further indicated that urban agriculture became an important livelihood strategy during the time of the Great Depression in the 1930s. Furthermore, the section explored related studies to the present one and showed that most of the studies focused more on food security and poverty. None of the studies focused on the strategies to scale-up urban agriculture; it for this reason that the current study was undertaken.

## **CHAPTER THREE**

### **THEORETICAL FRAMEWORK OF THE STUDY**

#### **3.1 INTRODUCTION**

The previous chapter reviewed literature on urban agriculture. The main focus of the chapter was the presentation of the historical background and related studies. This chapter conceptualises urban agriculture from two perspectives, namely, the neoliberal perspective and neo-Marxist perspective. The chapter opens with conceptualising urban agriculture in terms of the neoliberal perspective, which is then followed by the neo-Marxist perspective. The chapter further discusses the processes and dynamics of the practice of urban agriculture, and closes with the processes of scaling-up urban agriculture.

#### **3.2 CONCEPTUALISING URBAN AGRICULTURE**

This section conceptualises urban agriculture. Literature indicates that urban agriculture could be conceptualised in terms of two perspectives, that is, the neoliberal perspective (Weissman, 2015; Corcoran, Kettle, and O'Callaghan, 2017; Kumnig, 2017) and neo-Marxist perspective (Kekana, 2006). This section opens by conceptualising urban agriculture from a neoliberal framework, and thereafter the discussion turns to conceptualising urban agriculture as a neo-Marxist concept. Figure 1.1 below summaries the conceptual framework of urban agriculture for the current study.

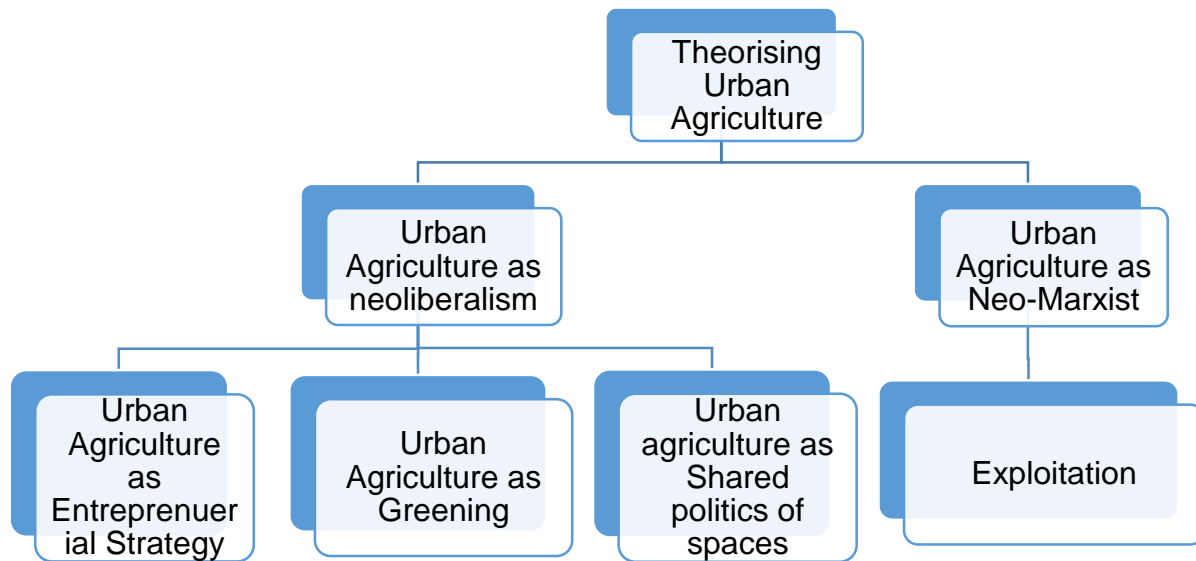


Figure 1.1 conceptualising urban agriculture (source: Author)

### 3.2.1 Urban agriculture and neoliberalism

It has been stated above that urban agriculture could be conceptualised in terms of neoliberalism, which is considered as an offshoot of liberalism (Koscica, 2014; Kumnig, 2017). In order to understand neoliberalism, one needs to first understand liberalism as an original concept. The concept of liberalism could be traced back to as far as the 17th century, where John Locke defines liberalism as a political, economic, and social ideology that focuses on the significance of individual and economic freedom as well as equality. This ideology became popular among western economic philosophers in the 18th century (Koscica, 2014).

The liberalism ideology was pursued with the intent of ending royal monopolies and barriers to trade, and instead promoted free market and free trade (Amin, 2004). This was done with the belief that it could produce a great deal of wealth within the society and help the poor become economically empowered by supporting individual entrepreneurial freedom (Amin, 2004; Hicks, 2015). The idea of liberalism as a philosophy that informed the economic system encountered constraints during the 1920s through to the 1930s, due to the rise of the Great Depression (Hicks, 2015).

During this period, liberalism lost impetus as a philosophical approach that could help to address the economic problems of that time (Turner, Henryks and Pearson 2011). Since then, liberal intellectuals throughout the world responded to the failure of liberalism by promising to fight collectivism and renewing economic liberal ideology. The liberal intellectual, Louis Rourgier, planned a conference, called Walter Lippmann Colloquium Conference that took place in Paris in August 1938. The aim of the conference was to construct a new liberalism idea. At the conference, it was noted that the failure of liberalism was because liberalism was mainly focusing on maximising individual liberty while restricting the use of forces and coercion (Wakefield *et al.*, 2007). Moreover, it was further noted that the failure of liberalism was due to the lack of understanding of the need to develop an economic system under which the freedom of the individual would serve not only a select few, but also promote the interests of the majority of society (Webb, 2011).

At a meeting, Alexandra Rüstow proposed a shift from such idea. Alexandra Rüstow proposed that there was a need for the economic system that could serve the interest of the majority in the market (Webb, 2011). The idea was adopted by the majority of the intellectuals and the new concept was proposed to indicate the shift, which was called neo-liberalism (Denord, 2009). Neo-liberalism came to emphasise the difference between the neoliberal concepts and 19th-century classical liberalism that was based on laissez-faire, and clearly, indicate a new era in the history of the evolution of economic liberalism (Regalzi, 2012; Drsqo *et al.*, 2013; Mirowski, and Plehwe, 2015). Although neo-liberalism is the new concept, however, it has some aspect of liberalism, such as promoting individual entrepreneurial freedoms and the free market. Neo-liberalism believes that free market systems and individual entrepreneurial freedoms could promote economic development with the aim of empowering human well-being (Thorsen, 2010; Weissman, 2015).

The ideas of neo-liberalism on the free market and free trade system came from the school of thought that was dominated by the political and economic beliefs of Western Europe and North America (Pinkenton and Davis, 2015). This set of ideas became a dominant system in the United States of America (USA) and the United Kingdom (UK)

and this further expanded and gained ground in the rest of the world in the 1980s; however, its significance only became well recognised in the 1990s (Bieler, 2003; Holmes, 2011; Nega and Schneider, 2014). The main aim of neoliberalism was to reactivate economies after their failure during the Great Depression of the 1930s (Ernwein, 2017).

The idea of neoliberalism reactivating economies has become widely performed in various forms. In cities, urban agriculture is one of the activities that seek to reactivate townships economies from the sales of products. Municipalities have viewed urban agriculture as a municipal entrepreneurial strategy that enables the revitalisation of the local economies, as urban dwellers perform them in the form of businesses (Thom and Conradie, 2015). Within the neoliberalism framework, urban agriculture could be viewed from three perspectives: first, as a municipal entrepreneurial strategy, second, as urban green space, and finally, as shared politics of space (Olssen and Peters, 2005; McClintock, Cooper and Khandeshi, 2013; Cvejić, *et al.*, 2015; Corcoran and Kettle, 2015). In terms of this framework (neo-liberalism), therefore, urban agriculture focuses on investing in local food production and in the local economy (Olssen and Peters, 2005; Thom and Conradie, 2015). Within the municipal entrepreneurial strategy, urban agriculture has three pillars, namely, low-cost specialisation, differentiation, and diversification. These pillars underpin urban agriculture as a business model, mostly found in both developing and developed countries (Pölling, Mergenthaler, and Lorleberg, 2016). This entrepreneurial mechanism is viewed as the implementation and perpetuation of the neoliberal idea of reactivating economies. Urban agriculture contributes to household's economy (Ernwein, 2017). With regards to the household's economy, urban agriculture provides urban dwellers with an income that enables them to cater for their basic needs (Poulton, Dorward and Kydd, 2010). The municipalities recognise urban agriculture as one of the businesses that contribute to the economic development of cities as farmer's employ some of the urban poor (Thapa and Murayama, 2008). The practice of urban agriculture as a form of business is viewed as a strategy that brings about production transformation in cities (Smith, 2012).

It is for this reason that municipalities have started to recognise and regulate the practice of urban agriculture within cities (Thornton, Nel, and Hampwaye, 2010). The municipal

officials have seen the need to restructure policies that seek to improve urban agriculture programmes in cities. This is as a response to pressures posed by promoters and supporters of local food production, demanding for the recognition of the practice of urban agriculture in cities (Touliatos, 2011). Thus, municipalities now encourage urban agriculture practices because of the social, economic, health and environmental contributions. Also, municipalities regard urban agriculture as a new urban space development that presents innovative drives for and within the city, and also provides cities with 'greener' and beautiful images (Thornton, Nel, and Hampwaye, 2010).

The second view of urban agriculture within the concept of neoliberalism relates to urban green spaces (Cvejić, *et al.*, 2015). The urban green space concept is defined as a place where people interact and have free access to the environment and nature. The urban green space concept comprises urban parks, gardens, trees and urban wetlands (Contesse, van Vliet, and Lenhart, 2018). The growing of crops on urban vacant spaces has recently emerged as an important activity that contributes to the availability of fresh and nutritious food around cities (Rezai, Foley, and Taylor, 2016). Urban green spaces are important for environmental sustainability and citizen wellbeing. On the environmental perspective, urban green space provides recreational opportunities to engage and have peaceful experiences with nature. These recreational opportunities contribute to city beautification by transforming underutilised sites into valuable green spaces (Contesse, van Vliet, and Lenhart, 2018). Further still, on urban green space perspective, urban agriculture possesses the element of rebuilding the community by reducing the ecological footprint through the provision of green infrastructure (Wakefield, *et al.*, 2007; Panagopoulos, Jankovska, and Dan, 2018). Urban green spaces provide a variety of important ecosystem services that contribute to enhanced natural life and reduced energy use for cooling (Cousins and Witkowski, 2015). Urban green space is conceived as spaces through which citizens can challenge dominant power relations and claim rights to the city by use of underused spaces (Bohner and Minner, 2017).

Still within the framework of urban green space, urban agriculture has important effects with regards to climate change (Wang and Nevius, 2013). Urban agriculture has an effective way of mitigating the influence of greenhouse fuel (GHG) emissions by lowering

transportation costs. Hrdalo and Perekovic (2015) opine that urban greening could address the problem of climate change by reducing global warming. The cities that are surrounded by big polluting companies are under serious environmental threat and urban agriculture could be the solution to such challenges.

The third view of urban agriculture under the neoliberalism concept relates to shared politics of place. Urban agriculture has the ability of being used as an instrument for reuniting communities. The concept of urban agriculture and its role in shared politics of space arose in the 19th century, when individuals in a community started trading for sustenance. Although there is limited literature on this concept, nonetheless, scholars, such as McClintock, *et al* (2013) and Corcoran and Kettle (2015) argue that shared politics of space is actually an instrument used to understand how urban agriculture reconnects, re-localises, and re-joins local producers in cities. This is accomplished through joint movements of organised farmers who cultivate analogous items and consolidate to form co-operatives (Adeoti, Cofie and Oladele, 2012). Women usually prefer co-operatives so that they could produce more. In developing countries, in the 'cultural' sense of the word, women are hardly allowed to own land and hence they collaborate, to at least acquire temporal access to concurrently cultivate land. This is one of the challenges that women face in the agricultural sector, especially in developing countries; and it is now argued that in order to maximise benefits as well as increase community development, support must take place based on emancipation agenda that strategically focus on meeting various gender needs (Hovorka, 2005).

According to Turner, Henryks and Pearson (2011), urban agriculture strengthens communities and encourages multi-ethnic and multi-generational exchanges of food and knowledge. Within the concept of shared politics of space, there is an element of sustainable development which speaks to, and requires, the interconnectedness of social, ecological and economic systems (Thom and Conradie, 2015). Sustainable development undertakes urban agriculture as an enterprise development through business models that aim to build networks among local entrepreneurs (Thom and Conradie, 2015).

The above section has discussed urban agriculture in detail within the neoliberal framework. It has been shown that within the neoliberal concept, urban agriculture can

be theorised in three perspectives: as a municipal entrepreneurial strategy, urban green space and shared politics of space. Within the municipal entrepreneurial strategy, urban agriculture is viewed as a business model that contributes towards the livelihood and income of the urban poor. It is believed that urban agriculture contributes to a perpetuation of neoliberalism perspectives. On the Urban green space standpoint, urban agriculture is understood as an element that contributes towards the ecological and availability of fresh and nutritious food around a city. Lastly, shared politics of space understands urban agriculture as a powerful tool that reunites and reconnects local food produce. The following section theorises urban agriculture in terms of Marxist perspectives.

