

# The Contribution of Women to Food Security and Livelihoods through Urban Agriculture in the City of Bulawayo, Zimbabwe

Fungai H. Mudzengerere

*National University of Science and Technology  
Faculty of the Built Environment,  
P. O. Box AC 939 Ascot, Bulawayo  
ZIMBABWE*

[fungai.mudzengerere@nust.ac.zw](mailto:fungai.mudzengerere@nust.ac.zw) or [fmudzengerere@gmail.com](mailto:fmudzengerere@gmail.com)

## Abstract

This research explores the contribution, which is made by women to food security and livelihoods of families in the city of Bulawayo through urban agriculture. Women constitute the marginalised group in human society and their contribution to the society and well-being is slowly being realised as evidenced by campaigns to put them in positions of power. Rapid urbanization in Zimbabwe coupled with the economic crisis, which rocked the country between 2000 and 2012 had resulted in unemployment, which in turn created poverty and food shortages. In this research, primary data was collected through observations and interviews from people who practice urban agriculture in the city of Bulawayo. Interviews of key informants were carried out with the Bulawayo City Council staff members, government officials and other stakeholders who are concerned with the practice of urban agriculture in the city. Random and purposive sampling procedures were chosen to select residents who practice urban farming and stakeholders for interviews. Secondary data sources were used to review literature on the practice of agriculture in African cities of Accra in Uganda and Nairobi in Kenya. Responses were coded and analysed quantitatively, using statistical package SPSS. The research showed that women practice urban agriculture more than their male counterparts as they play a crucial role of ensuring food security at the household level. The research also found out that it is the women who make decisions on the types of crops to be grown, time of harvesting the crops and the market to which they can sell their surplus produce. In efforts to contribute to the food security, women usually face challenges of land ownership, money to finance their agricultural pursuits and to secure markets to sell their produce. These challenges tend to negatively affect their agricultural activities. It is recommended in this paper that if women are supported by providing them with land and money, they can actually positively contribute to the livelihoods of urban families through practicing urban farming. However, while this research has focused on the contribution of women to the livelihoods of families through urban farming, further research can look into the capitalisation of sewage to promote urban agriculture in the city of Bulawayo.

**Keywords:** Urban agriculture, livelihoods, women, food security, employment, city council

## 1. INTRODUCTION

### 1.1. Background

Rapid urbanization in many developing countries has resulted in food shortages, which has forced their city residents to engage in urban agriculture as a way of sustaining their lives (UNDP, 1996). Urban agriculture is the cultivation of crops and rearing of animals within the perimeters and open spaces of the city (Mouget, 2005; Sithole et al., 2012). It is one of

the best strategies that have been adopted by the urban poor to mitigate hunger and poverty. Generally, the majority of people who practice urban farming are poor. Given that farming is usually carried out on open spaces, public lands, along roads, streams and railway lines, this has limited the use of modern technology in urban farming operations. There are however, several

benefits which are associated with urban agriculture such as food security and income generation (Ruel, 2003).

In Sub-Saharan cities, population growth has resulted in unemployment and poverty (Beall and Fox, 2007). In Zimbabwe, urban agriculture was accelerated by the land reform programme, and the political instability, which resulted in the closure of industries leaving many people jobless (Kutiwa et al., 2010). The land reform programme empowered the ordinary Zimbabweans by allocation of land for farming. However, while this was the case, urban agriculture has been and is still considered as illegal in many Zimbabwean cities. Given this view, City Council officials have, sometimes destroyed crops, which in their view affect the urban environment. This demoralizes the farmers who regard farming in urban areas as wasted efforts. Thus, urban areas remain affected on food security as the food handouts by Non Governmental Organisations are literally meant for the rural poor who have little economic activities whilst the urban poor are neglected (Wekwete 1989; World Vision Report 2003; Mougeot, 2005).

