

# Coping with food poverty in cities: The case of urban agriculture in Glen Norah Township in Harare

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## Abstract

The focus of this study is on urban agriculture which is a common informal sector activity across most sub-Saharan African cities. Urban agriculture is more common among poor urban households, and acts as a poverty coping mechanism. Poor households often spend more than 60% of their income on food alone. The major thrust of this study was to understand the underlying mechanisms driving farming in cities. A mixed method research approach was adopted and data was collected from 103 households in Glen Norah Township in Harare, Zimbabwe through semi-structured interviews, questionnaires and observations. Arising from analysis of the data, the Urban Livelihoods Coping Model (ULCM) is proposed in order to explain the phenomenon of urban agriculture in African cities. This model acknowledges the fact that the socio-economic conditions and the socio-historical context of Zimbabwe and other African countries today is as a result of the influence of ‘Western leaning’ development policies influenced by modernization and associated theories. These theories combined with cultural factors and the impact of Structural Adjustment Policies resulted in the present situation where urban agriculture plays a critical role in the survival of the urban poor as a coping mechanism against food poverty. The ULCM ascribes the emergence of urban agriculture to necessity, ability and opportunity. The significance of this study is that it will contribute to understanding the socio-economic role of urban agriculture and how it can be factored into the urban planning systems of developing countries.

**Key words:** urban agriculture, food poverty, livelihoods, urban livelihoods coping model

## Introduction

The focus of this study is on urban agriculture which is a common informal sector activity across most sub-Saharan African cities. The main objective of this paper is to unravel the mechanisms driving urban agriculture in African cities. This research goes beyond urban agriculture as an outcome and examines the internal mechanisms and multiple factors that influence each other to produce urban agriculture. The objective observable factors that are meaningful to the residents of Glen Norah in their practice of urban agriculture have been closely observed. To achieve the objectives of this study the following questions were asked:

- What is the relationship between urban food poverty and urban agriculture?
- What are the normal food sources in Glen Norah?
- Why are urban inhabitants involved in urban agriculture?

- What is the socio-economic profile of people practicing urban agriculture and what strategies should be put in place to regularize urban agriculture?

The major characteristics of African cities are high urbanization and high levels of poverty. In most African countries urbanization is a process of transferring rural poverty to urban areas (Smit et al., 2001), the transfer being fuelled by limited employment opportunities in rural areas. The problem of limited employment opportunities also exists in urban areas, leading to high levels of poverty among the urban populace as well. The insufficiency of income pushes many urban households into informal sectors as a way of survival although this does not guarantee sufficient income despite the long hours spent in such informal activities (Stevens and Dietsche, 2008).

Urban agriculture forms a critical survival strategy among poor urban residents in developing countries. It plays a critical role in food access and supply among most urban residents. Urban agriculture is classified as

an informal sector activity as it is not controlled or monitored by government or included in the gross national product (GNP) calculations. This paper defines urban agriculture as any form of farming within city boundaries.

In the sub-Saharan African context, perpetual droughts and low agricultural production in rural areas cause difficulties for urban families when trying to access cheap and reliable supplies of food. This situation is compounded by the need for urban households to use cash to access most of their daily food requirements. Meikles (2002) describes the plight of urban households in the following statement: 'In urban areas, cash transactions are more common, poor urban people are more dependent on cash income and often they lack access to the common property resources, such as water and fuel that are available in rural areas.' Thus, although lack of cash is a problem in poor rural contexts, lack of cash and access to food production mechanisms is a problem in poor urban contexts.

Urban agriculture plays a vital role in improving the livelihoods of urban households that practice it. Various studies on urban livelihoods reveal that most poor urban households spend between 30 and 80% of their household income on food alone (Mougeot, 2006). Poor households are left with very little income to spare after factoring in the cost of food. This situation leaves poor households drowning in poverty as they are not able to satisfy other living expenses.

In spite of the significance of urban agriculture to most sub-Saharan African cities there is very little policy framework to support it as a form of a livelihood in most countries. In countries such as Zimbabwe, there is no official recognition of the contribution of urban agriculture to urban food supplies. Most sub-Saharan African countries view agriculture as a rural activity which must be confined to rural areas. Despite agriculture being practiced illegally for a long period in most African cities, most city administrators and national governments fail to acknowledge it. This has caused a haphazard development of farming in cities without any form of control or regulation. With increasing economic decline and poverty in African countries, urban agriculture has become an alternative to having to pay cash for increasingly expensive food in urban areas. This has led to an emerging muted acceptance of urban agriculture by authorities in some cities in Africa.

Various policies have positively affected the development of urban agriculture in Africa. These policies should be viewed as piecemeal as they do not address urban agriculture in its entirety. In Ghana, it was encouraged during a period of economic crisis through 'Operation Feed Yourself' in the 1990s (Boateng, 2002). In Cameroon, it was used as a way to cushion the masses during retrenchment. In Kenya, it was used for political expedience (Mougeot, 2005). A notable aspect of these policies is that they do not factor in agriculture in cities as being a permanent phenomenon. Previous research shows that each African city has a different

approach to and perspective on urban agriculture. The reasons for engaging in urban agriculture in Kenya are different from those in Zimbabwe, Togo, Cameroon and other African countries. In some cities urban agriculture has become an important source of food while in some cities this is not the case. It is practiced by the poor in some cities and by the middle class in other cities, one city cultivates commercial crops while the other practices subsistence farming. Therefore, there is need for a local examination to ascertain the mechanisms driving urban agriculture.