### **3.2.2 Neo-Marxist theory**

The neo-Marxist framework is the second conceptualisation of urban agriculture in this study. Neo-Marxism is in an offshoot of the Marxist theory, which became prevalent from the mid to the late 19th century (Ilegbinosa, 2012; Toye, 2014). The neo-Marxist theory opposes capitalism and its systems, which are based on private ownership by means of production (McClintock, 2010). Neo-Marxism, like Marxism, seems to be in opposition of urban agriculture, unlike the practice of neoliberalism that seems to favour urban agriculture. The neo-Marxist perspective states that there are no economic benefits that could be acquired from practising urban agriculture (Kekana, 2006). This is because the neo-Marxist perspective recognises urban agriculture as a temporal and seasonal practice, which is difficult to measure in terms of its economic contribution to the Gross Domestic Products (GDP) of a country (Kekana, 2006). Furthermore, the neo-Marxist framework views urban agriculture as an activity that only perpetuates capitalism and exploitation of workers (Hennebry and Preibisch, 2012). It is believed that workers are exploited as they are made to do “double work” since they occupy everyday jobs and have to work at home; the view is that their performance becomes diminished for subsequent days. The theory is also of the opinion that urban agriculture is an exploitative system because workers are compensated little when compared with what they produce (Kekana, 2006).

On another note, the neo-Marxism perspective views urban agriculture as a destructive activity in terms of city development, which destroys city plans with regards to land zoning

(Magidimisha, 2009). Due to the fact that urban agriculture contests for urban spaces, the development of the city is reversed (Mwathunga, 2014). The theory therefore states that land, which is reserved for residential and industrial purposes, as well as other developmental objectives, becomes scarce and causes competition for the use of space (Voigt, 2011).

The above section has conceptualised urban agriculture in terms of two broad perspectives: urban agriculture and neoliberalism, and urban agriculture and the neo-Marxist theory. It was shown that urban agriculture and neoliberalism is divided into three perspectives; neoliberalism as municipal entrepreneurial strategy, urban agriculture as an urban green space, and lastly urban agriculture as shared politics of space. These three types of urban agriculture and neoliberalism indicate that urban agriculture is an important tool for urban households. On the other hand, the neo-Marxist theory viewed urban agriculture as exploitative, and as a destroyer of urban development. Looking into the above argument, it is expected that the findings of the present study will justify either of this theories, as a basis for relevant future research works.

Since the above section has theorised urban agriculture, the next section explores the processes and dynamics that are involved in the practice of urban agriculture.

### **3.3 CONCLUSION**

The forgone chapter conceptualised urban agriculture in terms of two perspectives which is neo-Marxist and neoliberalism. The following chapter discusses the research methodology.

## **CHAPTER FOUR**

### **RESEARCH METHODOLOGY**

#### **4.1 INTRODUCTION**

The previous chapter has conceptualised urban agriculture, it explained that urban agriculture is underpinned by neoliberalism and the neo-Marxist theory. The discussion further presented the strategies for scaling-up of urban agriculture. The present chapter focuses on the research methodology. The research methodology gives a guideline on how to design and implement the study. This chapter explores the research design and the philosophy guiding the study. The chapter further discusses the research approach of the study, the research methods, disposal of the research data and record, ethical considerations and safety issues, and validity, reliability and trustworthiness.

#### **4.2 DESCRIPTION OF THE STUDY AREA**

The study was carried out in Esikhaleni Township (Figure 4.1). Esikhaleni Township is located in the uMhlathuze local Municipality, situated in King Cetshwayo District, in the northern part of KwaZulu-Natal province of South Africa (Ngubane, 2011). Esikhaleni Township is located approximately 5km from the coast of the Indian Ocean and approximately 180 km north of Durban. Richards Bay and Empangeni are the closest towns located at an estimated distance of 15-20 km away from Esikhaleni. The place consists of four sections (H1, H2, J1, and J2) (Manqoyi, 2016). Esikhaleni was established during the early 1970s at the time of global industrial and commercial revolution in South Africa. During the early 20th century, large industries moved into the area of Richards Bay and other commercial activities around Empangeni (Manqoyi, 2016). As a result, a large population migrated to Empangeni and Richards Bay since these areas provided people with job opportunities that required both skilled and unskilled labour. People with qualifications, especially those with matric certificates, were the first priority since there were few black people who had access to education at the time.

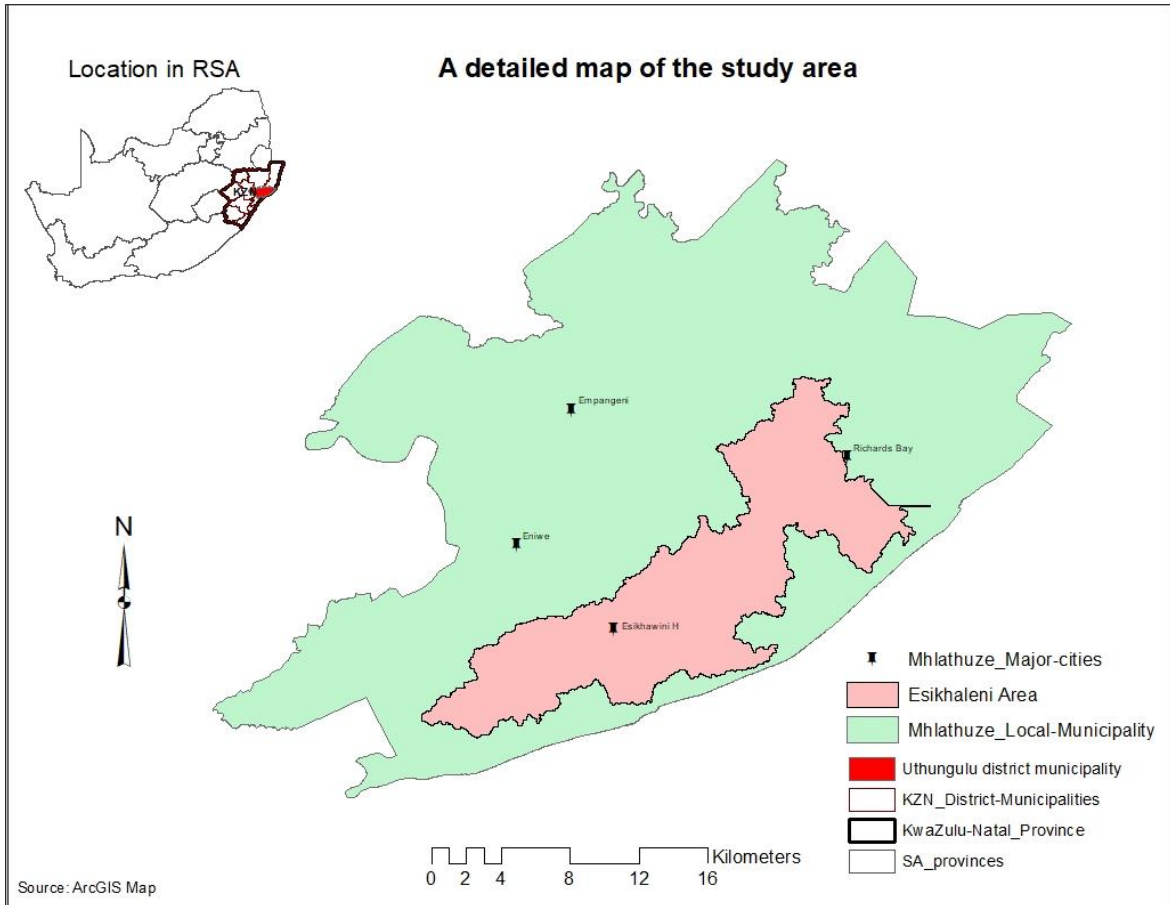


Figure 4.1 Provides uMhlathuze municipality map (source: Author)

### 4.3 RESEARCH DESIGN AND PHILOSOPHY

This section discusses the research philosophy and the research design of the study. A research design is a plan, structure, and strategy of collecting and analysing data with an aim to answer the research questions or research problems (Creswell, 2013; Smith, 2012; Mashamaite, 2014). Moreover, a research paradigm is an all-encompassing system of organised practice and philosophy that defines the nature of a question along three dimensions, which are: ontology, epistemology, and methodology (Philander, and Karriem, 2015). Ontological and epistemological aspects concern how the world is conceptualised (Mashamaite, 2014; Creswell and Poth, 2017). Ontology is concerned about what kind of world is being investigated, the nature of existence, and the structure

of reality (Ahmed and Rider 2008). Epistemology is concerned about understanding and explaining what human beings know and how they know it (Ahmed and Rider 2008). In addition, epistemology is also concerned about ensuring that people provide adequate and legitimate knowledge (Morehouse, 2012). This study seeks to find the reality behind the practice of urban agriculture and its potential for scaling-up. Moreover, the study seeks to get knowledge about factors that influence urban agriculture.

The research philosophy consists of two ways in which one could understand the world; these include positivism and interpretivism (Viljoen, *et al.*, 2015). With regards to the positivism concept, the concept dates back to Auguste Comte as early as the 1830s (Morehouse, 2012). The concept of positivism believes that the world is constructed by knowledge and social reality that is built on scientific ideas (Riley, 2007; Thomas, 2010). Positivism assumes that knowledge is derived using scientific method and based on physical experience gained through experiments, analysis and knowledge claims, to follow a casual explanation through inductive generalisation (Heidtman, *et al.*, 2000; Walliman, 2017). Positivism believes that the reality should be objective and measurable (Heidtman, *et al.*, 2000). In the natural sciences, positivist inquiry provides knowledge about how to be involved in the world and change it in order to satisfy real-world's needs (Houghton, 2011). Positivism has its limitations that impose pre-arranged and boundaries to research. Positivism leads to generalisation and it leaves out the common meanings of a social phenomenon (Morehouse, 2012). Moreover, for this study, the positivism paradigm would not be appropriate since it is quantitative.

The interpretivism philosophy understands the world as socially constructed; that is, based on the philosophical doctrines of idealism and humanism (Rosenthal, 2016). Interpretivism focuses on the thought, processes, feelings, and emotions of study participants (Makhtar, *et al.*, 2016; Walliman, 2017). Furthermore, the interpretivism objective is to gain a rich understanding of reality by piecing together participants' social constructions. Interpretivism is qualitative in nature. Besides, the value of information acquired from interviewees focuses more on the thoughts of the interviewees (Rosenthal, 2016). On other hands, interpretivism has its limitations as it sometimes lack a broader

understanding of what constitutes the legitimate inquiry and valid knowledge within the interpretive realism (Chibvongodze, 2013).

However, premised on the above discussion, the current study employed interpretivism due to the fact that the objectives of the study are qualitative in nature. Employing interpretivism ensured that the researcher gets the primary information from people who practice urban agriculture, by finding out their knowledge and experiences in practising urban agriculture.

#### **4.4 RESEARCH APPROACH OF THE STUDY**

The study uses qualitative research approach. Qualitative approach is used to gain understanding of underlying reasons, opinions, and motivations. It provides an insight into the problem or helps to develop ideas or solutions (Rahman, 2015). In this study, the qualitative approach is used to acquire an understanding of what strategies ought to be used to scale-up urban agriculture. The approach also underlined the reasons why urban farmer's practice urban agriculture and the income generated from the sales of products.

Furthermore, a qualitative approach could provide the potential to upscale urban agriculture for commercial purposes. The selection of the qualitative approach is due to the fact that this research is primarily based on the paradigm which believes that actuality is socially built and constantly changing (Sale, Lohfeld and Brazil, 2002). Moreover, the study uses qualitative approach because all objectives are qualitative in nature; and objectives are the main determinants of which research approach the study should use. For example, objective one reads, "To find out the socio-political factors that influence urban agriculture at Esikhaleni Township". The following section present research methods which include the targeted population and the sample size.

#### **4.5 RESEARCH METHODS**

The previous section presented the research approach while this section presents the research method, which stipulates how data is conducted, from whom and how many participants. This includes targeted population, sampling methods, sample size, data collection techniques and data analysis. It opens with the target population, followed by

the sampling method, sample size, data collection technique, and lastly, the data analysis technique.

#### **4.5.1 Target Population intimidate**

Collecting the desired information from every member of a targeted population is called a 'census' (Draugalis and Plaza, 2009). However, this is difficult, if not impossible. The sample should be representative, reflecting the make-up of the whole population (Creswell, 2013). The total population of KwaZulu-Natal province is 11,074,800 million, which makes 19.6 percent of the national total (Stats SA, 2017). The population of the uMhlathuze local municipality is 334459 (Stats SA). Moreover, Esikhaleni Township is made up of 2 sections (H and J). For H section the population is 18835 while for J is 12087; hence, the total population for Esikhaleni Township is 30922 (Stats SA, 2017). However, this study targeted the people who practice urban farming at Esikhaleni Township, under the uMhlathuze Municipality.

#### **4.5.2 Sampling method**

A purposive sampling method was used to collect field data. Purposive sampling is good because the researcher collects data from the people who already know. This sample group is selected because they have the relevant knowledge and experience that can contribute effectively to the study (Kumar and Phrommathed, 2005). Moreover, the primary reason for choosing purposive sampling was that the study could judge who would provide the best information to achieve the objectives of the study (Kumar and Phrommathed, 2005). Urban farmers are the ones who have rich information that could assist in answering the research question or objectives.