The World Bank (2000) reported that about 290 million Africans survive on less than US\$1 per day with Sub- Sahara Africa being the most affected region. Most countries in this region are on the drive of finding ways to improve food production. According to Obasanjo (2002), food security is the first step in poverty eradication. Tansa (1996) argues that in Africa, low income households spend up to 90% of their income on

food. Thus, urban agriculture helps to increase the disposable income as well as reducing the costs of buying food. UNDP (1996), reported that 200 million people were practicing urban agriculture whilst 150 million were employed on full time basis in 1995, and these figures have been increasing ever since. According to Cofie et al., (2005), in Accra, the capital city of Ghana, fishing and other forms of urban agriculture are the major economic activities. With over 50% of the world population living in the cities, the number of poor urban dwellers is increasing, which requires that food security is also improved through urban farming (United Nations Habitat, 2007). According to UNDP (2003), by 2020, one third of the world's population will be having no food security, and this will affect mainly the poor in developing countries. In some European and Asian countries such France and China respectively, urban agriculture is done through the use of modern technologies like greenhouses and irrigation (Feifei et al., 2007). In 2000, the United Nations Millennium Summit spearheaded the Millennium Development Goals (MDGs), whose general objective was to eradicate poverty and improve food security. It can thus be argued in this paper that urban agriculture is in a way going an extra mile in addressing the Millennium Development Goals as many governments are working tirelessly to eradicate poverty through promotion of urban agriculture (Gündel, 2006; FAO, 1986 and UNDP, 2003). In Africa, over 70% of urban population is engaged in urban agriculture so as to improve on food security (Bryld, 2003).

### 1.2. Objectives of the Study

The objectives of the study were as follows:

- a) To evaluate the contribution of urban agriculture to the livelihoods of people in the city of Bulawayo.
- b) To find out the extent to which women contribute to urban agriculture in Bulawayo.
- c) To analyse the policy framework of urban agriculture in the city of Bulawayo.
- d) To identify the challenges faced by urban farmers in the city of Bulawayo.

### 1.3. Study Area

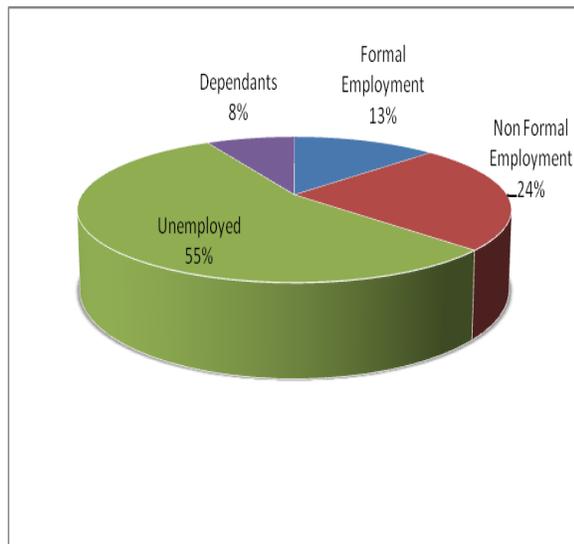
The research was conducted in Bulawayo's western high density suburbs of Nketa, Pumula and Emganwini. These locations are situated at the margins of the city, and they share boundaries with areas where urban agriculture is generally practiced. Bulawayo is the country's second largest city after Harare and it is located in agricultural region 1V and V. The region is characterized by high temperatures and very low rainfall, which is around 450mm (Vincent and Thomas, 1960). During the early 1980s, the city of Bulawayo was dubbed the industrial hub of the country and this had created employment for its residents. However, the closure of industries during the 2000 to 2010 period as a result of the economic meltdown in Zimbabwe left the majority of people jobless. This has affected their livelihoods and food security. Many urban dwellers have thus, resorted to urban agriculture for survival.