## Conceptual Framework

This study is guided by development theory and the sustainable livelihoods approach (SLA). In SLA, a livelihood is defined as the capabilities, assets and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from external stresses and shocks and maintain or enhance its capabilities and assets now and in the future (Benson and Twigg, 2007). The sustainable livelihood theory is mainly focused on how people organize their lives, on opportunity and on agency (De Haan, 2012). Capabilities refer to the ability of poor households to perform certain activities to satisfy their needs. Assets are resources available for poor households to build their livelihoods. Activities are strategies devised and employed by poor households to meet their needs. The SLA is used as a framework for analyzing interventions for development in communities. Urban agriculture can be explained under the SLA; however, the problem is that SLA focuses on the strengths of poor households rather than on how households became poor. The general critique of SLA is that it fails to go beyond assets and capabilities and explain what created unequal access to resources in the first place. In relation to urban agriculture in developing countries, it tends to focus too much on assets, capabilities and opportunities compared with the inequalities, constraints and structural causes of poverty which result in households resorting to urban agriculture as a form of livelihood (Kaag, 2004).

The SLA is relevant to understanding the coping strategies which communities adopt, but it is not a suitable approach if one wants to eradicate poverty in developing countries. Development interventions that only focus on assets, capabilities and opportunities without addressing the root cause of poverty in the communities are bound to fail because the focus will be on treating the symptoms without addressing the root cause of the symptoms. In most African countries, there is a tendency to declare agriculture in cities to be illegal and to ban it without understanding or addressing the root causes of farming in the cities. It has to be noted that assets and capabilities are predefined by the historical and economic context of unequal access to resources. If unequal access to resources

is addressed, the assets, capabilities and opportunities will also change. Poverty cannot only be addressed by what a person can do (Sen's 'capability approach'); it has to be understood that 'poverty is a multi-dimensional problem, involving not only economic but political, social, cultural and ecological aspects of survival' (Kaag, 2004). In order to address the shortcomings of SLA on inequalities it is imperative to understand how inequalities were created and how this influences the livelihoods of poor people practicing urban agriculture in Zimbabwe. Inequalities in Zimbabwe can be understood through development theory.

Development theories play a critical role in understanding urban agriculture in developing countries in the sense that they influenced the development policies implemented in these countries. The colonial history of most African countries not only resulted in the importation of Western political philosophy but also in the importation and implementation of economic development policies crafted by the Western countries. The overall focus of these policies was to increase economic growth in poor countries and use this as an avenue to alleviate or eradicate poverty. In developing countries, there is no automatic relationship between economic growth and poverty alleviation (Krantz, 2001). The major notable impact of these development policies is the high urbanization of developing countries which has not been complemented by high industrialization and high employment. Urbanization in the developed world does not correlate with poverty to the same level as in developing countries. In developing countries, industrialization and economic growth did not match up with urbanization, leading to high levels of unemployment and subsequent poverty in cities. This is the context within which the following theories of development are outlined, namely the context of broad imbalances within the global industrial economy of which urbanization and the cash economy are parts. It is also the context in which to understand the coping strategies of the local citizenry which was closely studied at Glen Norah.

The theory of modernization dictates that for economic development to take place four major processes should precede it, in sequence: modernization of technology, commercialization of agriculture, industrialization, and finally, urbanization (Long, 1977). Modernization theory also dictates that for developing countries to achieve development they should follow the path that was taken by developed countries. In an effort to increase development, countries such as Zimbabwe implemented economic development policies [Structural Adjustment Programs (SAPs)] prescribed by multi-lateral aid organizations.

The adoption of structural adjustment policies by the most African countries in the 1980s and 1990s resulted in increased poverty in these countries. In the case of Zimbabwe SAPs led to the removal of social safety nets (subsidies) which had cushioned poor households from

abject poverty. SAPs were adopted because conventional economic theory predicts that trade liberalization will increase productivity and wages, especially for tradable goods, thus expanding jobs and opportunities for people (Rakodi, 1997). Acceptance of SAPs was total surrender of the country's economic policy to multi-lateral aid organizations. The fact that social safety nets were removed resulted in increased inequalities and poverty among households.

The influence of SAPs ensured that critical issues such as land reform were not encouraged, on the pretext that as a country develops, rural to urban migration will increase, leading to depopulation of the rural areas. Even countries that have recently delved into such issues, such as South Africa, are falling into the same trap (Bernstein, 2009). The flaw in this perspective is that in most African countries high urbanization has not resulted in depopulation of rural areas as most of the people who moved to urban areas still maintain their rural homes.

Most developing countries failed to address the problem of unemployment and shortage of basic needs caused by high urbanization. As a survival strategy, urban residents engaged in informal activities, one of which is urban agriculture. According to Drakakis-Smith (2000) the informal sector is mainly focused on subsistence. In cities such as Accra, Nairobi, Harare, Lomé and other African cities, urban agriculture emerged as a subsistence method for cushioning urban residents against food poverty.