For purpose of interviews, twenty eight (28) urban farmers and two municipality officials from the uMhlathuze local municipality were selected. The total sample size for this study was therefore thirty (30). The purposive technique allows a researcher to identify people who give rich information (Bossard, 2017). In this case, urban farmers are the ones who could provide such information.

### **4.5.3 Sample size**

The study interviewed thirty (30) participants for the qualitative study. Twenty eight farmers were selected from the two sections: H and J. The study selected fourteen (14) farmers from H, (n=14) and fourteen farmers from the J section (n=14) to make up the twenty-eight (28), that is  $n = 14 \times 2 = 28$ . Also, the study selected two (2) public officials from the Mhlathuze municipality (n=2).

### **4.5.4 Recruitment of participants**

The recruitment of participants is a process of selecting the appropriate people who will give the researcher information about the particular study (Treweek *et al.*, 2018). The recruitment of participants is one of the most challenging aspects of studies that involve human subjects (Gantz, *et al.*, 2018). However, it is extremely important to recruit participants in a research study because without participants the study is not achievable.

For this study, participants were recruited in swamps, along the N2, and others in backyards. The researcher has previously visited the urban agricultural practitioners in the place of operation and made the appointments. Therefore, by the time research wants to collect data he already knows where participant are located. And during data collection, all the ethical issues were followed as participants were asked to sign the consent form, to ensure that they participated voluntarily and willingly.

### **4.5.5 Data Collection Techniques**

The study used interviews techniques to collect data. The interview is defined as a qualitative research technique which involves “conducting intensive individual and group interviews with a small number of respondents to explore their perspectives on a particular idea (Golden, 2013). Interviews are divided into three parts, namely structured, unstructured and semi-structured interviews (Zohrabi, 2013). The structured interviews allow the interviewer to set off the same questions to be answered by all interviewees; it consists of a series of pre-determined questions that all interviewees answer in the same order. Moreover, the interviewer may provide clarification on some questions (Frost, *et al.*, 2010). However, unstructured interviews are usually the most reliable from the research viewpoint, because no questions are prepared prior to the interview and data

collection is conducted in an informal manner (Connaway and Powell, 2010). The semi-structured interviews are viewed as a component of both structured and unstructured interviews (Connaway and Powell, 2010).

For the purpose of this study, the semi-structured interview technique was used to collect data, because it allowed the researcher to prepare questionnaires in advance with direct interactions with the respondents, in case there were follow-up questions. It also allowed for the clarification of certain issues during the process (Connaway and Powell, 2010). However, the researcher was aware of the disadvantages of semi-structured interviews in that it takes time and has difficulties associated with arranging an appropriate time with prospective sample group members to be interviewed (Golden, 2013). In spite of the weaknesses of the technique, the researcher opined that the benefits were more and therefore preferred the semi-structured interviews.

#### **4.5.6 Data Analysis**

There are two types of data analysis that a study can use, depending on whether it is quantitative or qualitative, that is, analysing using the statistical package for the social sciences (SPSS) or carrying out a content analysis. Content analysis is a research analysis technique for the explanation and interpretation of textual data, using the systematic process of coding. The final product of data analysis is the documentation of categories, themes, and patterns (Assarroudi *et al.*, 2018). The content analysis allows the researcher to create themes in-order to group similar responses and make it easy to code the data. It is for that reason that the study used content analysis because the collected data is textual and could be coded in terms of themes. However, the study also employed SPSS to analyse data from the demography, such as: age, income and years of practising urban agriculture.

#### **4.6 PLAGIARISM**

Plagiarism is a serious crime in research. Plagiarism is the use of another's original words or ideas as though they were your own (Nather, 2016). In this study, all the information gathered were summarised and authors were acknowledged to avoid plagiarism. The

writer tried, by all means, to use his own words to explain what was explained by the author of that passage.

#### **4.7 DISPOSAL OF THE RESEARCH DATA AND RECORD**

The recommendations of this research study will be kept safely at the University of Zululand Research Data Registry. The research data and records will be published data and the records will be removed five years after the dissertation submission date. The data and records that will be kept within the department will be removed or disposed of to ensure that confidential data and records are completely destroyed. All of the confidential data and records recorded in hard copy will be shredded. All of the electronic data and records will be formatted or erased to ensure that the electronic data is completely destroyed. The whole confidential data and records disposal process will be recorded in the Central Research Registry.

#### **4.8 ETHICAL CONSIDERATIONS AND SAFETY ISSUES**

There are four important types of ethical considerations that a researcher have to pay attention to, namely, informed consent, the right of privacy, protection from harm and involvement of the researcher (Golden, 2013). These ethical elements were appropriately complied with in this study. First, the study was submitted for approval to the Faculty Board of Arts, Higher Degrees Committee and the Ethics Committee of the University of Zululand. This study was thereafter approved by the Ethics committee of the University of Zululand. Furthermore, the researcher did apply for the permission to conduct the study in writing from the Councillor of the Ward, where the farmers are located; Approval was also received from the uMhlatuze municipality.

During the interviews, the respondents were asked to sign a Consent Form to participate. Moreover, respondents were alert that their information will remain confidential and their names will not be disclosed to ensure anonymity. There was no harm to the respondents, whether psychologically, physically or emotionally. Lastly, Respondents did participate voluntarily, which means that they could participate or stop at any point in time during the interview process.

#### **4.9 VALIDITY, RELIABILITY AND TRUSTWORTHINESS**

Validity determines whether the research truly measures that which it was intended to measure or how truthful the research results are (Golafshani and Ashour 2016). Reliability is seen as the degree to which a test is free from measurement errors since the more measurement errors occur, the less reliable the test (Knols, *et al*, 2011). In this case, the study used the pilot test, in order to ensure that the study is valid and reliable. Trustworthiness is a framework that seeks to ensure the extreme quality of research findings (Hicks, 2015; Anney, 2014). The trustworthiness consists of four concerns (namely, credibility, transferability, dependability, confirmability) that the researcher needs to address irrespective of research paradigm that is used (Anney, 2014). Credibility is defined as the assurance that can be placed in the truth of the research findings and how the researcher is going to ensure accuracy (Connelly, 2016). It seeks to find out whether or not the research findings represent the correct data collected from the participants as an original information provider. Transferability is the interpretive equivalence of generalisation (Morse, 2015). Transferability is about describing the research context and the assumptions that are central to the research. Transferability is qualitative in nature. Lastly, conformability assumed that each researcher brings a unique perspective to the study.

This study employs trustworthiness to ensure that the findings are accurate and the interpretation is of the same response as those of the participants. Trustworthiness ensures that when the process is repeated twice it brings about the same result.

#### **4.10 CONCLUSION**

This chapter discussed the research methodology. In the research methodology, the research design was discussed. The study followed the interpretivism philosophy, which is qualitative. The research methods were discussed by looking at the target population, sampling method, sample size, data collection and data analysis. The research methodology is the guide to the whole research, especially on how data was collected.

## **CHAPTER FIVE**

### **DATA PRESENTATION AND ANALYSIS**

#### **5.1. INTRODUCTION**

The previous chapter dealt with the research methodology and provided detailed approaches used to collect and analyse data. The study used qualitative technique. For the collection and analysis of qualitative data, the study used semi-structured interviews to develop themes. The study also used the statistical package for the social sciences (SPSS) to analyse the demographic data. The present chapter reports the analyses of the data collected from urban agricultural practitioners and municipal officials. The demographic information opens the discussion, followed by the practice of agriculture.

#### **5.2. DEMOGRAPHIC CHARACTERISTICS OF URBAN AGRICULTURAL PRACTITIONERS**

This section details the demographic characteristics of the research participants.

##### **5.2.1 Gender of the respondents**

The study considered the question about the gender of the respondents important. Some literature (Nolte and Subakanya, 2016) show that women dominate the urban agriculture, but, Adeoti *et al.* (2012) suggests that male producers are dominant in urban agriculture. However, out of the 28 urban agricultural practitioners who participated in the study, 32.1% of them were males and 67.9% were females. Thus the study concludes that there are more females than males in urban agriculture at Esikhaleni Township. Table 5.1 below summarises the findings.

**Table 5.1 Gender of the respondent**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	9	32.1	32.1	32.1
Female	19	67.9	67.9	100.0
Total	28	100.0	100.0	

The study concludes that women dominate in urban agriculture concurred with the records of the IDP of the uMhlathuze Local Municipality that indicated that most agricultural projects in the municipality were dominated by women (uMhlathuze local municipality, 2017).

### **5.2.2 Age of the respondents**

In terms of the age of the respondents, the results of the study showed that 6.6% who were engaged in agricultural practice were people aged from 15-25, while 16 % and 30% were people with age ranges of 26-36 and 37-47, respectively. Furthermore, the study found that 33.3% were people who were in the 48-58 age groups. The latter group formed the majority of the urban agricultural participants. There were not many people in the age group of 59 years and above who participated in agriculture, since the study found that this group constituted 16.6% of the research participants. Figure 5.1 below presents the age categories of urban practitioners.

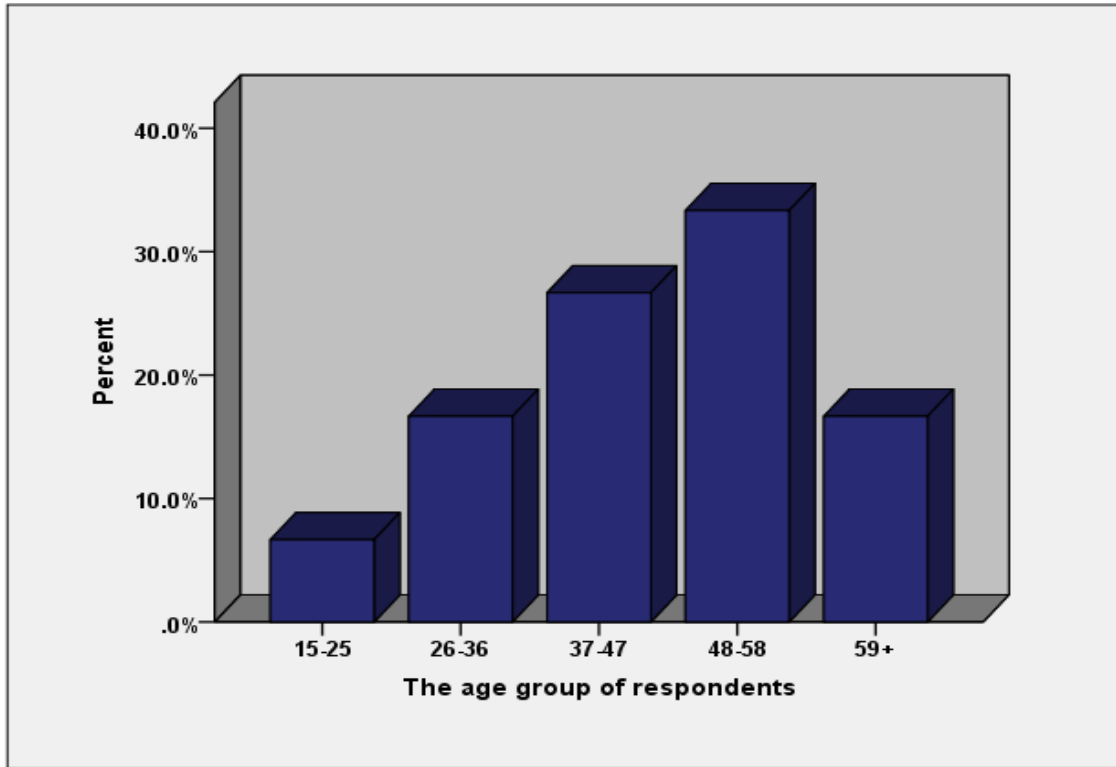


Figure 5.1: The age group of respondents

The results that emerged are that youth are not necessarily involved in urban agriculture. The only people who are more active are the people at the age group of 48-58. To understanding the reason behind for youth not taking participating on urban agriculture, Baznet (2015) shows that younger people sees agriculture as a practice that has no money and which basically belong for elderly people.

### 5.2.3 The Employment status of respondents

Stats SA (2018) showed that 27.7% of South Africans are unemployed. It is for this reason that the South African government policies focus more on encouraging South Africans to start small business to boost the economy of the country. In this regard, the results of the study showed that 28.6% of respondents were employed, while, 50% of them were unemployed, this group formed the majority. 10.7% were self-employed and others had part-time jobs.

**Table 5.2: The Employment Status of the Respondents**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Employed	8	28.6	28.6	28.6
Unemployed	14	50.0	50.0	78.6
Self-Employed	3	10.7	10.7	89.3
Other, Specify	3	10.7	10.7	100.0
Total	28	100.0	100.0	

The findings of the study indicated that a majority of urban agricultural practitioners did not have formal employment. Further, inquiry showed that unemployment served as a motivation for people to engage in urban agriculture in Esikhaleni Township.