## 2. METHODOLOGY

Primary and secondary data sources were used in this research. Primary data was obtained through observations and interviews carried out with urban farmers, staff members from the BCC, the Ministry of Local Government and Public Works, and from representatives of urban farmers in the Bulawayo. Secondary data was obtained from government records in libraries while internet sources were used to obtain data on urban farming in other cities in the country, southern African region and around the world. Simple random sampling was used to select farmers and women who practice urban farming in Bulawayo for interviews. Information on legislation was obtained from key informants. Primary data was collected from urban farmers while they were working in the fields and from selected households in Nketa, Emganwini and Pumula where most of the farmers reside. Information collected from the urban farmers included: demographic data, types and volumes of crops produced, livelihoods of the urban people and the gender aspect of urban farming. Key informants also provided information on the financial assistance to farmers, effects of urban agriculture to the environment and marketing of crops by the farmers. According to RUAF (2010) an estimated 480 urban farmers are found in the study area. Thus, a sample of 60 urban farmers was selected from the target population for study. Data was collected through questionnaires, interviews and observations. These data was then analysed statistically and tabulated.

### 3. RESULTS AND DISCUSSIONS

The closure of industries in Bulawayo due to the economic crisis from 2000 to 2010 period left the majority of the residents jobless and many of them resorted to the informal sector, in which they created self-help jobs for survival. The study showed that 55% (33 out of 60) of the respondents were unemployed whilst 24% (14 out of 60) worked in the informal sector. Only 13% were formally employed and this showed that livelihoods of people were largely based on the informal sector (Figure 1).



**Figure1.** Showing percentage of livelihoods of people in Bulawayo.

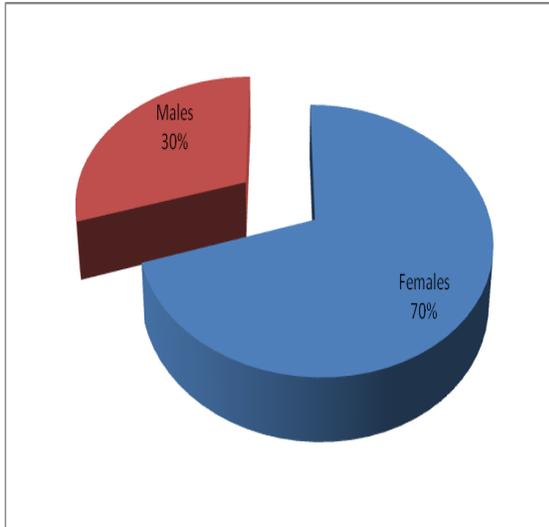
In total, 87% of the interviewed people were unemployed and they were dependent on the informal sector for employment. Of the 13% which were employed, women constituted a bigger number. This indicates that they are dedicated to food provision in the family while

they double at their workplaces as a way of improving livelihoods in their households (Cheater, 1984; Hovarka and Lee-Smith, 2006). The results of the study appear to therefore, validate the argument by Nwabueze (2010) which says that as a result of discrimination, illiteracy and lack of funding to do other self-help projects, women end up practicing urban agriculture.

However, further interviews carried out from urban farmers showed that 60% (36 out of 60) of the respondents attained Zimbabwe Junior Certificate (ZJC) level of education, which is not adequate for them to be formally employed. The exodus of able bodied school leavers and young adults from rural areas into urban areas has promoted rapid urbanization in many developing countries (World Bank, 2003). This has resulted in unemployment and this has increased poverty in many urban areas. These factors now pushed many urban dwellers to embark on agriculture as a way of earning a living.

#### 3.1. The practice of urban agriculture by Women

It was also found out in this research that 70% (42 out of 60) of the respondents in Nkulumane, Nketa and Umganwini were women who practice urban agriculture in these high density areas. However, 30% of males who practice urban agriculture are usually hired on a part time basis by the land "owners" to till, and weed, and to harvest the crops (Figure 2).