The major challenge faced by urban farmers in these cities is that urban agriculture was frowned upon by city authorities. There was no place for agriculture in cities, since under modernization the view is that agriculture should be confined to rural areas (Choguill, 1995). This view led to the development of militant urban policies which barred urban residents from practicing agriculture. In the case of Harare, the authorities slashed maize crops even during the years of drought (Drakakis-Smith et al., 1995). Restrictive policies on agriculture led to little investment in urban agriculture (Mougeot, 2006) as farmers could not take the risk of losing their meager income if authorities destroyed their crops. The modernization theoretical perspective viewed agriculture as a temporary phenomenon and backward activity with no place in cities (Mbiba, 1995). These views led to the omission of agriculture as a form of land use in urban planning in the cities. Research has shown that urban agriculture is not a temporary but a persistent phenomenon and has notable benefits in alleviating poverty and improving the food security of urban farmers.

The dependency model/theory emerged as a critique of modernization. It divides the economic situation in urban areas into two: the capitalists (who own all means of production) and the workers (proletariat). Marxist scholars (for instance Andre Gunder Frank) are the main proponents of this theory. They argued that the developed countries depended on resources from Third World countries

for their development. Developing countries become dependent satellites for developed countries, thereby losing effective control over their own economic development (Long, 1977). According to Frank (1978) developing countries' development was hampered by the colonial systems which established autonomous capitalists who defended the economic interests of the Western world.

The dependency model brings to the fore issues which are important in urban agriculture: the first is that it describes urban farmers as people who are employed but earn below living wages (semi-proletariat) which means that they have to augment their income by involving themselves in urban agriculture. This view can be supported by the study from Kenya where a higher percentage of those who are formally employed are urban farmers. Dependency theory is thus constituted by the income augmentation view of informal activities such as urban agriculture as well as surplus labor views, which is explained below.

The major critique of dependency theory on urban agriculture is that it fails to explain the involvement of middle-income earners in urban agriculture. It has to be stated that urban agriculture is only a part of a host of other economic activities being carried out by urban farmers. Other informal activities which produce income for urban farmers are rental income, vending, home industry jobs, etc. A deeper understanding of urban agriculture will not be achieved without understanding the rural–urban linkages which have a direct effect on urbanization and urban poverty. Concentrating on urban employment dynamics when trying to explain urban agriculture will not result in a clear understanding of the reasons behind practicing urban agriculture.

The labor surplus model is a complementary explanation of urban agriculture to the dependency model as hinted above. It bases its explanation on the relationship between unemployment and urbanization in the developing countries. High urbanization results in high supply of labor to the cities, leading to high unemployment. Lack of employment causes recent migrants to engage in subsistence urban agriculture. Urban agriculture is viewed as a short-term stopgap measure of adjustment to urban socio-economic problems (Freeman, 1993). The stopgap measure description of urban agriculture implies that urban agriculture is a temporary livelihood survival strategy which will be discontinued in the event of gaining full employment. Such a description perpetuates the impermanence syndrome—the belief that urban agriculture is not permanent (Boateng, 2002).

What the labor surplus model fails to explain is that evidence from research on urban agriculture (such as demonstrated in this study) shows that the majority of urban farmers are not recent migrants from the rural areas. Another challenge to the labor surplus model is that research in Zimbabwe, Kenya, Ghana, Cameroon and other sub-Saharan countries reveal that urban agriculture is not temporary but permanent (Obosu-Mensah, 1999).

It also fails to explain the prevalence of urban agriculture among employed urban residents.

The cultural lag model views urban agriculture as a cultural practice imported to the cities from the rural areas (Mbiba, 1995). It draws mainly from the labor surplus model, suggesting that unemployed migrants take up agriculture as it is the only activity in which they are skilled (Obosu-Mensah, 1999). The cultural lag model encompasses all socio-economic groups in the urban areas, from the vulnerable to middle-income earners. Mbiba (2000) further explained the reason why women form the largest percentage of urban farmers, saying 'women in cities are responsible for food production to the same extent as women in the rural areas'. Grossman (1996) explained that most of the urban migrants have a perception that cities are their hunting ground and their rural home remains home despite their living in the city.

The major critique of this model is that it assumes that all urban farmers have a rural background, which is not true in some cases. Even if they have a rural background, this does not mean that they were involved in farming in the rural areas. The other critique of this model is that urban residents do not share the same culture. Most city residents have diverse cultural background. In Harare, research conducted by Mbiba (1995) shows that not all urban farmers come from rural areas. The cultural lag model cannot, on its own, explain the prevalence of urban agriculture in developing world cities. The notion of cultural lag also insinuates that agriculture is backward. People may have different cultural orientations to subsistence, including the division of labor between formal and informal economies, as well as men and women. However, this does not need to be viewed as lag.

The conceptual framework shows that several factors affect the development of agriculture in developing countries' cities. No single current model fully explains how urban agriculture manifests itself in cities. Other livelihood models, such as the capability approach (Sen, 1985) and sustainable livelihood approach (Chambers and Conway, 1992), play a critical role in understanding the broader context of livelihoods in community but do not explain the mechanisms behind the emergence of urban agriculture. As discussed earlier, development theories provide the historical context and explain why communities are impoverished but do not delve into why communities are engaging in agriculture in cities.

Based on the results of this study, the Urban Livelihood Coping Model (ULCM) is proposed to address the shortcomings of the capabilities approach and the sustainable livelihood approach and other development theories in explaining urban agriculture. The proposed model explains the preconditions that result in urban agriculture being adopted as a survival strategy or coping mechanism. The model is based on the principles of necessity, ability and opportunity. The model will be described and explained in detail in the later sections of this paper.



