



**Research Article:**

## ***Sustainability of urban agriculture as a poverty alleviation strategy in Zimbabwe: A case study of Harare***

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### **Abstract**

*The contribution of Urban Agriculture (UA) to poverty reduction among poor households in African cities has been recognized for many years. Urban agriculture involves the production of plant and tree crops and animal husbandry on-plot and in open public spaces or private rented land within the city and in the peri-urban zone. In African cities, the most cultivated crops are leaf vegetables and maize (which is the staple crop in southern parts of the continent). The case study suggest that it has become a major livelihood strategy for poor households and the newly urbanized across Africa. The cities of the South are growing fast as people move from the countryside to seek a better future. They are growing so fast that the municipalities cannot keep up with the influx. There are too few jobs and limited facilities. Many of these new arrivals face poverty and malnutrition, often spending three-quarters of what little income is available to provide just one meal a day. To improve their situation, many of the urban poor use any available space to grow more food. Some even manage to grow enough to sell the surplus, providing much needed income. The research discovered various positive conclusions about the actual and potential impact of expanded urban cultivation on the food security of poor households. The households producing some of their own food appeared to be more food secure and have better nutritional status than non-farming households of similar socio-economic status. In addition, production for consumption and sale could generate revenue and reduce monthly household expenditures on food, leaving more cash available for other basic household needs (such as health, housing, education, and clothing).*

**Keywords:** *expanded urban production, food security, income, household needs, nutrition, urban agriculture*

## **1. Introduction**

Urban poverty represents one of the greatest and most urgent challenges that modern society is facing. The criticality of this global issue is represented by a rapidly growing body of academic literature which aims to explain the dynamics of urban poverty and promote effective and enduring solutions. Urban poverty has been a low priority on development and research agendas. Studies of poverty have been dominated by rural development and rural poverty. The renewed interest in urban issues has been sparked by various factors. In the first place, there is the widespread idea that urbanisation is speeding up. Africa's urban population



is growing faster than that of any other regions. By the end of the current decade, 24 of the world's 30 fastest growing cities will be African FAO (2018). Globally, the rate of increase in urban land cover is predicted to be at its highest in Africa until 2030 (Seto et al 2015). In 2015, an estimated 54 per cent of the world's population resided in urban areas and the urban population is expected to increase to 6.3 billion by 2050, when 66 per cent of the world's population is projected to be urban (UNDESA 2014). By 2030, the number of Africans living in towns and cities will increase by a further 345 million. Urban growth will only increase the number of highly vulnerable urban communities, with the urban poor being most at risk.

The urbanization process brings indeed a wide range of unwanted consequences, which go from the reduction of fertile lands to deforestation, air and water pollution, reduced drainage of rainfall, and the creation of peri-urban areas where socio-economic constraints are exalted, and poverty is condensed (Baud 2000). Brodjonegoro (2018) argued that urban agriculture favours social improvement since the poor spend up to 85 per cent of their income in purchasing food and most urban farmers belong to the poorest populations. With the global population anticipated to reach over nine billion by the year 2050, the role of urban agriculture in global food security has become an important discussion topic to alleviate poverty (Smith et al 2016). Urban poverty is now becoming more significant than rural poverty in most cases. There is therefore a paradigm shift in that poverty must be viewed from an urban perspective unlike the traditional focus on rural areas. It is against this background that urban and peri-urban agriculture is considered as a strategy that can bring multiple benefits and help to build resilience to urban poverty at the city region level.

## 2. Background to the study

Urban Agriculture is not a recent phenomenon to occur in urban areas. For many years, urban farming has served as a vital input towards livelihood strategies of urban households worldwide (Bairwa et al 2014). Brand et al (2017) argued that, since the end of the 19th century, the expansion of the agro-industrial productivist model has contributed to distancing the city from the agricultural areas that feed its inhabitants. Cities were closely linked to their food until the advent of the Industrial Revolution in the 19th Century. Town centres were laid out to enable close access to locations judged to be of strategic importance: buildings symbolizing political, legal, and religious power, but also markets. The market, just like the slaughterhouse, made visible to townfolk the processes by which supplies from farming were turned into food. In this model of the 'organic city' (Steel 2008), town centres were literally shaped by food. Conversely, globalization and the rise of global cities around the turn of the 20th century had the effect of distancing cities not only from their national economy but also from the local embeddedness, incrementally weakening the ties between the city and its food.