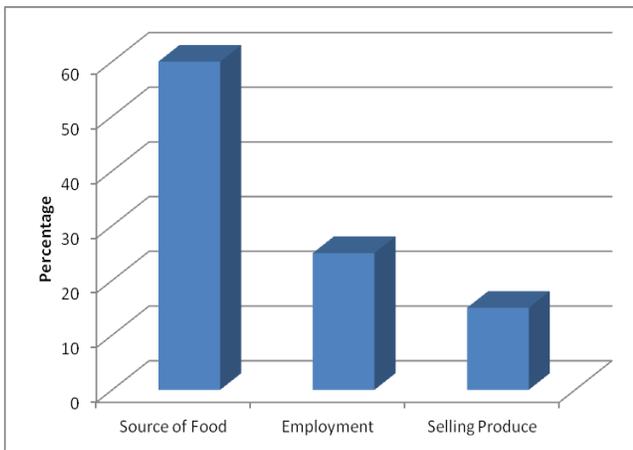
**Figure 2.** Showing gender and urban agriculture in the city of Bulawayo.

According to a report by the UNDP (2003), the outbreak of the HIV/AIDS pandemic has forced many couples to live together in urban areas. This has, in part, led to the abandonment of agricultural lands in the rural areas. However, while males are usually formally employed, their women typically venture into urban agriculture as a way of supplementing their income. In Kampala, for example, 80% of the urban farmers are women whilst in Nairobi; it is 62% (Obuobi et al., 2004; Maxwell, 1995). In many developing countries women also contribute to the sourcing of water and fuel in the family, and for them urban agriculture is a way of improving their income as well as a means to provide for their families (Women Watch, 2008). According to UNDP (1996), urban agriculture is helping people, especially in developing countries with food. In Kenya 25% of urban population survives on urban agriculture. According to Chingarande (2002), in Harare, 70% of the urban population

is poor and depend on urban agriculture, which is primarily practiced by women. In Zimbabwe, female headed families constitute 31% of the urban households and these families are vulnerable to poverty (The National Gender Policy, 2002). This then forces the majority of the females to resort to urban agriculture for sustaining their families. At household level, women are responsible for food security, cooking and buying of food items and these responsibilities result in them contributing to the growing of food in cities and towns (Pretty et al., 2003). Mougeot (2006) echoed the same sentiments by arguing that whilst women are doing their household chores, they also control the sourcing and buying of food, which among them includes urban agriculture. A research by Kutiwa et al., (2010) on urban agriculture in Harare concluded that it is women who provide labour, especially the middle aged and the elderly, whilst their male counterparts view urban agriculture as part of women's household chores. However, in Bulawayo's Nketa, Pumula and Emganwini suburbs, it has also been found out that it is the middle aged and elderly women who have established associations through which they take turns to work in member's fields, and this has encouraged and strengthened community relations (Toriro, 2007; Mbiba, 1995).

### 3.2. Sustainability through Urban Agriculture

Figure 3 below shows that 60% (36 out of 60) of urban residents practice urban agriculture so as to improve food security in their households. However, 25% are employed in urban agriculture while 15% sell their produce to raise income for their families.



**Figure 3.** Contribution of urban agriculture to sustainable livelihoods in Bulawayo.

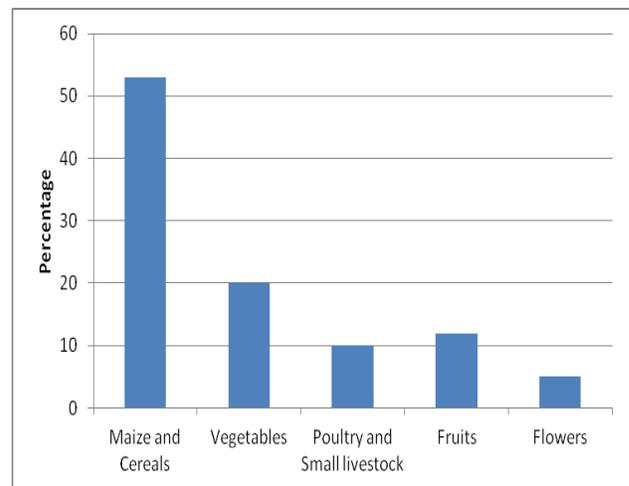
Observations in the field showed that labour is provided by women. This observation is similar to a research in Kenya by Obuobie (2004) where it was found out that 56% of labour in urban agriculture is practiced by women. According to Gonzalez Novo and Murphy (2000), urban agriculture in Cuba, generated about 25 000 jobs between 1994 and 1998, which helped improve the lives of the urban poor, especially women. Studies in Nairobi by Mougeot (1994) also showed that 50% of the urban farming is carried out mainly by women who are concerned about food production for the family.