## Glen Norah Context and Background

The township of Glen Norah is located in Harare, which is the largest city in Zimbabwe. The racial composition of the township is predominantly black. It is situated on the southern outskirts of the city of Harare. Glen Norah was established in 1971 in response to high urbanization and the resulting shortage of housing (Potts and Mutambirwa, 1991). High rural to urban migration was mainly caused by the intensive liberation war which was raging at that time in the rural areas and migrants seeking employment. The township of Glen Norah was established as a site and service scheme where the government provided basic two roomed core houses which were supposed to be completed by the owner within a stipulated period (Potts and Mutambirwa, 1991). Some of the houses were employer-tied to their married employees. The majority of the inhabitants are mainly poor urban working class people who augment their salaries by renting out extra rooms from their houses. Glen Norah is divided into three sections A, B and C. Section A is the oldest and C the latest. The total population for Glen Norah in 2012 was 95,856 with a total number of households of 25,276.

The major reason for choosing Glen Norah township for research on urban agriculture is that it covers the two most important aspects of urban agriculture, namely, 'on-plot' and 'off-plot' cultivation. The township also reflects most of the characteristics of Harare's townships. The results of this paper should be understood in the context of more than a decade of economic decay in Zimbabwe. High levels of unemployment and poverty are prevalent in both urban and rural areas.

## Research Methods

Previous research on urban agriculture in Zimbabwe focused on quantifying the amount of land under cultivation. Most of the research outputs were accomplished through snowball sampling techniques and interviewing farmers in the field. That kind of data does not lead to understanding of the mechanisms leading to the development of agriculture in cities and to gauging the extent of urban agriculture among urban households. The research approach of critical realism adopted in this study provided an opportunity to make valuable observations on the socio-economic and cultural context of urban agriculture.

Critical realists want to find out what makes things happen the way they do and what allows or forces change (Kitchen and Tate, 2000). The main objectives of this research are to gain an in-depth understanding of the unexamined and unanswered questions in urban agriculture. Critical realism stresses the fact that for scientific investigation to be authentic the object of investigation must be examined for real, internal mechanisms and

multiple factors that influence each other to produce particular outcomes (Graham, 2005).

In an attempt to achieve the objectives of this research, a mixed method approach was adopted. The quantitative aspect of the research was to ascertain the prevalence of urban agriculture and gauge the demographic, income and expenditure patterns of the residents of Glen Norah. The sample for the quantitative component was 105 households. Probability and purposive sampling techniques were used to sample households as units of analysis. Multistage cluster sampling was applied first to get a representative sample and sequential sampling was applied later to select cases based on their relevance to the research questions.

The initial sampling strategy of this research was to divide Glen Norah into sections A, B and C. The division was made in order to get a representative sample from the earliest sections and the latest sections of Glen Norah. Glen Norah A was the first section to be established in 1971. Glen Norah C is the latest, with some houses still under construction. The target was 35 households from each section. After splitting the area into sections they were further divided into transects where households were picked up at a count of 10. The selection of households was aided by the grid pattern of the streets. The first instrument of data collection was a questionnaire which was distributed to those households that were selected. One household each in Glen Norah B and C did not return the questionnaire.

The qualitative aspect of the research was mainly to understand the context within which urban agriculture was being practiced. Households for semi-structured inquiry were selected from the 103 households who had completed the questionnaire. A question on whether households were interested in a follow-up interview was inserted into the questionnaire. Those households who responded positively (67) were selected for in-depth semi-structured inquiry. During the selection of the qualitative sample purposive sampling was used, taking into cognizance the following factors: gender, socio-economic status, location of the household and the relevance of the questionnaire responses for further probing. About 20 (response saturation point) semi-structured interviews were conducted with households practicing urban agriculture. Observations also played a critical role in the general understanding of the dynamics of farming and the socio-economic context in Glen Norah.

## Results and Discussion

Urban agriculture in Glen Norah is in the form of on-plot cultivation and off-plot cultivation. On-plot cultivation is mainly conducted by households who own their houses within their residential demarcated areas and the main types of crops produced are vegetables. Off-plot cultivation is mainly conducted on land which does not belong

to the farmers and is therefore regarded as illegal. Access to this land is difficult and requires connections with farmers who already have access to it. Crops that mainly require little care are grown on off-plots.

The sampling procedure of this research was different from other studies conducted on urban agriculture in Harare and other African countries. Instead of sampling urban farmers on their farming plots, this research sampled households at their homes. The sampling procedure targeted resident households of Glen Norah not urban farmers only. The major reason for using this sampling procedure was to get the general extent and prevalence of urban agriculture in Glen Norah. A total sample of 105 households was randomly selected, of which 103 completed questionnaires. Of the 103 responses, 76 (73.8%) confirmed that they are practicing urban agriculture in Glen Norah. Table 1 shows the percentages of urban farmers and non-farmers.

The findings in this study regarding the percentage of households that are urban farmers needs to be viewed in the context that previous research sampling techniques and procedures focused on sampling farmers in their fields, thereby producing no data to show the extent of urban agriculture in Harare. The absence of such data from previous research poses challenges when trying to gauge the extent of the increase of urban agriculture over a period in Harare. With more than 52% of households in this research having been involved in urban agriculture for more than 15 years, it is evident that urban agriculture has been a persistent feature in Glen Norah. The data collected during this study shows that urban agriculture did not start because of the current economic crisis.