#### **5.2.4 The agricultural skills of the respondents**

Agricultural skills play important roles in improving the quality and range of agricultural products and services, in that skills support small agricultural producers to become more competitive in the local and global agricultural markets (Earle and Paterson, 2007). In this study, the respondents were asked to indicate their level of agricultural skills and the number of years they had been involved in urban agriculture (Table 5.3). Of those who have been practising agriculture for a period of between 1 to 5 years, the results showed a 50% split between those who had average and poor levels of agricultural skills. Further, of those who have been practising agriculture for the period of between 6 to 10 years, the results showed 33.3% and 50%, respectively of with excellent and good agricultural skills. While, for those who had been practising agriculture for the period of 11 to 15 years, the results showed that 66.7% had excellent agricultural skills. Lastly, of those who had been practising agriculture for the period of 16 years and above, the results showed that 90.9% had excellent agricultural skills.

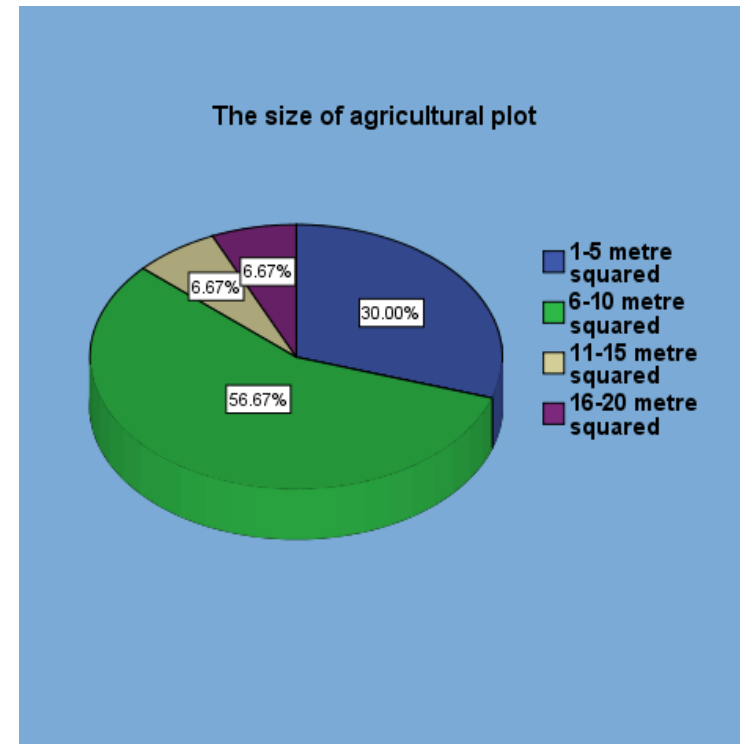
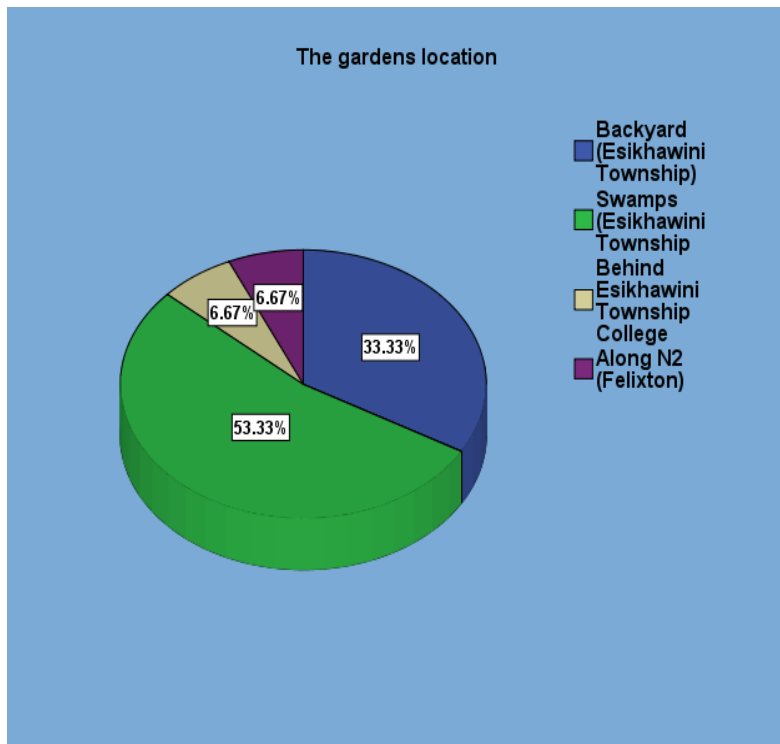
Table 5.3 The Number of Years practising urban agriculture \* The Agricultural skills of respondents Cross-tabulation

		The Agricultural skills of respondents				Total
		Excellent	Good	Average	Poor	
The Number of Years practising urban agriculture	1-5 year % within The Number of Years practising urban agriculture	0.0%	0.0%	50.0%	50.0%	100.0%
	6-10 years % within The Number of Years practising urban agriculture	33.3%	50.0%	16.7%	0.0%	100.0%
	11-15 years % within The Number of Years practising urban agriculture	66.7%	33.3%	0.0%	0.0%	100.0%
	16 and above % within The Number of Years practising urban agriculture	90.9%	9.1%	0.0%	0.0%	100.0%
Total	% within The Number of Years practising urban agriculture	60.0%	23.3%	10.0%	6.7%	100.0%

The findings of the study showed that those who had been practising urban agriculture for longer years considered themselves to be more knowledgeable than those in the practice for a short space of time. Of those who had been practising urban agriculture for the period of 11 to 16 years, the results showed that their agricultural skills were excellent. Further, inquiry showed that respondents who had agricultural knowledge had acquired their agricultural skills from workshops organised by the municipality. The findings of the study concluded that agricultural skills were linked with the number of years a person had been involved in agriculture.

#### **5.2.5. Urban agriculture in practice**

Access to land for gardening has been a constant issue in urban areas (Demailly and Darly, 2017; Corcoran *et al*, 2017). It is recognised that a large proportion of urban agriculture takes place in open land where it is unregulated (Izcarra Palacios and Yamamoto, 2017). According to Carlet, Schilling and Heckert (2017), although in most areas, urban agriculture takes place in unregulated areas but there are some areas where urban agriculture is regulated and municipalities have integrated urban agriculture in their sustainability plans and zoning regulations. In this study, respondents were asked to indicate where their gardens were located and also, to specify the sizes of their plots. The findings showed that 53.33% of urban gardens were located on the swamps which were found at the Esikhaleni Township, while 33.33% were located at backyards of households, and lastly, 6.67% were gardens located along the N2 and behind Umfolozi College (Esikhaleni), respectively. Figure 5.4 summarises the findings.



**Figure 5.2. The relationship between locations and size of gardens**

The findings showed that the majority of gardens were located next to the swamps and the plots' sizes tended to range from 6-10 meters<sup>2</sup>. Moreover, respondents indicated that they did not legally own the pieces of land where they had their gardens. Respondents went as far as to indicate that there were cases where the uMhlatuze municipality had removed their vegetable gardens to prepare for other urban developments; for example, the construction of the Cambridge Wholesaler. Without consulting the respondents, the municipality had given permission for the construction of the Cambridge Wholesaler where they had their gardens. This showed that urban agriculture had challenges of land availability for meaningful production.

### **5.3 THE PRACTICE OF URBAN AGRICULTURE AT ESIKHALENI**

This section discusses the various practices of urban agriculture at Esikhaleni Township. The section is organised as follows: it opens with the factors that motivate the practice of urban agriculture; this is then followed by the understanding of urban agriculture, challenges and lastly, the types of farming.

#### **5.3.1 Unemployment as a motivating factor**

This section intended to establish whether or not unemployment served as a motivating factor to practice urban agriculture. Hovorka (2004), states that urban agriculture is a key strategy of the unemployed and elderly people in some areas of Cape Town and Johannesburg. Based on the findings, the study deduced that the large proportion of the inhabitants of the study area engage in agricultural activities, hence they had no source of income other than social grants. Thus, when responding, one of the respondents had to say:

*“I’m not working and I have no source of income except the social grant”* (Research participant: October 2018).

In line with the above response, another respondent from the study area affirmed that:

*“I am a single parent who has people who are dependent on me to survive. As a result, I had to engage in agricultural activities in order to make ends meet”* (Research participant: October 2018).

On the basis of the findings, it could be said that the respondents engage in urban agricultural practice as a result of the scarcity of employment opportunities. To support the findings, most of the inhabitants of the communities, especially in developing countries, are forced to engage in agricultural activities for basic survival due to prevalent unemployment (Mgonja, *et al.*, 2017).

### 5.3.2 Poverty as a motivating factor to practice urban agriculture

Poverty is identified as one of the motivating factors of urban agricultural practice (Onyango, 2010). In this study, therefore, ascertaining whether poverty is a motivating factor of urban agricultural practice in the study area or not, was considered an important initiative. To establish this, the respondents were asked to express their view on the question under discussion. When responding to the question, respondents indicated that poverty has forced them to practice urban agriculture. Thus, according to the respondents:

*“Having no source of revenue is the main reason that forced me to practice urban agriculture”* (Research participant: October 2018).

Similarly, another household of the study area asserted:

*“If it was not for agricultural harvests, I would have starved to death with my family”* (Research participant: October 2018).

Apart from being a poverty alleviation mechanism, it was found that urban agriculture also supplements social grants. Supporting this, a respondent said:

*“The money that we receive from government through social grants does not cover all our expenses and/or basic needs, such as food, shelter, and clothing. As a consequence, we found ourselves undertaking commercial urban agricultural activities to accumulate our monthly incomes”* (Research participant: October 2018).

Informed by the findings, the study has arrived at the conclusion that poverty is one of the fundamental factors that forced community members of the study area to practice urban agricultural activities. In support of the above findings, Bafana *et al* (2012) and Ncube (2013) report that urban agriculture is an essential strategy implicated to prevent cases of worsening poverty.

### **5.3.3 The One Home One Garden as motivating factor for the practice of urban agriculture**

The programme of one home one garden was the third factor that motivated respondents to engage in urban agriculture.

*“I started to engage in gardening in 2009 during the establishment of this campaign of one home, one garden which was introduced by the National Government. In this campaign we were given seeds to start gardening, but this now has stop”* (Research participant: October 2018).

*“There was a time when municipality gave us seed to plant, that is where I started to engage in agriculture. Furthermore, one home, one garden was a way of promoting eating health food* (Research participant: October 2018).

The study found-out that urban agriculture was the factor that promoted health and food. Apart from this, the findings further revealed that the one home, one garden campaign laid the foundation to the practice of urban agriculture through the provision of seeds and fertilisers to the people.

### **5.3.4 Urban agriculture as an opportunity to exercise their bodies**

The results of the study showed that some respondents viewed urban agriculture as an activity to keep them busy during the day and also, as a part of exercise.

*“I’m retired now; the garden is my field where I exercise my body”* (Research participant: October 2018).

*“I don’t have anything to do during the day, so it is not good for me to stay the whole day without doing anything, so garden is where I keep myself busy to minimize health issues”* (Research participant: October 2018).

On the basis of the above, the result showed that urban agriculture served as an activity to ensure a healthy lifestyle, as respondents indicated that as they practiced urban agriculture they were exercising. Apart from that, respondents believed that their involvement in urban agriculture helped them to minimise health related issues.

Furthermore, the study also showed that gardens were placed where respondents spend their day, keeping them busy with an activity for the day.

### **5.3.5 Parental influence as a motivating factor to practice urban agriculture**

The findings of the study also revealed that parents had played important role in influencing their children to engage in urban agriculture.

*“I’m motivated by my parents to practice agriculture, but more especially my father, who used to take us to his garden during the weekends and holidays. From there I decided to have my own garden and I’m doing well. My parents used tell us that they train us not going to neighbours asking for food, we must learn to farm, so, that we won’t suffer ”* (Research participant: October 2018).

*“I grew up in farming family and I lived farming”* (Research participant: October 2018).

The above findings showed that parents influence their children to like farming. Furthermore, the study also found that the influence of parents in the practice of urban agriculture was to ensure the independence of their children. And also, this influence was to perpetuate the practice of urban agriculture. This conclusion is consistent with Webster, Ganpat and Chester (2013) who states that encouraging participation of youth in agriculture is necessary to ensure the sustainability of agriculture; and early exposure would provide youths with valuable agricultural skills to help them grow in agriculture.

### **5.3.6 LAND AVAILABILITY**

In this regards, the study was interested in knowing how the availability or lack of land influences urban agricultural practice. However, the study found that the availability of land was a concern to the practice of urban agriculture by the majority of respondents in the study area. The findings showed that there was a vacant land that the municipality was not using, but in this vacant land their practice was illegal. The majority of respondents who practiced urban agriculture in an illegal space were those who were located next to swamps, along N2 and next to the Esikhaleni College, while, those who

mentioned that they owned the land that they were practising in were those who practiced urban agriculture in the backyards of their homes. The respondents stated that:

*“The issue of land is a serious issue, the land that I’m using is not mine and I can’t do as I please, because this land belong to the municipality and the municipality might come at any time to claim it”* (Research participant: October 2018).

*“There is no land that is specifically designated for us as emerging farmers. The land that I’m using belongs to the municipality, as I’m using this land I’m not permitted to use it”* (Research participant: October 2018).

Moreover, the study found that production was good in the farming activities carried out in the backyards.

*“I own the peace of land that I’m farming on, and the production is good”* (Research participant: October 2018).

*“I do garden on my backyard and I have no problems regarding land”* (Research participant: October 2018).