In Bulawayo, agricultural produce is usually sold in households, open markets in the city and this has helped to improve food supplies and generation of income. Thus, urban agriculture in Bulawayo is contributing greatly to improve residents’ lives through women efforts. According to a report by the World Bank (2003), 25% of the population in Nairobi is employed in urban and peri-urban agriculture. Urban agriculture is one of the main activities used by residents to eradicate poverty and sustain

themselves. Over 800 million people across the world’s urban centers practice urban agriculture and they contribute 15% of the world’s food (Freeman, 1996; RUAF, 2010).

**3.3. Outputs from urban agriculture**

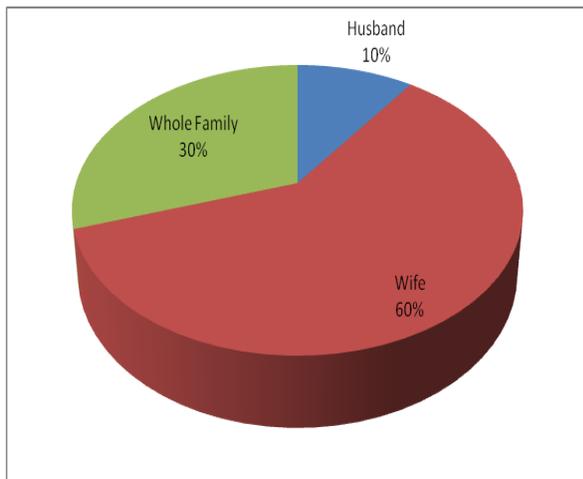
In many cases, urban agriculture focuses on the growing crops, vegetables and fruits though some keep chickens and rabbits. 53% (32 out of 60) of the urban farmers interviewed in Bulawayo mainly grow maize and other cereal crops such as sorghum and millet as a result of low rainfall received in the area. 32% of the farmers grow vegetables and fruits, especially at the backyards of their houses. Several farming activities, which are done in Bulawayo range from small scale or backyard farming to intensive farming. Intensive farming is carried out at some plots, especially in low density areas located in the margins of the city. Figure 4 below shows the types of agricultural activities that are carried out by farmers in Nketa, Emganwini and Pumula.



**Figure 4.** Bar graph showing the types of crops grown and animals kept by urban farmers.

Sithole et al, (2012) researched on urban agriculture in Bulawayo focusing on community gardens also known as nutritional gardens that are occupying most of the open spaces in Nketa and Nkulumane suburbs. The research by Sithole showed that many urban dwellers grow vegetables in the backyards of their homes. The research also showed that they also grow vegetable in community gardens using water from boreholes sunk by the government or by the donor community. According to Gregory (2005), urban agriculture contributes to food security through small plots of land, vegetable garden and rearing of small animals.

Decision making on the types and quantity of crops to be grown is very crucial in determining the output in the end. Women are the decision makers on crops to be grown and animals to be kept when practicing urban agriculture (Figure 5).

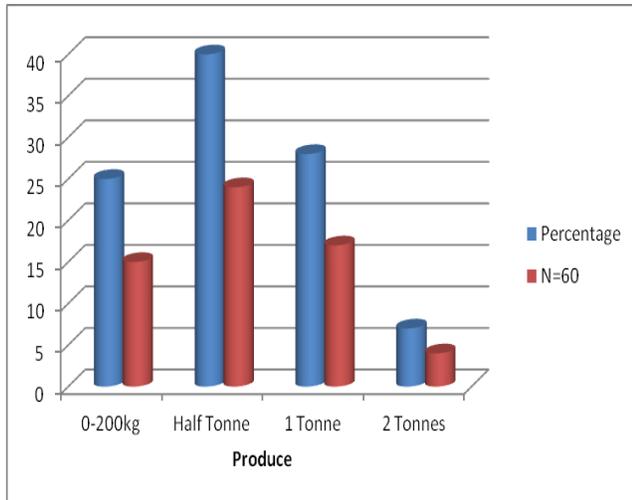


**Figure 5.** Decisions on agriculture activities.

In line with this view, the results of the research however, show that 60% of farming decisions