The fact that 74% of respondents in Glen Norah confirmed that they are urban farmers, shows that farming is widely practiced in Glen Norah. The high number of farmers with more than 15 years of farming dispels the notion that urban agriculture is a temporary phenomenon that will vanish with improvements in incomes. In Accra, Nairobi, Kampala and other western, central and eastern African cities, urban agriculture has been recognized as a persistent activity (Mougeot, 2005). Based on the evidence of this study it has to be accepted that in Glen Norah, urban agriculture is widely practiced and is a persistent feature of economic livelihood strategies.

Table 2 shows the number of years of which households have been farming in Harare.

Table 2 shows that 70% of households have been involved in urban agriculture for more than 10 years, which is in line with research conducted by Freeman (1993) in Nairobi where 60% of the farmers have been practicing urban agriculture in the city for more than 10 years. Table 2 shows that only 9% of the farmers had been practicing urban agriculture for less than 1 year. This brings a different perspective to the notion that urban agriculture is mainly conducted by recent migrants

**Table 1.** Urban agriculture farmers and non-farmers.

	Frequency	Percent	Valid percent	Cumulative percent
Urban farmers	76	73.8	73.8	73.8
Non-farmers	27	26.2	26.2	100.0
Total	103	100.0	100.0	

**Table 2.** Number of years practicing urban agriculture.

Years of farming	Frequency	Percent	Cumulative percent
Less than 1 year	7	9.2	9.2
1–5 years	10	13.2	22.4
6–10 years	5	6.6	28.9
11–15 years	14	18.4	47.4
Above 15 years	40	52.6	100.0
Total	76	100.0	

from rural areas. However, it is important to take note of the economic downturn in Zimbabwe when contextualizing the number of years households have been involved in farming.

### Non-farmers

As can be seen from Table 3, data from this study indicates that 27 (26.2%) of the respondents were not practicing urban agriculture. The main reason provided for why they were not practicing urban agriculture was lack of space to do so. This reveals that the zeal to be urban farmers is present but the challenge is access to land.

Space or land for farming is mainly determined by access to housing in urban areas. Most non-farmers are willing to practice farming but the limiting factor is lack of land. Access to land provides an opportunity for urban residents to practice farming. Without access to land, farming cannot take place in the cities. In Harare, access to land is encouraged by the city planning model, that is, the open space model. There are acres of land space between clusters of houses in Harare. The open spaces are mainly reserved for future developments but in some cases these developments are taking very long to materialize. Most of the off-plot cultivation is conducted in these open spaces. The way urban residents access these open spaces is through self-allocation where the house owners around the open spaces claim ownership to the land. Residents who do not own houses find it difficult to gain access.

### Origins of urban farmers

In order to understand the dynamics of urban agriculture it is relevant to understand the background of urban

**Table 3.** Reasons for not practicing urban agriculture.

Reason for not practicing urban agriculture	Frequency	Percentage (%)
Not enough time	3	11
Depend on rural food	1	3.7
Do not want to farm	1	3.7
No space	21	77.9
Land repossessed	1	3.7
Total	27	100

farmers. Of the urban farmers surveyed, 36.8% originate from urban areas and 63.2% from rural areas. Rural–urban linkage plays a critical role in understanding urban agriculture. As much as urbanization is defined as the influence of urban areas on rural areas (Rakodi, 2002), rural areas also influence the socio-economic activities of urban areas in several ways, one of which is agriculture. In this case, it can be said that the socio-economic influence of rural areas on urban areas takes the form of ‘ruralization’ of urban areas. Given the fact that in Zimbabwe the major economic activity in rural areas is subsistence agriculture where families grow food for family consumption it is also expected that when these households move to urban areas they resort to urban agriculture as a survival strategy, as they find it difficult to adjust to a situation where they have to buy food. Table 4 shows the origins of urban farmers.

An interesting observation arising from this research study is that those farmers who were born in urban areas were also exposed to farming, as their parents were also urban farmers. Most of the urban farmers agreed that the rural areas had an important contribution to urban agriculture as they learnt farming in the rural areas. The majority (71.1%) of participant urban farmers attested to the fact that they learnt farming in the rural areas. It is important to note that the 71.1% are not recent migrants from the rural areas but the majority of them still maintain a rural home. In addition, 28.9% learnt farming in the urban areas since they were born in urban areas. This shows the importance of skills in urban agriculture. Another important aspect in learning agriculture in Zimbabwe is that it is a requirement to take a practical subject in high school, such as agriculture, sewing etc., and most of the schools, because of lack of resources, prefer to offer agriculture. In urban areas, it is likely that when households are faced with food shortage their port of call is to practice farming, since most of them believe the statement made by one of the participants: ‘why should we buy food if we can produce it!’

### *Impact of household size on urban agriculture*

The concept of household is very critical in understanding agriculture in urban areas. A household is loosely defined

**Table 4.** Origins of urban farmers.

Origin of farmer	Frequency	Percent	Valid percent	Cumulative percent
Urban	28	36.8	36.8	36.8
Rural	48	63.2	63.2	100.0
Total	76	100.0	100.0	

as a group of individuals living and eating together. Previous urban studies reveal that the larger the household the higher the demand for survival resources. Large households are more likely to be involved in urban agriculture than smaller households (Obosu-Mensah, 1999). The households in Glen Norah range from 1 to 12 members per household. Table 5 shows the household sizes for Glen Norah.