Urban poverty is a complex phenomenon, which is undermining the sustainable development of a growing number of cities, regions, and countries all over the world. Systemic changes and sustainable development policies are required to reaffirm equality and



eliminate the many issues that the nature of urban poverty poses for housing, natural environment, sanitation, health, education, social inclusion and security, livelihoods and the special needs of vulnerable groups (Ahmad and Puppim de Oliveira 2015, Hilson et al 2018; United Nations 2015, 2017). In recent years, due to the explosive growth of cities, food production both within the cities (Urban Agriculture-UA) and in the peripheries (Peri-urban Agriculture-PA) has been receiving increasing attention as a means of contributing to city food supplies, alleviating poverty, providing employment, improving the environment, and improving diets in both urban and peri-urban areas. This paper analyses the interconnections between urban agriculture and poverty alleviation. More deeply, it scrutinizes the possibilities and strategies of the urban and rural poor to enhance development, take part in development processes and reduce poverty through participation and self-development. The urban poor population is increasing due to rural-urban migration and fertility.

UA has existed for as long as there have been cities. As cities grow, however, the use of land for UPA activities comes into conflict with city planners and developers since the value of land for sale is generally far higher than its value for production of food. At first, agricultural production is pushed out to the periphery of the cities-the peri-urban areas. These areas then come under pressure for other uses of the land, and agriculture is gradually pushed further and further from the cities. In many cities, agriculture is banned or heavily restricted but continues to exist without controls or permits. Producers within the cities and in the city peripheries, are often not only under pressure from land development, but also often in conflict with the city authorities over the use of land and water and over health standards of production.

As for the case of Zimbabwe, UA is not a new phenomenon in all major cities including Harare. The study of urban agriculture is deeply rooted in the political economy of a country. The City of Harare in Zimbabwe is composed of Greater Harare, Chitungwiza, Ruwa and Epworth. The main focus of this paper will be on Greater Harare with an estimated population of 2 098 199 (ZIMSAT 2012: 110). Since the establishment of Harare in 1890, the city's population, UA, industrial and commercial activities have been rapidly and continuously growing to greater heights, but this growth has not been accompanied by corresponding legal land supply for urban farmers.

The colonial political economy of Zimbabwe influenced how urban areas are organized economically, and some of the policies regulating urban economic and planning activities remained remnants of post-colonial Zimbabwe. It is the colonial legacy which created African cities that depend on rural areas for food supplies as urbanites were engaged in non-agricultural activities within industries.

Salisbury, now Harare, was established by the British settlers as a site for administrative purpose and as a hub for industry and commerce. According to Makonese and Mushamba (2005:9) when settlers occupied Salisbury, the settlement gradually developed into an urban settlement and agricultural activities gradually gave way to urban developments such that by 1950, most urban centres had effectively taken shape. Extensive



UA was not allowed in Salisbury because the town was inhabited by workers. The colonial government used environmental laws to restrict free practice of UA. Salisbury (Protection of Land) by-laws of 1973 and the Municipal Act Chapter 125 forbade all cultivation on municipal land which was done without council's prior approval. Crops grown without prior approval were slashed by the local government (Mushayavanhu 2003).

At independence in 1980, the Government of Zimbabwe inherited an uneven pattern of development with the urban centres being endowed with virtually all the necessary social services, housing, safe water and sanitation, health care, education, and the opportunities for securing employment. In contrast, the rural areas were not well developed in terms of basic infrastructure and services like the urban areas. Uneven development between the rural and urban centres in favour of the latter increased rural urban drift as people were in search of better opportunities in cities. There is a big challenge as the formal sector cannot absorb many people. These migrants started to engage in petty trading, vending and some chose UA to subsidize their subsistence. Some can even diversify the source of their earnings through UA or sometimes to take advantage of tax evasion (Smelser and Swedberg 1994:429).