are made by women whilst men contribute only 10%. Thus, women work tirelessly to spearhead agricultural activities in terms of planning, provision of labour and food security for their families. According to the World Bank (2001), there is a gender difference in farming preferences with men preferring dairy farming, vegetable production and lawn growing. On the other hand, women prefer staple food such as grain, vegetables and fruits, which are the main crops grown in the city of Bulawayo.

During the research, there were challenges of quantifying the amount of crops, which are grown in Bulawayo. However, from the interviews carried out, 68% (41 out of 60) of the farmers said that they produce about a half tonne to a tonne of maize, and many families confirmed that this goes an extra mile in providing for their food requirements even though they sometimes sell the surplus. Urban agriculture in Bulawayo is contributing to food security to a greater extent. According to Mudimu (2001) and Kutiwa et al, (2010), 87.5% of produce from female headed families is for consumption and this goes an extra mile in food security at the household level. Below, Figure 6 shows the produce from urban agriculture in terms of maize quantities.



**Figure 6.** Produce from urban agriculture.

From the group interviews, which were carried out during the research, 70% of the farmers interviewed were satisfied with their produce and they indicated that they will continue with urban farming as it is their means of survival. To maximise outputs, they apply chemicals, fertilizers and they maximise the land. Waste from other sources is sometimes used as manure to enrich the soil. Chicken droppings, for example, are usually used as manure in the garden whilst weeds and grass from the fields are used to feed chicken and rabbits. According to UNEP (2003), the re-use or cycling of waste for other purposes is a good strategy for urban waste management. In some cases, urban farmers interviewed said that they use burst sewer water to irrigate their crops. They believe that the water has some nutrients, which helps the growth of their crops. They are however, aware of the health implications of such practice.

### 3.4. Legislation and development of urban agriculture in Bulawayo

Interviews that were carried out with the key informants from the BCC officials have revealed that a policy on urban agriculture in the city of Bulawayo was passed in 2000 and a Committee to represent the interests of urban farmers was also established during the same year (Bulawayo City Council, 2000a; Steering Committee, 2007). Urban agriculture was also formalised in Zimbabwe through the Nyanga Declaration on Urban Agriculture. The Declaration was made by ministers of local governments in Eastern and Southern Africa, when they met in Nyanga in north eastern Zimbabwe to find out ways of alleviating poverty in African cities (Hungwe, 2005). According to the BCC (2000a), the 2006-2015 Bulawayo Master Plan promotes urban agriculture although it has some conditions, which must be met by the farmers and these include:

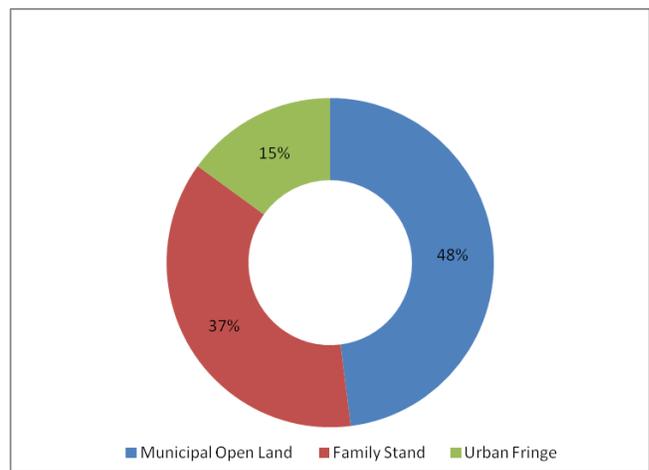
- a) Agricultural activities shall be permitted to small holders and plot owners, but applications for residential subdivisions will be encouraged where and when appropriate.
- b) Specific areas of land will be allocated for urban agriculture. Such areas will be decided upon through an agreement between the local residents and the City Council.
- c) The Local Authority will permit other undeveloped areas to be temporarily used for urban agriculture until such time that the land is required for development. However, the Local Authority shall