Past research conducted in urban areas has noted the trend that the larger the household, the poorer the household (Rakodi, 1998). In Glen Norah, the average number of members per household amongst participants in this study was 3.82. Farming households have an average size of 4.11 members per household, whilst non-farming households have an average of 3 members per household. Inferences from the averages show that the larger the household, the higher the involvement of the household in urban agriculture. Large households spend more on food and other related expenses, leading to a huge strain on their budgets. This creates the necessity to improve and secure the household’s access to food in the urban areas through urban agriculture.

One observation made in the field is of urbanization dynamics in relation to urban agriculture. Smaller households are not smaller because they are just a young family; most of the smaller households are in fact part of a larger household that is split into two. One part of the household is in the city and the other is in the rural areas. Urbanization in Glen Norah does not occur *en masse*. Initially only the member of the household who has the chance to get employment migrates to the city while the other members of the family remain in the rural areas. With access to employment, houses and better income the other members of the household start to migrate so that they can join the other members in the city. At the beginning, the migration might be seasonal until there is security of housing and employment. There is no complete migration from rural areas in most situations; the rural home remains functional and thriving. Most of the households interviewed believe that urban areas are not their permanent homes but are an economic hunting ground. The rural home is kept as a socio-economic safety net to be used in retirement or unemployment. Most pensioner farmers without rural homes wished for land in the rural areas where they can practice their farming until death. This phenomenon was described in the Eastern Cape in South Africa as

**Table 5.** Household sizes for urban farmers.

	Frequency	Percent	Valid percent	Cumulative percent
Less than two members	4	5.3	5.3	5.3
Three members	7	9.2	9.2	14.5
Four members	18	23.7	23.7	38.2
Five members	17	22.4	22.4	60.5
Six members	8	10.5	10.5	71.1
Above 6	22	28.9	28.9	100.0
Total	76	100.0	100.0	

‘multiple homestead households’ by de Wet and Holbrook (de Wet and Holbrook, 1997).

### Quitting urban agriculture

The question of quitting urban agriculture is an emotional one in Glen Norah. Most of the farmers interviewed viewed urban agriculture as their way of life; they are not even contemplating quitting urban agriculture. Figure 1 shows the factors which might lead farmers to quit urban agriculture.

In most cases, farmers could not find a reason why they would leave urban agriculture. When quizzed on what could cause them to stop farming, they highlighted two major issues, namely, illness (status of incapacity) and improved income. Only 14.4% of participants said that they are prepared to quit urban agriculture. With 85.5% not prepared to quit urban agriculture, it shows that urban agriculture is a persistent feature in Glen Norah. When one farmer was asked whether he will ever quit urban agriculture he replied with a rhetorical question: ‘If I quit farming how will I feed my family?’

To most urban residents surveyed quitting was not an option. The reluctance of farmers to quit farming underlines the importance of urban agriculture in Glen Norah. However, for a new generation which is well versed in the Western way of life, urban agriculture may disappear, as illustrated by this farmer: ‘There is no way people will quit farming in the cities. I got a daughter here but she doesn’t want to help me in the field saying it’s not cool to practise farming in the city. When she is married she will start experiencing income shortages, then that’s when she will discover that urban agriculture is important.’

Quitting urban agriculture completely is impossible given the typology of agriculture in Glen Norah. Farmers can be forced to quit off-plot cultivation through shortage of land caused by the city of Harare developing open spaces for other land uses. On-plot cultivation is difficult for farmers to quit since they own the land on which they are farming. If farmers were to depend on on-plot cultivation only, the benefits of urban agriculture would be drastically reduced.

### Why farming in the city

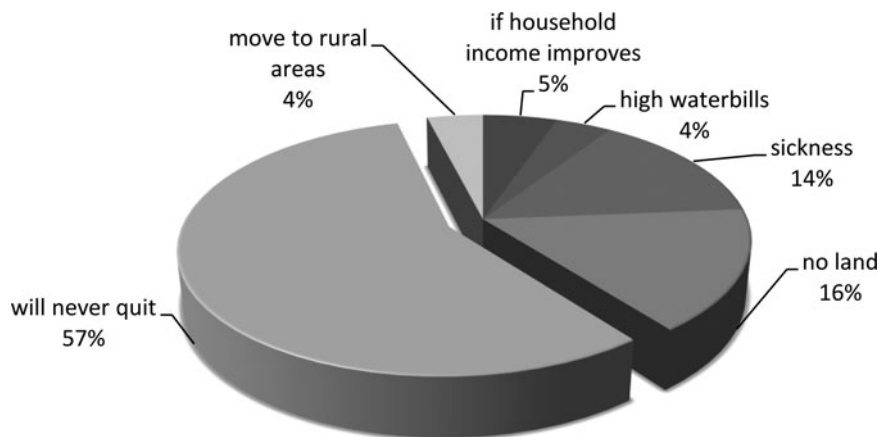
Despite the intensity of urban agriculture across African cities the major question is: why do city dwellers involve themselves in agriculture instead of other informal activities? The main objective of this research was to explore and describe why people involve themselves in urban agriculture. In the case of Glen Norah, urban agriculture is a community initiative and does not involve the authorities and other organizations. As a community initiative, there are underlying reasons why urban households are involved in urban agriculture. The planners of the city of Harare did not factor in agriculture as a form of land use. Like most former colonial cities in Africa, Harare was designed as an export center for use as a processing center to facilitate the exportation of rural produce to Western countries (Drakakis-Smith, 1992). The city planning model was similar to that of the European cities. Agriculture was frowned upon, with slashing and destruction of crops taking place during the colonial and post-colonial period. The official position on urban agriculture was that farming belongs to the rural areas not cities. At the present moment slashing has stopped but the legal framework for slashing is still intact.