Since the adoption of Economic Structural Adjustment Programme (ESAP) in Zimbabwe, the economy experienced a decline in economic growth. There were massive retrenchments, rise in urban poverty (1990/91, 12%; 1995, 39%) and consequently a decline in the living standards. This meant that the urban poor were unable to meet their day-to-day basic needs (Sigauke 2002). Due to the adverse effects of ESAP, multiple factors came into play as a rationale for engaging in UA (retrenchment, liberalization of markets, devaluation of local currencies, deregulation, drastic reduction in disposable incomes, removal of subsidies on most social services and food staffs, ineffective agricultural policies, crippled food distribution systems, unemployment, lax urban regulations, droughts of 1992-4). ESAP has been associated with the increase in uncontrolled sprawling of UA (Chingarande 1999; 2009:7). The government could no longer subsidize the public services like health, education, and agriculture after implementing the structural adjustments. A number of people got retrenched and were left in a vicious cycle of poverty that was very difficult to escape, hence the need for aid. Reduced remuneration significantly increased poverty in Zimbabwe. According to Nugget (1999), the poor are not the only people who produce food in cities and towns, but they are more dependent on it than their rich counterparts. Therefore, the International Monetary Fund (IMF) prescribed ESAP perpetuated poverty (IFAD, 2001).

Therefore, it is against this background that UA should be integrated in urban areas to complement meagre wages as poverty is closely linked to the poor performance of the economy and economic restructuring that characterized the 1990s. That was also punctuated by the political and economic crisis that resulted in rising poverty in its wake. Sustainable urban agriculture plays an essential role in addressing a city's problems in innovative ways. Through urban agriculture's efforts to green cities, environmental stewardship is enhanced. When inner city residents have the ability to grow and market their own food through



farmer's markets, providing opportunities for entrepreneurs and commercial farmers, this leads to economic development and community revitalization.

As urbanization intensifies, there is an increase in urban poverty, the livelihood of a large number of people in cities in developing countries, especially the poor and women, depends completely or partly on Urban Agriculture (UA). The agricultural activities take place in various parts of cities, both in the built-up area in backyards, long streams, and railway reservations, on vacant public or private land as well as in the rapidly changing sub-and peri-urban areas. Attention to UA is steadily increasing. Research undertaken in Beijing, China in the last two decades by Resource Centres on Urban Agriculture and Food and Security (RUAF), indicates that UA has multiple roles and functions and plays an important role in: enhancing urban food security; creating urban job opportunities and generation of income especially for urban poor groups as well as the provision of a social safety net for these poor groups; contributing to increased recycling of nutrients (turning organic wastes into a resource); facilitating social inclusion of the disadvantaged groups and community development; and, urban greening and maintenance of green open spaces. However, the potential adverse effects of UA on health (for example the risks associated with irrigation of food crops with urban wastewater) and the environment for example, pollution of underground water by agro-chemicals also need to be recognized. Balancing of the positive and negative impacts that agriculture may have in the city, depends to a larger extent on the measures taken by local authorities to enhance the benefits of UA while reducing the associated risks. There are also numerous benefits derived from UA that must be weighed against risks in a holistic overview of the activity. Potential benefits are wide ranging and include increased food security and improved nutrition for the urban poor (Cole et al 2006). City planners often look down upon agriculture as incompatible with urban development, and in most cases its economic contribution is often ignored. UA was not given any policy attention, other than restricting it as much as possible or permitting it only as a temporary or preliminary use of the sites concerned until urban functions took over its use.

Global developments now focus attention on sustainability as an explicit goal. But the concept has to be translated into the practical dimensions of the real world to make it operational. Sustainable development has become a widely recognized goal for human society ever since deteriorating environmental conditions in many parts of the world indicate that its sustainability may be at stake.

The population of Harare is expected to increase in the next 15 years at an average annual growth rate of approximately 4 per cent, reaching almost 9 million people in 2035 (UN, 2018a). However, not only is Harare expanding at a rapid pace, but growth is also taking place along the major outlets of the city into the surrounding region (Kassa 2013). This growth is expected to translate into an expansion of settlements in the city and into the surrounding areas. Consequently, farmland will continue to decline in the city's surrounding area for urbanization and industrial development (AAOIDPP 2013). The amount of farmland lost and



the impact on food supply, local livelihoods and the environment will very much depend on the mode of future urban development.