monitor the areas to ensure that the pegs are not removed. Urban agriculture on land close to the streams will not be permitted in an effort to prevent soil erosion and siltation of rivers.

According to the BCC (2000b), legislations such as Environmental Management Act, Public Health By-Laws (SI 803/66) and Protection of Lands and Natural Resources By-Laws of 1975 and the Regional Town and Country Planning Act (Chapter 29:12) regulates the operations of urban agriculture in the city. The City Council officials are aware of the operations of urban farming and they try to put measures to control it through legislation so that they protect the environment, enhance productivity, promote gender equity and utilize idle land in the city. In Bulawayo, urban agriculture is monitored under the department of Housing and Community Services. The BCC also owns Aisleby Farm and Goodhope Farm where it grows crops and keep animals. The City Council further owns a vocational training centre called Khami School leavers and co-operatives, which it uses to train youths on agriculture and other technical skills. Thus, the BCC does not have any legislation, which bans urban agriculture, but only put measures to make sure its operations does not affect the environment and the living conditions of residents.

Land ownership is an issue in urban farming as the farmers temporarily use the land without ownership. 63% of the farmers interviewed use open land without any title deeds and this is either municipal unused land or urban fringe.

Open areas used for agricultural purposes include roadsides, streams and river banks, along railway lines and on dumpsites. 37% use family housing properties, which are still undeveloped or on developed stand properties, at the backyards of their houses (Figure 7). There are some institutions, which were formed to enable people to work together in the fields. According to the group interviews, there is usually a wrangle of the ownership of the pieces of municipal open land for agriculture although the so-called owners are also illegal occupants. Residents resort to open land cultivation though it is sometimes considered to be illegal.



**Figure 7.** Areas where urban agriculture is mostly practiced

According to a report by RUAF (2008), urban agriculture is being practiced informally since the BCC doesn't have land, which had been set aside for urban farmers. As a way of alleviating poverty and improving food security for the urban poor, some organisations are promoting urban agriculture in Zimbabwean cities such as Harare, Mutare, Masvingo and Gweru despite

the fact that there is limited farming land (Marongwe, 2003). These organizations include Municipal Development Programme for Eastern and Southern Africa (MDP), Ministry of Gender and Women Development and Resource Centres on Urban Agriculture Foundation (RUAF). It was established from group discussions and observations that it is mainly the house owners who illegally own pieces of land from which urban agriculture is practiced as they take advantage of having settled in the peripheral areas of the city first. Other people who illegally own land are squatters who reside at Ngozi Mine in the Richmond Dumpsite area in the northern part of Bulawayo. These squatters also practice urban agriculture to sustain themselves as they mainly rely on recycling waste from the dumpsite (Mudzengerere and Chigwenya, 2012). Information obtained from the BCC key informants indicated that a land surveyor called Patrick Fletcher pegged, in 1893, the large market square of Bulawayo with a nearby area cleared for maize field growing and the other part of the land set aside for rearing cattle. In the city plans, the BCC had set aside some farms for grazing, and these were located on the outskirts of the city. With the passage of time, these areas were converted into residential areas, which resulted in the establishment of high density suburbs of Lobengula, Matshobana, Njube and Mpopoma. The City Council however, does not have a law to ban backyard farming but there is a law on environmental protection, the Environmental Management Act 6/2005 which prohibits the practice of agriculture on some areas in the city,

for example, near road junctions and swampy areas.