Faced with such adversity from authorities most households in Harare found themselves involved in illegal urban agriculture. There are several reasons, according to the farmers, for why they are involved in agriculture. The reasons are as follows: augmenting their income, cultural beliefs, need for fresh vegetables, copying other farmers and the influence of rural areas. Of the above reasons the underlying factor is that urban agriculture provides urban families with a source of livelihood. The importance of urban agriculture increases with an increase in poverty in urban areas, with some of the farmers taking urban agriculture as their only remaining guarantee of access to food in the city.

Farmers who started farming in the 1970s and 1980s attested to the fact that urban agriculture was not as crucial then as it is today. In the past, it was mainly to satisfy their nostalgic needs for green crops (*zhezha*) and green maize, which are best consumed fresh. One farmer explained this scenario: ‘..... I started farming because I wanted a supply of green maize, then we used to say we want maize meal from the shops because it was whiter than the maize, which we produce... now we are struggling to get maize meal. We are even limiting the amount of green mielies we eat so that we can have more maize meal.’

From this study it is evident that the relationship between urban agriculture and economic decline is that as economic decline increases informal activities also increase (in this case urban agriculture). Most African countries have experienced a decrease in income (wages and salaries). A decrease in income will automatically reduce the household chances of accessing food. In the case of Zimbabwe, the adoption of the Economic





**Figure 1.** Conditions for quitting urban agriculture.

Structural Adjustment Program (ESAP) in the early 1990s resulted in the removal of subsidies from food and other basic services and goods (Mlambo, 1997). This meant that most households had to spend more on survival necessities. The situation did not end there, because at the same time as the removal of subsidies, price controls and increased inflation, wages dropped, leading to increased poverty. Households found themselves with high survival costs and depreciating incomes (Drakakis-Smith et al., 1995). Households turned to informal activities for generating income, one of which was urban agriculture. Economic decline creates the necessity for households to practice urban agriculture.

### *Culture influence on urban agriculture*

The influence of cultural factors on urban agriculture can be summarized by what one farmer said during an interview: ‘There is no livelihood which doesn’t come from the soil; whatever you eat comes from the soil through hard work.’

This was repeated during most of the interviews carried out in Glen Norah. This Shona cultural view was coined in the rural areas, where there is an emphasis on agriculture as a way of livelihood. Most urban dwellers at some time once stayed in the rural areas and have been influenced by the rural way of life where almost all foodstuffs come from farming. Urban dwellers are coming from a situation where they were producing food for themselves in the rural areas to a situation where they have to purchase whatever they eat in the city. In terms of shortages, this results in urban residents resorting to producing food themselves. The situation has led to a transformation from a cashless economy to a cash economy that has limits in formal capacity. Once residents are pushed into the informal economy it becomes saturated to the point that it loses its profitability, so the only option that is viable is agriculture.

### *Cost of food and food shortages*

As explained earlier, the cost of food influences the practice of urban agriculture, with most poor households spending 30–80% of their income on food (Mougeot, 2006). It is imperative for them to start practicing urban agriculture so that they save cash for other immediate expenses. Most believe that food shortages are responsible for the growth of urban agriculture in Harare. Food shortages in Harare started with the onset of land reform in Zimbabwe in 2000. Commercial farm disruptions resulted in low production on the farms which led to low supply of food to the retailers responsible for supplying food in urban areas. With low supply and high demand for food in cities, the price of most foodstuffs went up because of the impact of ESAP. In an attempt to make food affordable to the urban and rural poor, the government introduced price controls on basic foodstuffs (Potts and Mutambirwa, 1998). This resulted in most producers stopping production of those basic foodstuffs. Where the production of these foodstuffs was still going on, whatever was produced was being sold on the black market where the price was more than double the gazetted price. Most urban residents with access to basic foodstuffs were involved in open air vending.

Faced with such a situation where a household had access to income but was not able to access food from normal sources like shops, most households found themselves being urban farmers or intensifying their production of crops and livestock in urban areas. One farmer explained the situation: ‘We used to stand in a queue for more than 5 to 7 hours so that we can purchase a packet of sugar or bread. We could not bring in maize from rural areas because the police were impounding it at roadblocks. The situation was so severe to the extent that even the hotels were selling boiled maize.’

Because of the food shortages, most of the families turned to rural areas for the supply of staple foods like maize, meat and other essential foodstuffs. Some of the

households were getting the maize from rural areas so they could resell it on the urban black market. In an attempt to prevent the black market the government reactivated a law which gave sole responsibility of buying and selling grain crops to a government parastatal, the Grain Marketing Board (Bratton, 1987). Any grain crops found being transported from rural to urban areas were to be impounded. This caused severe food shortages in cities and blocked off the normal food sources. The shortages created the necessity for urban residents to produce their own food in urban areas. The cost of food and the shortages of it caused an increase in the importance of urban agriculture amongst urban households.