On the other hand, some respondents’ opinions seem to differ from the above findings. The present findings showed that farming in the backyards has a bad influence in terms of production, as backyards have only limited spaces for sustainable adequate production

*“Lack of land has a bad influence in the production. My garden is in the backyard and it is not enough to produce products that could be sustainable”* (Research participant: October 2018).

Over and above, the study also found that the lack of land has a bad influence on agricultural practice, especially for those farmers who intend to broaden their production by supplying big wholesalers.

*“This thing of land has a bad influence on my agricultural practice because my wish is to supply big shops. But because of limited space, I can’t”* (Research participant: October 2018).

### **5.3.7 WATER ACCESSIBILITY FOR AGRICULTURAL PRACTICE**

Water is a critical input into agriculture in nearly all its aspects, having a significant effect on the ultimate yield. Good seeds and fertilisers fail to achieve their full potential if plants are not optimally watered (Hristov, 2014). In this regards, the study was interested in understanding the availability of water within the study area. The findings of the study found that the majority of respondents whose garden were located next to the swamps have no problem of access to water, while those whose gardens were located at the backyards revealed that access to water was a problem because they had to use the one from the tap, and this increases their municipality's bills.

*"I don't have a problem with water because I use streams to get water and this water is always there"* (Research participant: October 2018).

*"Water is not a problem streams provide us with water"* (Research participant: October 2018).

*"My source of water is streams"* (Research participant: October 2018).

*"I use streams to get water and it helps me a lot because is next to my garden"* (Research participant: October 2018).

As it earlier noted, majority had no problem of access to water as they used streams as their source of water. This is unlike those with backyard gardens, one of who has this to say,

*"I use tap for irrigation"* (Research participant: October 2018).

### **5.3.8 Agriculture as an activity to access food and income**

For this study, it was important to understand how respondents viewed urban agriculture. The findings of the study showed that the majority of the respondents had a common understanding of the practice of urban agriculture within the study area. The majority of respondents understood urban agriculture as an activity to fight poverty and for income generation. The respondents elaborated below:

*“Agriculture is a way of putting food on the table and the surplus is sold to get some money”* (Research participant: October 2018).

*“I understand agriculture as a practice to produce vegetables to sell or to consume”* (Research participant: October 2018).

The majority of respondents understood urban agriculture as a means to address poverty and to sell the surplus. Furthermore, the results showed that respondents understood agriculture as a practice that ensured the availability and accessibility of food, such as vegetables.

#### **5.4 CHALLENGES AND ATTITUDE OF COMMUNITY TOWARDS AGRICULTURE ENDEAVOURS.**

This section discusses the attitude and challenges of the community regarding the practice of urban agriculture in the study area. The findings of the study showed the numerous challenges in the practice of urban agriculture at Esikhaleni. The challenges are summarised below:

##### **5.4.1 Crime**

The majority of the respondents indicated that some community members steal from their gardens and they regard this as a negative attitude from the community. The respondents saw theft as a challenge that can lead to the failure of urban agriculture.

*“Every time I plant my crops some people called (abaphara) come and steal. I feel so discouraged to continue planting, since, I am not sure whether I will be able to reap what I sowed”* (Research participant: October 2018).

*“Theft is one of the challenging factors because these wait until the product is ready to harvest then they steal it”* (Research participant: October 2018).

Apart from the problem of theft, the study also found that there is some measure of breakdown of law and order and the councillors are sometimes not very helpful. A respondent stated that:

*“There is a high level of crime here and if you report the matter to a local councillor she doesn’t respond”* (Research participant: October 2018).

Crime was rated as the first challenge that affected urban agricultural practice and productivity. The respondents revealed that while such matters had been reported to the ward councillor, the response from local leaders have been unfortunately very passive.

#### **5.4.2 Pests and diseases**

Pests and vegetable diseases were the second set of challenges that respondents indicated negatively impacted on their farming activities. The findings of the study showed that pests and diseases badly contributed to crop failure. The study also showed that respondents had no treatment over for the diseases.

*“Our vegetables are dying because of pests and diseases and we don’t have treatment for it. Moreover, even if you wish to sell your products, but because it is eaten by the pest, it is no longer in good quality”* (Research participant: October 2018).

*“Leaf miner is a challenge because it eats our food, and I wish if I could get help on how I can manage this thing form eating my food”* (Research participant: October 2018).

The results of the study showed that pests and diseases destroyed the quality of products. Further inquiry showed that leaf miner was the kind of pest that challenges gardeners and respondents had no idea on how they combat the pests and the disease.

#### **5.4.3 Roaming domestic animals**

In this regard, some of the respondents revealed that cows and goats destroyed their food in their gardens, and this had a bad impact on the practice of urban agriculture.

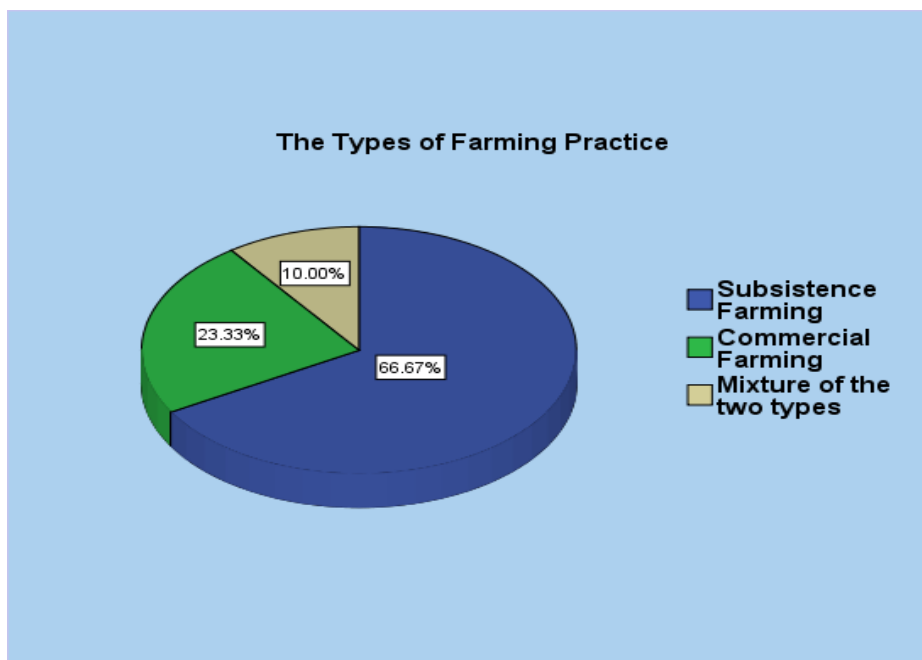
*“Our gardens are not fenced so cattle enter our gardens anyhow and destroy our food”* (Research participant: October 2018).

*“People leave their cows and goats next to our gardens and if you speak to them they tell you that you must fence your garden first”* (Household of the Esikhaleni community: October 2018).

The findings showed that cattle walked over the gardens and destroyed the production. The study found that this was because the gardens were not fenced. Moreover, the findings showed that the matter had been reported to people who look after the animals, but they seem to retort that gardens needed to be fenced.

## 5.5 THE TYPES OF FARMING PRACTICES

Understanding the types of farming that respondents were involved in was important. The findings of the study revealed that the majority of the respondents practiced subsistence farming. In terms of statistics, the study showed that 66.67% of the respondent’s practised subsistence farming, as this group dominated the urban agricultural practice at Esikhaleni Township. While 23.33% of the respondents showed that they practised commercial farming, 10% of the respondents revealed that they practised both subsistence and commercial farming. Figure 5.5 below summarises the findings.

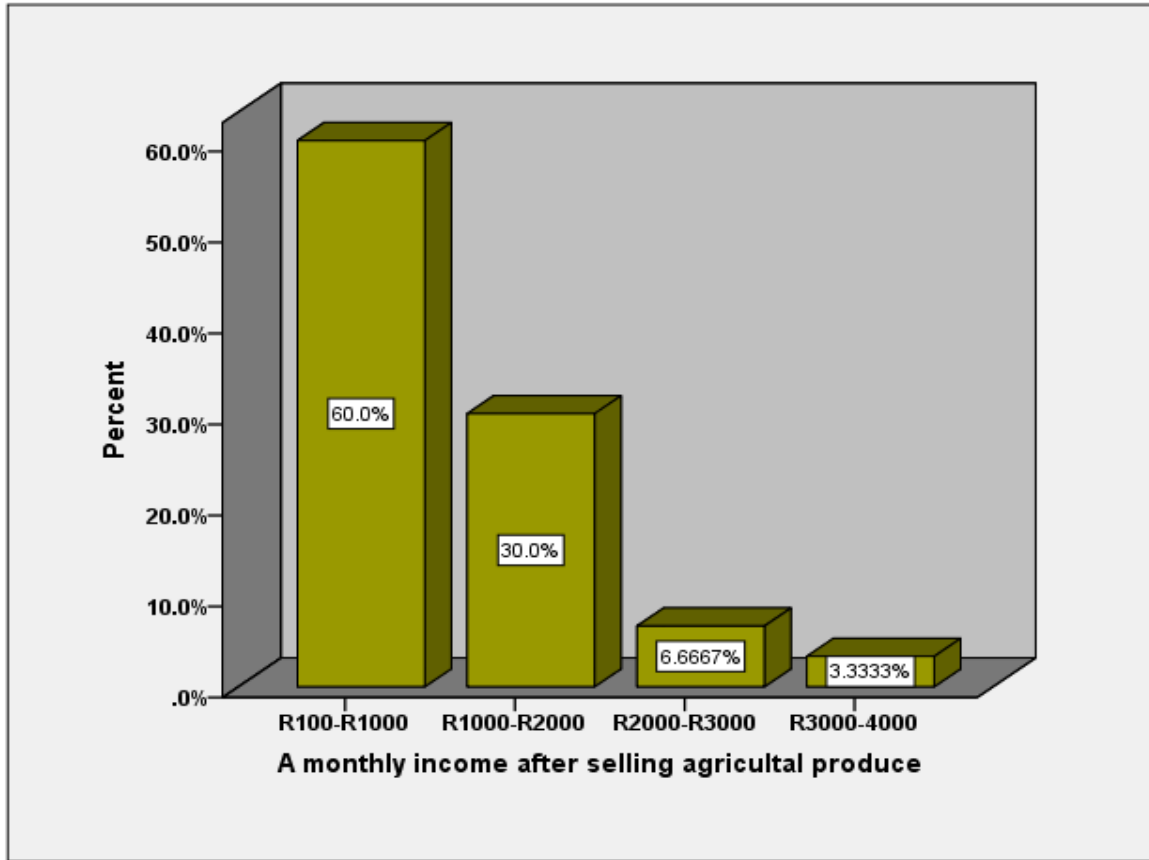


### **Figure 5.3: Types of farming practice**

As it has been stated above, the results showed that subsistence farming was the most practice activity at Esikhaleni Township compared with commercial farming. Furthermore, the study found that some respondents were not sure whether there was practising subsistence or commercial, but when they were further probed they indicated that they planted for both commercial and subsistence.

### **5.6 THE AGRICULTURAL INCOME**

As noted earlier, some respondents practised commercial farming and some practised farming for subsistence. The study found that those who practised agriculture for commercial purposes got income as discussed in the next sentence. Sixty percent of respondents who practised commercial farming received monthly income that ranged from R100 to R1000. Furthermore, 30% of the respondents who practised commercial farming received monthly income that ranged from R1000 to R2000. Lastly, the result indicated that 6.6% of respondents received monthly income of R2000 to R3000.



**Figure 5.4: Agricultural products monthly income**

These findings report only on those who practised urban agriculture as a commercial activity. The findings showed that the majority of farmers earned little income.

## 5.7 MARKET ACCESS

One of the factors that determine the success or failure of the urban agriculture is market access. Therefore, the study asked respondents how easy it was to access markets. The respondents explained their understanding of the availability of different markets where they sell their produce. A majority of the respondents mentioned that their neighbours bought their produce on a regular basis. Of the majority, one participant stated that:

*“The people who normally buy my products are informal traders who have trading stalls at the Esikhaleni Mall and others are my neighbours” (Research participant: October 2018).*

Some of the participants sold their produce to informal traders who traded some distance away from the study area. A respondent stated:

*“I supply street vendors at Mandlankala Village (a village just a few kilometers outside the study area) and others along the N2 next to the new hospital (the Melomed Richards Bay Private Hospital)”* (Research participant: October 2018).

Drawing from the above findings, the study concluded that the issue of formal market was a problem hence respondents had to sell their products informal along the roadside. Chari and Madhav Raghavan (2012) agrees that for small and marginal farmers, marketing of their products is a problem. However, literature showed that contract farming has been seen as a potential strategy to help the small and marginal farmers overcome constraints in accessing marketing.

## **5.8 THE ROLE OF WARD COUNCILLORS TOWARDS URBAN AGRICULTURE**

Determining the role of ward councillors about the practice of urban agriculture was considered important to this study. Thus, respondents were requested to express their view on the roles played by ward councillors towards the practice of urban agriculture. The respondents indicated different perspectives: some indicated that their ward councillors do play roles in promoting urban agriculture, as the ward councillors provided them with seeds and fertilisers; some other respondents indicated that they lacked information about their ward councillors. One respondent stated that:

*“Our ward councillor provides us with seeds and fertilisers that he accesses from the UMhlathuze local municipality”* (Research participant: October 2018).