### **3.5. Challenges of practicing urban agriculture in Bulawayo**

The interviews with the urban farmers in the western high density suburbs of Bulawayo have shown that there are challenges, which they face when practicing agriculture in the city such as:

- a) Land ownership. Many urban farmers do not own land, and they are occasionally evicted from the land or their crops are destroyed by the City Council officials.
- b) Some of the land is used as illegal dumpsites, which make it hazardous for farmers to work in them.
- c) Burst of raw sewage makes it unpleasant to work in the fields or to consume crops from the areas.
- d) The use of manual labour by women to dig, weed and harvest crops is very painful given that they cannot afford to buy agricultural equipment for farming.
- e) Farmers loose part of their crops through theft in the fields.
- f) Financial constraints for buying fertilizers and chemicals, which are applied to increase the production yield.
- g) Challenge of marketing of products as they are sold at household levels and open markets, which fetches little income.
- h) Most farmers rely on rainwater for farming, which makes farming seasonal in the dry Matabeleland region.

The above challenges are similar to those also experienced by urban farmers in other African cities (see, Freeman, 1996; Akinmoladun and Adejumo, 2011).

The key informants interviewed also highlighted the positive and negative impacts of urban agriculture. Cultivation and tilling of land has got many advantages such as loosening soil particles, which in turn improve soil aeration and drainage. Aeration helps supply oxygen to the soil organisms, which also balances the ecosystem. Improved soil drainage helps reduce soil erosion as more rain water will penetrate the ground rather than overflowing on the ground surface. From a scientific perspective, growing crops helps with evapotranspiration, which is necessary for cooling of the environment and for water balance through the hydrological cycle. Atmospheric gases are also balanced through agriculture as plants use carbon dioxide from animals and during the process of photosynthesis; they release oxygen, which is required by animals for respiration. The ecstatic value of the city is improved due to the green environment of crops grown (Chaipa, 2001; Averbek, 2007).

Urban agriculture contributes immensely to food production, but in so doing, there are also some negative implications both to the environment and to human beings and other animals. The reasons why municipalities legislate on urban agriculture are because they want to protect the environment. Waste from residential and industrial areas channeled for agricultural use can be hazardous and create a health time

bomb for residents. Waste water contains chemical pollutants and pathogens that threaten the health of human beings, animals and the environment (FAO, 2003). Areas which rely on waste water for irrigation are mainly affected by cholera outbreaks. According to Bryld (2003), urban agriculture disturbs the development of cities as surveyed and reclaimed land for development purposed is degraded due to tilling, eutrophication and deforestation. According to the BCC (2007), urban agricultural activities are unplanned and they pose a danger to the environment. Urban agriculture also blocks visibility on roads, especially at rail-road crossings and road junctions, which increase the chances of accidents at those points. It is for these reasons that the City Council end up slashing crops in urban areas.

#### **4. CONCLUSIONS AND RECOMMENDATIONS**

It can be concluded from this research that women play a crucial role in sustainable urban development and their contribution has positively influenced food production and economic growth by increasing the disposable income in the family. It can also be concluded in this research that the responsibility of women to feed and source for the family in terms of the day to day family needs and their full participation must be promoted in urban agriculture as the majority of them are unemployed. The growing of maize, vegetables, fruits and rearing of chickens are the main urban agricultural activities practiced in many African cities. Labour is provided by women although men are sometimes hired to till and weed the

land. Thus, urban agriculture improves food security and livelihoods through revenue from selling of produce and employment creation. Though, there are positive benefits from urban agriculture, there are also challenges such as environmental degradation, poor market, and limited access to land and inputs. The legislation, also fails to provide land and bridge the gender gap, between women and men in agriculture. This research recommend that women who practice urban agriculture should be supported through the availing funds, allocation of pieces of land, and provision of extension services so that they can improve their crop yields. There are huge expanses of open land in Bulawayo, which is earmarked for future development and that land maybe temporarily allocated to urban farmers, especially women so that they improve their livelihoods as they play a very important role in securing food at the household level.

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