### *Housing inequality and urban agriculture*

The status of the house in which the household lives has a bearing on whether a family practices urban agriculture or not. Previous literature on urban agriculture stated that farming in the cities was practiced by recent migrants who do not own houses in the city and that they are using urban agriculture as a way of gaining an economic foothold in urban areas. In Glen Norah, housing acts as the key to access land for agriculture in most cases. Housing schemes provided by the local municipality and government stopped some years ago, leading to a backlog of more than 500,000 housing units (The Zimbabwean, 2011). This implies that now for an individual to own a house in Harare they will have to purchase land and build the house themselves. Because of housing shortages, most households with houses prefer subletting extra rooms. This brings in extra income that is guaranteed.

Of the 103 households sampled, 69 own a house, 26 are tenants and eight are living in family houses. The relationship between owning a house and practicing urban agriculture is shown in Table 6.

Table 6 shows that of the total number of house owners 76.3% are practicing urban agriculture, and only 15.8% of farmers are tenants. From the interviews conducted with non-farmers it is evident that they are not able to practice farming because they do not have access to land for urban agriculture. When asked how those farming gained access to land the response was that if you own a house you could practice farming on your own plot and on land which is immediately around your house. The major wish of tenants is not to access land but to access houses; by accessing houses they will be able to practice on-plot cultivation and gain access to off-plot cultivation. Tenants who are interested in owning plots for farming are at the mercy of their property owners who can offer land. The trend that is evident from this study is that households with houses are more likely to be involved in urban agriculture as they have access to land. As for tenants, it is difficult to practice urban agriculture because they lack access to land, which perpetuates inequality.

**Table 6.** Housing and urban agriculture in Glen Norah.

Status of the house	Urban agriculture		Total
	Farmers	Non-farmers	
Own house	58 (76.3%)	11 (40.7%)	69 (67%)
Lodger/tenant	12 (15.8%)	14 (51.9%)	26 (25.2%)
Family house	6 (7.9%)	2 (7.4%)	8 (7.8%)
Total	76 (100%)	27 (100%)	103

### **Conclusion and Theoretical Implications**

This study has revealed that there is a relationship between urban food poverty and urban agriculture in Glen Norah. An increase in food poverty results in an increase and intensity of farming in Glen Norah. However, this is not a simple relationship; there are several factors which influence the relationship. These factors are explained below in the UCLM framework. The UCLM framework summarizes the results of the research questions regarding the sources of food, socio-economic status of farmers and what causes urban residents to practice urban agriculture.

Several factors affect the development of urban agriculture in developing countries' cities. Currently no single model fully explains how urban agriculture manifests itself in cities. Livelihood models such as the capability approach (Sen, 1985) and SLA (Chambers and Conway, 1992) play a critical role in understanding the broader context of livelihoods in community. In this research study, the challenge was to explain the localized intimate relationships of sustainability in the urban context with special reference to urban agriculture. For this purpose, the researcher developed a model to explain why agriculture is being practiced in cities. The model is termed the Urban Livelihood Coping Model. The model explains the preconditions that result in urban agriculture being adopted as a survival strategy or coping mechanism.

The UCLM is based on the principles used by Choguill (1995) to explain the existence of urban agriculture: necessity, ability and opportunity. Necessity can be defined as a state of unfulfilled requirements and the pursuit of filling that void. Unemployment and lower wages lead to poverty in cities as city livelihoods depend on the availability of cash income (Rakodi, 2002). Poverty is the first initiator of urban agriculture whereby families are trying to reduce their expenditure on food (which is about 30%–80% of their total household income in most developing world cities). The status of poverty is 'characterized not only by lack of assets and inability to accumulate a portfolio of them, but also by a lack of choice of alternative coping strategies. The poorest and vulnerable households in urban areas are forced to adopt strategies that enable them to survive

but not to improve their welfare' (Rakodi, 2002). In this situation, urban agriculture is adopted as a coping mechanism.

Ability in this case means the capacity to practice urban agriculture. Sen (1985) describes the ability as being able to perform certain basic functions. The ability of families to be involved in urban agriculture depends on factors such as availability of labor, rural background, skills, education and cultural factors. Historically and culturally African households are patriarchal in nature. This social structure means that the husband is normally expected to be working formally and the wife should stay at home and cater for the upbringing of the children. Once rural families migrate to urban, it means that the wife is released from subsistence agriculture duties. This creates the availability of labor, which might explain why the majority of urban farmers are women.

Opportunity in this case can be defined as the set of circumstances that makes it possible to practice urban agriculture. Opportunity comes in the form of access to land in cities. This comes in two forms: ownership of official residential plots and access to fallow land around residential areas or on the outskirts of cities. The favorable climate of Harare encourages urban agriculture as wet summers reduce the need for watering crops. Opportunity is essential for urban agriculture because without access to land, even if the necessity and ability are there, it will be difficult to practice urban agriculture.

The academic buzz around the SLA is relevant in this analysis. The SLA tends to look at development at a local level in terms of capabilities (and 'capitals'). The ULCM seeks to acknowledge the importance of ability and opportunity at a local level, but also acknowledges the prescriptive conditions of urban existence that make urban agriculture a necessity. Thus elements of socio-cultural and material capacity are combined with broader economic trends in explaining the form and extent of urban agriculture.

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