On the other hand, some of the respondents showed that they lacked information about their ward councillors, since some of them did not even know who their ward councillors were. These practitioners assumed that the main focus of ward councillors was based on other part of community development without prioritising agricultural sector. In this regard, a respondent stated:

*“I’m not sure if the councillor plays any role in ensuring that there is improvement in community gardens. I think the councillor focuses more on other community development issues but not in agricultural development”* (Research participant: October 2018).

Informed by the above findings, the study arrived at the conclusion that the ward councillors played a minimal role in the practice of urban agriculture, hence they only provide the agricultural practitioners with seeds and fertilisers and offer agricultural advice to the community.

Furthermore, it is obvious from the above that, sometimes the relationship between urban gardeners and the councillors is not cordial since the ward councillors make a minimal appearance. Moreover, community gardeners seem to expect ward councillors to do more.

## **5.9 URBAN AGRICULTURE AND SCALING-UP**

The forgoing section has dealt with the role of ward councillors in promoting urban agricultural development. This section deals with two sub-sections: the potential of scaling-up urban agriculture to being a formal business, and strategies to scale-up urban agricultural activities.

### **5.9.1 Potential for scaling-up urban agriculture to formal businesses**

The study was interested in the potential to scale-up urban agriculture from subsistence farming to formal businesses. In this regard, the study found that there was potential for the respondents to scale-up their urban agricultural activities. This is so because there were respondents who grew their vegetables in order to sell at the local informal market. Moreover, most of the respondents showed that they envisioned themselves supplying different formal businesses and other institutions like B&BS, retail shops like Spar and Shoprite supermarkets, and local schools and hospitals located within the study area. Respondents stated that:

*“Yes, I do envision myself practising urban agriculture as a formal business, since, currently I am an informal trader, who supplies street vendors with agricultural produce. I do wish to supply big retails stores such as Shoprite and Spar with my agricultural produce”* (Research participant: October 2018).

*“Yes, I do wish to move from subsistence agricultural practice into a formal agricultural business, where I will trade with the local schools, hospitals, and local B&B’s. But, I would need some more land to produce more, since; the land I am practising on is limited it about 11-15 metre<sup>2</sup>”* (Research participant: October 2018).

*“The potential is there, currently we are negotiation to establishing a cooperative (of about 6 people) that aims where we would collaborate and work on the land to produce for business purposes”* (Research participant: October 2018).

Though, some respondents indicated that they had the potential to scale-up their agricultural activities to formal businesses, but, there were factors that challenged their idea of scaling-up. The factors that respondents highlighted were the land issue and also, the issue of transportation of goods to the marketplace. One of the respondents stated that:

*“I do have a potential to move from subsistence farming into commercial farming, but there are factors that hinder this process of scaling-up, factor such as the limited space to produce enough products to supply big retail stores and the issue of transportation of produce into a market place”* (Research participant: October 2018).

*“I do envision myself moving from subsistence farming into a formal agricultural business. However, the main stumbling block is the ownership of land. The land I am currently practising on is not mine it belongs to the municipality; therefore the municipality could claim it at any time. I wish I could have my own land”* (Research participant: October 2018).

The foregoing revealed that while some respondents have the potentials to scale-up their urban agricultural activities, others have challenges that hinder their process of scaling-up.

### 5.9.2 Strategies to scale-up urban agriculture

Determining if there were strategies that respondents could use to scale-up their agricultural activities to commercial farming was considered important in this study; also, it was important to find out any challenges that hinder the scaling-up process; and, finally, it was essential to know how respondents hoped to overcome the challenges.

In terms of strategies that the respondents used to scale-up their agricultural activities, the study found that respondents indicated that they attended agricultural training and workshops provided by the uMhlathuze local municipality in collaboration with Owen Sithole Agricultural College. The second strategy was the establishment of agricultural cooperatives, which could enhance collaboration; lastly, other respondents used door-to-door approach to scale-up.

Furthermore, some respondents showed that these strategies helped them to move their agricultural activities from subsistence farming to formal agricultural business. and that, through the strategies, some of them were able to supply vegetables to local Bed and Breakfast establishments (B&Bs), schools, street vendors, neighbourhoods, and other informal traders at Esikhaleni Mall. The respondents stated that:

*"I attend the educational workshops where I get information on how to start an agricultural business and how to sustain it to become a formal agricultural business. These workshops are conducted by the municipality in collaboration with Owen Sithole College"* (Research participant: October 2018).

*"Attending municipal educational workshops helped me a lot to get knowledge on how to turn agriculture into business"* (Research participant: October 2018).

Apart from the educational workshops, some respondents indicated that cooperatives were viable strategies that helped in scaling-up since they had contracts to supply some of the local institutions with their agricultural produce. One respondent stated that:

*"We have established a cooperative of six people; we have consolidated our land into one large piece so that we could produce at larger scale. And this cooperative also aims to supply local schools, B&B's, and local retail stores. As a cooperative,*

*we have approached some of these institutions and some of them have agreed and also we have started to supply them" (Research participant: October 2018).*

It was also revealed that some respondents traded with informal traders through door-to-door trading strategy.

*"I normally sell my produce to local vendors and/or informal traders on negotiable prices through door-to-door trading approach, which is to sell produce to consumers in their place of trading. This allows me to generate revenue from my agricultural harvest" (Research participant: October 2018).*

Apart from abovementioned strategies, some respondents highlighted that there were challenges that hindered successful scaling-up for commercial purposes. The identified main challenges for scaling-up are: lack of skills, lack of information, and lack of adequate market for produce. Respondents stated that:

*"The most prevalent challenges that we are faced with regarding transforming urban subsistence agriculture to urban commercial agriculture are twofold: first, we lack the necessary skills to successfully implement the said transformation. Secondly, there is the challenge of the unavailability of local agricultural market to sell in bulk" (Research participant: October 2018).*

*"I do not have knowledge on how I could scale-up my agricultural activities into formal business" (Research participant: October 2018).*

Having identified the abovementioned challenges, it was appropriate for the study to establish that the respondents concerned were able to suggest possible solutions to address the challenges. The respondents suggested a roll-out of skills development programmes, and the establishment of local markets by the local municipality, in collaboration with the local agricultural practitioners, under the auspices of the KwaZulu-Natal Provincial Department of Agriculture. To support this, a respondent said:

*"Having identified the existing gap in terms of skills development amongst the local agricultural practitioners like myself, we hope for an immediate intervention from the*

*municipality with regards to provisioning of agricultural-related skills development programmes” (Research participant: October 2018).*

In addition to the above, another respondent had to say:

*“There are two things that we need to consider when we intend to transform subsistence urban agriculture into commercial urban agriculture, and they are: establishing our own local market under the auspices of the municipality; and making an effort to be offered a viable trade deal by the locally-based retail supermarkets, local hospitals, and high schools or colleges. I am sure that if we could achieve the above, we could witness a successful transformation from the currently practiced form of agriculture to commercially-oriented form of agriculture” (Research participant: October 2018).*

On the basis of the findings, the study deduced three strategies that respondents used to scale-up their agricultural businesses. It was established that there are challenges that hinder the successful transformation of urban subsistence agriculture to urban commercial agriculture. However, there were solutions suggested to address these challenges: the establishment of local formal market and viable trade deals.

## **5.10 URBAN AGRICULTURE IN THE UMHLATHUZE LOCAL MUNICIPALITY**

The overall aim of the previous section was to provide an analysis of scaling-up of urban agriculture. The aim of this section is to present the role played by the uMhlathuze local municipality with regards to urban agriculture. The discussion focuses on the following themes, which emerged during data analyses: local economic development and urban agriculture; the role of urban agriculture in revitalising the economy of the study area; agricultural projects that are in partnership with the uMhlathuze Local Municipality; policy(s) that guide the practice of urban agriculture; the impacts of zoning by-laws in the practice of urban agriculture in the study area and finally, the role of the municipality in the practice of urban agriculture. As relevant bodies, both the uMhlathuze Local Municipality’s LED Officer and the Department of Agriculture and Rural Development Officer were consulted to provide relevant information.

### 5.10.1 Local economic development and urban agriculture

Local economic development is a programme that seeks to stimulate the economy in local areas (Ababio and Meyer, 2012). In the light of this, the study sought to ascertain if urban agriculture forms part of the local economic development initiatives within the UMhlatuze Local Municipality. The study found that urban agriculture was incorporated as one of the municipality's local economic development initiatives. In this regard the respondent stated that:

*“For many years people have been thinking that urban agriculture is just a backyard gardening that has to do with subsistence farming only. However, in the recent years, urban agriculture has become a serious business. In this regard, the local economic development programs feature urban agriculture as a business that could enhance the livelihoods of the citizens and grow the country's economy”* (LED Officer of the uMhlatuze Municipality: October 2018).

Further, the study found that even though the city of uMhlatuze had urban agriculture as part of its LED strategy, it did not feature in the KwaZulu-Natal Department of Agriculture and Rural Development LED policy. The official of the KwaZulu-Natal Department of Agriculture and Rural Development stated that:

*“There is no LED policy that specifies how urban agriculture should be incorporated within LED strategy. Rather, the LED policy highlights the importance of agriculture in strengthening the local economy and ensuring better livelihoods”* (Department of Agriculture and Rural Development Official: October 2018).

On the basis of the above responses from the two public officials, the study noted that the KwaZulu-Natal Department of Agriculture and Rural Development did not feature urban agriculture in their LED policy/strategy, while uMhlatuze Local Municipality feature urban agriculture in their LED policy/strategy. Moreover, the LED Officer of uMhlatuze Municipality underlines that the LED policy or programme features urban agriculture under the categories of business.

### **5.10.2 The urban agriculture and revitalising the economy of the study area**

Determining the role played by urban agriculture in revitalising the township economy was essential. In this regard, the study found that the uMhlathuze local municipality sees urban agriculture as a strategy that plays an important role in revitalising the economy of the study area. While the KwaZulu-Natal Department of Agriculture and Rural Development showed that there is no clear evidence that urban agriculture plays a role in township economy, the LED Official of uMhlathuze local municipality stated that:

*“Urban agricultural practitioners generate income by selling their agricultural produce to local people as a strategy for revenue generation”* (uMhlathuze Local Municipality’s LED Officer: October 2018).

Moreover, the Department of Agriculture and Rural Development Official indicated that the contribution of urban agriculture to revitalising the economy of the study area was not clear. To justify this, the respondent emphasised that:

*“According to documented information, there is no clear evidence indicating that urban agriculture has a significant contribution towards regenerating the economy of Esikhaleni Township. Hence, gardens on which they plough their crops do not have adequate capacity to produce harvests that could have a significant contribution in revitalising the township’s economy, since, the majority of them are subsistence farmers and even those who sell they sell informally”* (Department of Agriculture and Rural Development Official: October 2018).

On the basis of the responses provided by the above public figures (the uMhlathuze Local Municipality’s LED and the Department of Agriculture and Rural Development Officers), the study arrived at the conclusion that the role played by the urban agriculture in revitalising the economy was not known and/or understood within the study area.

### **5.10.3 The role of the uMhlathuze Local Municipality in agricultural projects**

The Integrated Development Plan (IDP) of the uMhlathuze Local Municipality (2017/21) outlines that there are urban agricultural projects that are in operation in the study area. Determining the role of the municipality in these urban agricultural projects was

considered important to the study. The study found that the municipality plays an important role in supporting the registered urban agricultural projects by providing them with seeds, fertilisers and building informal markets for them along the roadside. In addition, the municipality organises agricultural workshops to equip farmers with agriculture business skills. It came out from the uMhlathuze Local Municipality's LED Officer that the municipality through its LED office is working with various stakeholders, such as the Department of Agriculture and Rural Development, and Sector Education and Training Authority (SETA) to ensure that the urban agricultural projects are sustainable. The Department of Agriculture and Rural Development Official stated that:

*“The municipality through the office of agriculture assists urban agricultural farmers with building them shelters alongside the road where they can sell their produce and be easily accessed by the potential consumers. It also assists farmers in terms of the provisioning of seeds, fertilisers, and injections to treat cattle fever tick”* (Department of Agriculture and Rural Development Official: October 2018).

Further, the uMhlathuze local municipality's LED Officer revealed that the municipality intends to introduce programmes or workshops that seek to help farmers to transform from subsistence urban agriculture to commercial urban agriculture, so that they could contribute toward growing the local economy. The uMhlathuze Local Municipality's LED Officer stated that:

*“The role of municipality is to organise workshops to educate farmers about how to transform subsistence farming into commercial farming. Doing this the municipality is in collaboration with different stakeholders Department of Agriculture and Rural Development, and Sector Education and Training Authority (SETA)”* (uMhlathuze Local Municipality's LED Officer: October 2018).

Based on the findings, the study concluded that the municipality plays an important role in improving the practice of urban agriculture through the provision of knowledge to urban farmers in the study area.

#### **5.10.4 Policy(s) that guide the practice of urban agriculture**

The question of determining the perceptions of the officials, such as the uMhlathuze Local Municipality's LED Officer and the Department of Agriculture and Rural Development Official on the availability of policy/s that guide the undertakings of urban agricultural activities within the study area, was considered important in the study for two reasons: the first was to find out if there are any existing policy/s; and to ascertain if there are any alternative measures in case there are no such policy/s. The Department of Agriculture and Rural Development official stated that:

*“There is no specific policy that guides the practice of urban agriculture”*  
(Department of Agriculture and Rural Development Official: October 2018).

In line with the above, the uMhlathuze Local Municipality's LED Officer highlighted that there is no specific policy that guides the practice of urban agriculture. However, there are documents that provide some guidelines in this regard. When responding, the LED Officer of uMhlathuze Local Municipality stated that:

*“According to my understanding, there is no specific policy that guides the practice urban agriculture. However, the municipality have alternative documents, such as the IDP; Land Use Scheme; Agricultural Plan; and Municipal Economic Transformation Road map, all these are used as the alternative to guide the practice of urban agriculture”* (uMhlathuze Local Municipality's LED Officer: October 2018).

Informed by the nature of the findings above, the study deduced that there is no policy in place that guides the practice of urban agriculture. Instead, there are documents designated for other purposes that have been used to guide the practice of urban agriculture within the study area. Mansfield and Mendes (2013) posit that a municipal food strategy is an official plan or road map that helps city governments integrate a full spectrum of urban food system issues within a single policy framework, including food production.

### **5.10.5 The impact of zoning by-laws in the practice of urban agriculture**

A zoning by-law is defined as a control of the use of land in the community, how land may be used, where buildings and other structures can be located, and lastly, the types of buildings that are permitted and how they may be used (Huang and Drescher, 2015). Determining the impact of zoning by-law in the study area was considered important in this study; hence, the concern was to determine if urban agriculture was included in the zoning by-law. In this regard, the study found that the zoning by-law does not contain the specific regulations for the practice of urban agriculture. Rather it speaks of other township developments, such as: building of the RDP houses, bridges, parks, and sport fields. The uMhlathuze Local Municipality's LED Officer stated that:

*“At Esikhaleni, there is no land reserved for urban agriculture, the land is reserved for small industrial development and for public infrastructure, for example, sport fields, and RDP houses”* (uMhlathuze Local Municipality's LED Officer: October 2018).

On the zoning of by-laws, the official of the Department of Agriculture and Rural Development seems to have no idea about zoning by-law and the practice of urban agriculture. When responding, the Department of Agriculture and Rural Development Official stated that:

*“I have no idea how zoning by-laws works and if, not involve the practice of urban agriculture”* (Department of Agriculture and Rural Development Official: October 2018).

Based on the above findings, the study concluded that from the perspective of uMhlathuze local municipality, the practice of urban agriculture was not featured on the zoning by-law programmes.

### **5.10.6 The role of the municipality in the practice of urban agriculture in the study area**

The study sought to determine the role played by the municipality in the practice of urban agriculture in the study area. To address this, the respondents were asked to indicate

their views on the role played by the uMhlathuze Local Municipality in the practice of urban agriculture. The study found that the role of the municipality was to support the urban agricultural farmers to transform from subsistence agricultural activities to commercial agricultural activities, as the municipality believed that commercial agricultural practice is one of the strategies to enhance the economy of the study area. The uMhlathuze Local Municipality's LED Officer stated that:

*“The role of the municipality is to help the farmers grow and sustain their gardens as so to generate a form of income while at the same time grows their business”* (uMhlathuze Local Municipality's LED Officer: October 2018).

In line with the above findings, the study found that the role of the municipality was to find the relevant stakeholders to help urban agricultural farmers. The Department of Agriculture and Rural Development Official stated that:

*“The role of the municipality is to call for all relevant stakeholders involved in agriculture to come forward and assist farmers. We are grateful that within our boundaries, we have Owen Sithole Agricultural College, which the municipality works with pertaining to agricultural practice. We do, however, welcome other stakeholders who may be eager to assist in whatever way possible”* (Department of Agriculture and Rural Development Official: October 2018).

Hence, the study concluded that the role of the municipality is to move urban agricultural practice from being for survival to going commercial.

## **5.11 CONCLUSION**

This chapter presented the results of analyses of the data collected and also discussed the findings from the fieldwork. The findings revealed some challenges that have hindered the transformation from subsistence to commercial farming. Moreover, the study noted that farmers had potentials to scale-up their agricultural activities to commercial businesses, as some of them sold along the roadside and to B&Bs. Over and above this, it was shown that while some political leaders played a role in promoting urban agriculture in their place of supervision, some did not. Lastly, in terms of strategies to transform urban

agriculture from subsistence to commercial farming, the study found that urban agricultural practitioner used door-to-door approach to sell their agricultural produce to street vendors.

## **CHAPTER SIX**

### **SUMMARY, EVALUATION, RECOMMENDATIONS, AND CONCLUSION**

#### **6.1 INTRODUCTION**

Recent developments, especially programmes of the South African government, have focused on the revitalisation of the township economies for purposes of inclusive economic growth for the country. Within this programme of revitalisation of the township economies, urban dwellers have to play an important role to ensure that activities that they are involved in contribute to the betterment of township economies. One of the activities is the practice of urban agriculture in townships. Urban agriculture has been practiced for decades worldwide for subsistence purposes. However, the South African government hopes to encourage urban dwellers to practice urban agriculture for business purposes, rather than for subsistence purposes, so as to contribute to the revitalisation of township economies. As a result, this study sought to assess the strategies that could be used to scale-up urban agriculture for income generation purposes at Esikhaleni Township. This chapter is organised as follows: it opens with the summary of the study; this is followed by the evaluation of the findings of the study in relation to the theory of the study; thereafter, there will be recommendations, and, lastly, areas for further research.

#### **6.2 SUMMARY OF THE STUDY**

The aim of this study was to assess the strategies that urban agriculturalists at Esikhaleni Township could use to scale-up urban agriculture for income generation purposes. The literature showed that urban agriculture is not a new phenomenon, as it has been practised from time immemorial; however, since the 1930s, during the Great Depression, people used it as a strategy to cope with economic hardship of the time. Reviewed literature also showed that the practice of urban agriculture could be understood in terms of the neoliberal and the neo-Marxist theories. From the prism of the neoliberalism, urban agriculture could be understood in three distinct ways: as a municipal entrepreneurial strategy; as urban green space; and as a shared politics of space. Furthermore, within the neo-Marxist theory, urban agriculture is understood as an activity that only

perpetuates capitalism and exploitation of workers, as workers have to work double at home (garden) and at their places of work.

However, this study adopted the neoliberalism theory based on the findings which indicated that urban agriculture contributes toward local economic development. The findings showed that urban agricultural practitioners practice urban agriculture as a form of business, which is in agreement with neoliberalism which states that urban agriculture is understood as municipal entrepreneurial strategy which contributes toward economic growth. In this regards, neoliberalism is a theory that is in-line with the findings of this study.

The research methodology chapter of the study consisted of the research philosophies, the research approaches, and research methods. In terms of the research philosophies the study employed both interpretivism and some elements of the positivism philosophy. This ensured that both qualitative and quantitative research objectives were covered in the study. The study used the qualitative approach to acquire an understanding of the strategies to be used to scale-up urban agriculture. The study also highlighted the reasons why urban farmers practice urban agriculture and their income after selling their products in the market. The study employed the quantitative approach to find out the demographic data as well as the income received from practising urban agriculture and the size of land that urban farmers used for the practice of agriculture.

With regards to research method, the study included targeted population, sampling methods, sample size, data collection techniques and data analysis. The targeted population was the urban farmers, and their sample size was twenty eight. The data collection technique adopted was the semi-structured interview. Lastly, on the data analysis, the study analysed qualitative data through the use of content analysis method and for quantitative data the study used the statistical program for social sciences (SPSS). The study also described the study area and provided the map of the study area.

The findings of the study showed that there was a potential to scale-up urban agriculture, however, there were factors that challenged the scaling-up process in the study area. Identified challenges included: land issue, inadequate farming knowledge and

transportation of goods to marketplaces. The urban farmers had no ownership of the land they farm on, as the local municipality could claim the agricultural land at any-time. Moreover, it was also shown that urban farmers did not have formal training on farming and that some urban farmers had difficulty in accessing the market and transport costs were high.

In terms of strategies to scale-up, the study found that the following helped: agricultural workshops that were provided by the municipality and agricultural cooperatives.

Regarding the Local Economic Development policy issues, the study found two different answers on this matter. The first answer was provided by the uMhlathuze local municipality official, and it stated that the municipality had an LED policy that featured the practice of urban agriculture. This LED policy featured urban agriculture as a form of agricultural business. The other answer was given by the Department of Agriculture and Rural Development official, and in this case, it was stated that the Department of Agriculture and Rural Development did not have any LED policy that featured the practice of urban agriculture, rather, the LED policy highlights the importance of agriculture in strengthening the local economy.

The above discussion has summarised the study; the next section evaluates the findings of the study.

### **6.3 EVALUATING THE FINDINGS OF THE STUDY**

This section evaluates the findings of the study against the theory of the study. The objectives of the study are repeated as they appeared in Chapter one.

6.3.1 To find out socio-political factors that influence urban agriculture at Esikhaleni Township.

6.3.2 To find out environmental and land factors that influence urban agriculture at Esikhaleni Township.

6.3.3 To study economic factors that determines the success of urban agriculture at Esikhaleni Township.

6.3.4 To determine the potential for economical scaling-up of urban agriculture at Esikhaleni Township.

**To find out socio-political factors that influence urban agriculture at Esikhaleni Township.**

With regards to this objective, the literature showed that there are socio-political factors that influence the practice of urban agriculture. In terms of social factors, the literature showed that there are six social factors that influence the practice of urban agriculture (Muzari *et al*, 2012). These social factors include: assets and conflict of resources; lack of access to land; lack of farming technical skills; access to finance; education and training; and access to inputs. Castillo *et al.*, (2016), and Salami *et al.*, (2010) viewed these factors as the most important factors that contribute to either the failure or success of urban farmers in practising urban agriculture. Moreover, on the political side, the literature expressed limited information or evidence on how political factors influence the practice of urban agriculture.

The findings of this study showed that there were socio-political factors that influenced the practice of urban agriculture. These factors included: unemployment (refer to Chapter five, 5.3.1), poverty (refer to Chapter five, 5.3.2), the government's campaign of One Home One Garden (refer to Chapter five, 5.3.3), and parental influence (refer to Chapter five, 5.3.4). Unemployment and poverty influenced urban dwellers to practice urban agriculture as people there were working and there was no income that was received, so they had to find alternative means of putting food on the table; urban agriculture was the alternative. Lastly, government's campaign of one home one garden made some people to engage in urban agriculture, as government encouraged citizens to eat healthy food. Furthermore, on the political side, the study found that the ward councillors play a minimal role in terms of promoting the practice of urban agriculture, as expressed by the respondents, with regards to their expectations.

### **To find out environmental and land factors that influence urban agriculture at Esikhaleni Township.**

Regarding this objective, environmental and land factors were the important factors in the study. The literature demonstrated that urban agriculture had important effects with regards to climate change (Wang and Nevius, 2013). Urban agriculture plays an imperative role in reducing global temperatures by at least 2°C (Emmanuel and Loconsole, 2015). Moreover, with regards to land, the literature confirmed that urban agriculture is one of the activities that compete for the use of limited urban spaces, making it difficult for urban agricultural practitioners to practice urban agriculture. This is because there is no land reserved for the practice of urban agriculture; rather, the land is mainly reserved for other urban developments, such as industrial and infrastructural developments.

The findings of the study showed that the lack of land ownership was a challenge as most of the urban farmers did not own the land that they farmed on (refer to Chapter five, 5.3.6). This meant that the lack of land ownership had a negative impact on production because the land belongs to the municipality, and the municipality could claim the land at any time. However, the study also found that pests and diseases affected production (refer to Chapter five, 5.4.2).

### **To study economic factors that determines the success of urban agriculture at Esikhaleni Township.**

For this objective, it was important for the study to determine whether urban agriculture has the ability to enhance the township economy of the study area. The literature indicated that the neo-Marxist theory understood that there are no economic benefits that could be acquired from practising urban agriculture (Kekana, 2006). This is because the neo-Marxist perspective recognises urban agriculture as a temporal and seasonal practice, which is difficult to measure when it comes to its economic contribution to the Gross Domestic Products (GDP) of a country. On the other hand, the neoliberalism viewed urban agriculture as an agricultural business that contributes to the economic development of cities, as farmers employed people from within the same cities (Thapa and Murayama, 2008).

The findings of the study rejected the neo-Marxist perspective and adopted the neoliberalism perspectives, as the findings of the showed that urban agriculture plays an important role in enhancing the economy of the study area (refer to Chapter five, 5.10.2). The findings showed that urban agricultural practitioners generate income through selling their agricultural produce to informal traders. According to an LED Official from the uMhlathuze local municipality, this is viewed as one of the strategic contributions that are made by urban agriculture in rebuilding the economy of the study area. However, the Department of Agriculture and Rural Development Official indicated there is concrete or sufficient empirical research that clearly states how, and to what extent urban agriculture contributes to the economy.

### **To determine the potential for economical scaling-up of urban agriculture at Esikhaleni Township**

With regards to this objective, the literature showed that there were strategies that could be used to scale-up urban agriculture for economic purposes, namely: contractual farming and integrating small emerging farmers. Contract farming is understood as an agricultural agreement between the farmer and marketing firms to produce and supply agricultural products (Anim *et al.*, 2008). Contract farming is designed to help small emerging farmer's scale-up urban agriculture from subsistence to commercial farming (Swain, 2011; Freguin-Gresh *et al.*, 2012). The integration of small emerging farmers is understood as a joint venture among co-operatives of various small emerging farmers that are interested in growing their informal agricultural businesses beyond the prisms or realms of urban agriculture (Bird *et al.*, 2013; Van Buuren, *et al.*, 2013).

With regards to the above, the study found that, the issue of scaling-up was important. Although, the findings of the study showed that there was a potential to scale-up, however, there were challenges that hindered the process of scaling-up. These challenges included: crime (refer to Chapter five, 5.4.1), pest and diseases (refer to Chapter five, 5.4.2), and roaming domestic animals (refer to Chapter five, 5.4.3). Moreover, there were additional challenges involved, such as: land issue, farming knowledge and transportation of goods to marketplaces (refer to Chapter five. 5.9.1). Additionally, to show that urban farmers had the potential to scale-up, some urban

gardeners sold their products at formal hawkers designated points within malls and along the roadside and to street vendors. These urban agriculturists received income from selling their products, which supplement their small social grant income.

The next section presents the recommendations for the municipality.

## **6.4 RECOMMENDATIONS**

This section presents the recommendations based on the findings of the study. The recommendations are divided into two parts: recommendations for uMhlathuze local municipality and recommendations for urban agricultural practitioners.

### **6.4.1 Recommendations for uMhlathuze local municipality**

This section makes the following recommendations to the municipality with regards to scaling-up of urban agriculture in the study area.

- ❖ The findings of the study showed that there was lack of land ownership as most of the urban farmers did not own the land that they farmed on. It was noted that lack of land ownership had a negative impact on production because the land belonged to the municipality and municipality could claim the land at any time. In this view, the study recommends that the municipality should assist with land ownership for the urban farmers, wherever it is possible, as land seemed to be an important factor in the quest for agricultural scaling-up.
  
- ❖ In terms of policy that guides urban agriculture, the findings of the study showed there was no specific policy that guides the practice of urban agriculture from uMhlathuze municipality. Instead, the municipality used alternative documents, such as the IDP; Land Use Scheme; Agricultural Plan; and Municipal Economic Transformation Roadmap. Therefore, the study recommends that the municipality should formulate policies that could accommodate the practice of urban agriculture, in order to move beyond subsistence to commercial farming.

#### **6.4.2 Recommendation for urban agricultural practitioners**

- ❖ The findings of the study showed that there are registered urban agricultural projects that are getting assistance from the municipality in the form of seeds, fertilisers and building informal markets for them along the roadside. While, others are working as sole traders, which makes it difficult for the municipality to identify and assist them. The study hence recommends that urban agricultural practitioners, who work as sole traders, should come together as cooperative and register their project, in order to get assistance from municipality as others do which was mention by the municipal official of uMhlathuze local municipality.

#### **6.5 AREAS FOR FURTHER STUDIES**

The study found that urban agricultural practitioners identified that there is lack of a formal market, even though there are local wholesalers in the surrounding area, where they can produce and sell their produce. Urban agricultural practitioners indicated that the local wholesalers have to travel outside the area to buy products, which local urban agricultural practitioners have. This created confusion as to why the local wholesalers do not purchase from the local urban agricultural practitioners. The study could not answer this question. Therefore, for further studies, researchers should assess the strategies to establish the relationship between the wholesalers and local urban agricultural practitioners.

#### **6.6 LIMITATIONS OF THE STUDY**

This section discusses the limitations of the study. There are two limitations which the researcher encountered in this study, which are: the refusal to answer questions and to sign the consent form.

During the data collection, some of the respondents refused to respond to some of the questions because they saw it as a political campaign because the study was conducted around the period of election. However, the researcher managed to explain the purpose of the study before they fully participated. Furthermore, other respondents refused to sign the consent forms but were ready answer the interview questions. Similarly, the

importance of signing the consent form was explained and the respondents ended up signing the consent forms.

## **6.7 CONCLUSION**

This chapter presented the summary, evaluation, and recommendations of the study. The summary overviewed important sections of the study namely, the theoretical framework, the research methodology which includes the research design and philosophy, the research approaches, data collection and data analysis. Hence, findings of the study were also summarized. The study further evaluated, where literature against objectives were compared. Furthermore, the recommendations were divided into two sections, firstly, the recommendations for the local municipality and secondly, the recommendations for urban agricultural practitioners. Lastly, the study discussed the areas for further studies and limitation of the study.

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**APPENDIX A: INFORM CONSENT FORM**



**UNIVERSITY OF ZULULAND**

**Department of Anthropology and Development Studies**

Researcher: Mr Khulekani Sicelo Tembe (+27791430947)

Research Office: Ms Daniella Viljoen (+2735 9026 645)

Dear Respondent

I, Khulekani Sicelo Tembe, a Masters student in the Department of Anthropology and Development Studies at University of Zululand. The aim of the study is to assess how urban agriculture could be scaled-up for income generation purposes at Esikhawini Township. The results of this research project intend to contribute to the body of knowledge in reach agreement between opposing parties in case of community development and development in general. Your participation in this project is voluntary. You have a right to withdraw from or refuse to partake in the research project at any time without suffering negative consequences. There will no monetary gains from participating in this research project. Both anonymity and confidentiality of participants are guaranteed. If you have any questions or concerns about participating in this study, please contact me at the number listed above.

Sincerely

.....

Investigator's signature

...../...../..2017.....

Date

## ISIVUMELWANO SOKUZIMBANDAKANYA OCWANINGWENI



### INYUVESI YAKWAZULU

#### Umnyango weZamasiko neze Ntuthuko

ISIVUMELWANO SOKUZIMBANDAKANYA OCWANINGWENI

Umcwangingi: Mnu. Khulekani Sicelo Tembe (+27791430947)

Ihhovisi locwaningo: Mnu. Daniella Viljoen (+2735 9026 645)

Mine, Khulekani Sicelo Tembe, ngenza izifundo ze-Masters Emnyangweni we Zamasiko neze Ntuthuko eNyuvesi wakwaZulu. Inhloso yalolucwaningo ukubeka izindlela ezolimo zasemadolobheni zingathuthukisa ngazo kukwenza inzuzo, elokishini lasesikhawini. Imiphumela yocwaningo ngayo kohloswe ukuveza olunye ulwazi ngesivumelwano phakathi kwezinhlaka eziphikisonayo ngentuthuko yomphakathi kanye nentuthuko jikelele.

Unelungelo lokuhoxisa noma lokwala kuzimbandakanya kulolucwaningo ngaphandle kwemiphumela imibi. Ayikho inzuzo yenkokhelo ezothulakala ngokuzimbandakanya kwakho kulolucwaningo. Imininingwane yakho izogcinwa iyimfihlakalo phakathi kwakho nomcwangingi. Uma unemibuzo noma okunye ofisa kukwazi mayelana nocwaningo, ukhululeke kungishayela kumakhala ekhukhwini kulenombolo ebhalwe ngenhla. Kungakuthatha imizuzu elishumi (10) kuya kwengema shumi amabili (20) ugqwalisa uphendula imibuzo.

Ozithobayo

.....

...../...../20.....

Umcwangingi

Usuku

**CONSENT FORM**



**UNIVERSITY OF ZULULAND**

**Department of Anthropology and Development Studies**

Researcher: Mr Khulekani Sicelo Tembe (+27791430947)

Research Office: Ms Daniella Viljoen (+2735 9026 645)

**CONSENT**

I ..... (Full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I voluntarily participate in this research project. I am aware that I have a right to withdraw from the research project at any stage, should I feel so.

.....  
Signature of participant

...../...../2017.....



**ETHICAL CLEARANCE CERTIFICATE**

Certificate Number	UZREC 171110-030 PGM 2017/426						
Project Title	Assessing Strategies To Up-Scale Urban Agriculture For Income Generation At Esikhawini Township, Kwazulu-Natal						
Principal Researcher/ Investigator	Tembe K.S						
Supervisor and Co-supervisor	Mr. SS Nhlabathi						
Department	Development Studies						
Faculty	Arts						
Type of Risk	Medium risk – Desktop research						
Nature of Project	Honours/4 <sup>th</sup> Year		Master's	x	Doctoral		Departmental

The University of Zululand’s Research Ethics Committee (UZREC) hereby gives ethical approval in respect of the undertakings contained in the above-mentioned project. The Researcher may therefore commence with data collection as from the date of this Certificate, using the certificate number indicated above.

- Special conditions:
- (1) This certificate is valid for 2 years from the date of issue.
  - (2) Principal researcher must provide an annual report to the UZREC in the prescribed format [due date-01 July 2018]
  - (3) Principal researcher must submit a report at the end of project in respect of ethical compliance.
  - (4) The UZREC must be informed immediately of any material change in the conditions or undertakings mentioned in the documents that were presented to the meeting.

The UZREC wishes the researcher well in conducting research.

Professor Gideon De Wet  
 Chairperson: University Research Ethics Committee  
 Deputy Vice-Chancellor: Research & Innovation  
 16 November 2017

**CHAIRPERSON**  
**UNIVERSITY OF ZULULAND RESEARCH**  
**ETHICS COMMITTEE (UZREC)**  
 REG NO: UZREC 171110-30

**29-11-2017**

**RESEARCH & INNOVATION OFFICE**

## APPENDIX B: INTERVIEWS QUESTIONS

### The research interview questions for the urban agricultural practitioners

SECTION A: Please mark with an “X” in the relevant box.

#### Demography

1 Gender:

Male	01
Female	02
Other, specify	03

2 Age:

15-25	26-36	37-47	48-58	59+
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3 Employments:

Employed	01
Unemployed	02
Self employed	03
Other, specify	04

4 Education status

Primary	01
Matric	02
Tertiary	03
Other, specify	04

#### Questions of agricultural practice

5 Where are your agricultural gardens located?

Backyard	01
Swamps	02
Along N2 (Felixton)	03
Other, specify	04

6. How long have you been involved in urban agriculture?

1-5 years	01
6-10 years	02
11-15 years	03
16+ years	04

7. Size of agricultural plot.

1-5 hectors	01
6-10 Hectors	02
11+ Hectors	03
Other, specify	04

8. What kind of activity/s are involve in?

Goat keeping	01
Cow keeping	02
Chicken keeping	03
Backyard Garden	04
Community garden	05
Other, specify	06

9. What would have been motivated you to practice urban agriculture? Please explain.

.....  
.....

10. How would you describe your understanding of agricultural practice? Please explain.

.....  
.....

11 How do you describe the attitude of the community towards urban agriculture? Please explain.

.....  
.....

12. How would you describe the factors involved into the success or failure of urban agriculture?

.....  
.....

13. How would you describe your farming practice, in terms of subsistence/domestic use or commercial?

.....  
.....

14. How would you describe the availability of land or lack of influences your agricultural practise?

.....  
.....

15. What would you say about water accessibility affects your productivity? Please explain.

.....  
.....

16. How much would say you receive monthly for selling?

R100-R1000	01
R1000- R2000	02
2000-3000	03
3000- 4000	04
4000-5000	05
Other specify	06

17. What would be the reason for the agricultural type in 1.5 above?

.....  
.....

18. If commercial, who is your market?

.....  
.....

19. What is the market for your agricultural product? Please explain.

.....  
.....

20. How would you describe your market access?

.....  
.....

21. What would you say is the potential marketing strategy for urban agriculture?

.....  
.....

22. Does your agricultural practice involve employing other people?

.....  
.....

23. If yes, in 21 how many people do you employ?

.....  
.....

24. How much would you say you are paying them?

.....  
.....

**Questions of factors that impact in agriculture practice**

25. How would you describe the role of councillor in urban agriculture? Please explain.

.....  
.....

26. How would you describe the role of traditional leadership in urban agriculture? Please explain.

.....  
.....

27. What would you say are the impact of climate change in urban agriculture?

.....  
.....

**Up-scaling questions**

28. Do you envision the potential for upscaling urban agriculture? Yes or No.

.....  
.....

29. If yes in one above how do hope to upscale?

.....  
.....

30. Would you say urban agriculture is a potential agricultural business that could enhance township economy? Please explain.

.....  
.....

**Questions of Support**

31. Would you hope to be supported in urban agriculture? Please explain.

.....  
.....

32. If yes what support would you require? Please explain.

.....  
.....

**RESEARCH QUESTIONS FOR LED OFFICER AT uMHLATHUZE MUNICIPALITY**

1. Within the framework of local economic development how would you say urban agriculture features? Please explain.

.....  
.....

2. Would you view urban agriculture as having a role in the revitalization of the economy of the township of Esikhawini and the surrounding? Please explain.

.....  
.....

3. Do you have an idea of agricultural projects at Esikhawini and the surrounding? If yes, how would you describe the municipal relationship with them?

.....  
.....

4. Would you say the municipality has a policy that guides the practice of urban agriculture? Explain.

.....  
.....

5. How would you describe the potential economic potential of urban agriculture at Esikhawini and the surrounding?

.....  
.....

6. Would you say that zoning bylaws have an impact in urban agriculture at Esikhawini and the surrounding? Please explain.

.....  
.....

7. How would you describe the role of municipality in urban agriculture at Esikhawini and the surrounding? Please explain.

.....  
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