Therefore, this paper explores the importance of sustainable UA as a poverty alleviation strategy as well as an income generation activity in Zimbabwe by taking the case study of Harare. Urban land resource is critical in the development and practice of UA. Accessibility of such a resource to the urban farmers is curtailed by intense competition from other urban land uses such as housing and industrial developments hence, creating urban land conflict. Planners in most Zimbabwean urban centres view urban open space cultivation as standing in the way of urban development. Furthermore, the promotion of free markets operations in the distribution of urban land entails the poor and powerless being completely pushed out of the urban economic operations. One would expect the role of the city planner to be for advocacy, by deliberately setting aside land for urban agricultural production by the urban farmers. However, the institutional environment in which the urban planner operates is a major obstacle to responsive and innovative planning.

### 3. Statement of the problem

Urban poverty has been a low priority on development and research agendas. Studies of poverty have been dominated by rural development and rural poverty. The renewed interest in urban issues has been sparked by various factors. In the first place, there is the widespread idea that urbanisation is speeding up. With the global population anticipated to reach over nine billion by the year 2050, the role of urban agriculture in global food security has become an important discussion topic. Most poverty reduction strategies have invariably focused on rural areas, totally ignoring urban poverty. The Food and Agriculture Organization of the United Nations (2012) reports that 800 million people worldwide grow vegetables or fruits or raise animals in cities, producing an astonishing 15 to 20 per cent of the world's food. With the increase in urban poverty, food insecurity and malnutrition are shifting from rural to urban areas, renewed interest arises in alternative strategies for improving urban livelihoods, local governance, urban design, Local Economic Development (LED) and waste management, as well as for urban food security and nutrition. As a result of urbanisation, the number of the urban poor is increasing, at least in absolute terms. In developing countries, many citizens have turned to UA as a livelihood strategy and source of income for a substantial number of urban households. Globally, the growth of cities and urbanized centres continues at an exponential rate, with the fastest and most expansive growth being experienced in developing areas of the world. By 2050, when the world population is expected to have increased to 9.5 billion approximately 66 per cent of the world's population will be living in urban areas (UN 2014). As urban areas grow and poverty within them increases due to high levels of rural-to-urban migration. Therefore, understanding how urban food systems work and finding ways to ensure that they remain sustainable is a mounting preoccupation responsible authority in different countries. From 1991 to the end of 1995, the government of Zimbabwe adopted the Economic Structural Adjustment Programme (ESAP) which



signalled the end of its 12-year socialist economic policies (Brown 2002). ESAP also led to a dramatic and sudden increase in poverty in Harare and throughout the country. While there is a growing awareness about the role of urban agriculture in the context of food security and poverty alleviation for the urban populations, urban and peri-urban agriculture (UPA) still largely remains an informal sector that is not being integrated in agricultural policies or urban planning. This makes it vulnerable and jeopardizes its sustainability. This study looked at the importance of UA as a poverty alleviation strategy that can be used to harness food supply in the face of food shortages faced by most households in urban areas. Urban farmers in Zimbabwe have contributed significantly to the food security of the country but up to now, UA has not been recognized through reserving some land for the urban farmers under the Fast-Track Land Reform Programme (FTLRP). The World Bank (2013) acknowledged that, the role and importance of urban agriculture will likely increase with urbanization and climate change, so the integration of urban agriculture into development strategies and policy decisions would be important for long-term sustainability.

Therefore, it is against this background that, the main problem under study is the continued incidence of poverty in Harare the capital city of Zimbabwe that makes it imperative to investigate UA as poverty alleviation strategy as urban agriculture is still informal and sometimes illegal. Urban agriculture is considered an alternative agriculture movement advocating major shifts toward a more ecologically sustainable agriculture compared to the conventional paradigm of large-scale, highly industrialized agriculture. The role and importance of urban agriculture will likely increase with urbanization and climate change, therefore, the integration of urban agriculture into development strategies and policy decisions would be important for long-term sustainability.

## 4. Objectives of the study

- To assess UA as poverty alleviation strategy in Harare of Zimbabwe.
- To evaluate the importance UA to the urban population in Harare, Zimbabwe.
- To examine the nature of contributions which local authorities can make towards the practice of sustainable urban agriculture.
- To evaluate the contribution of UA to food security in Harare, Zimbabwe.

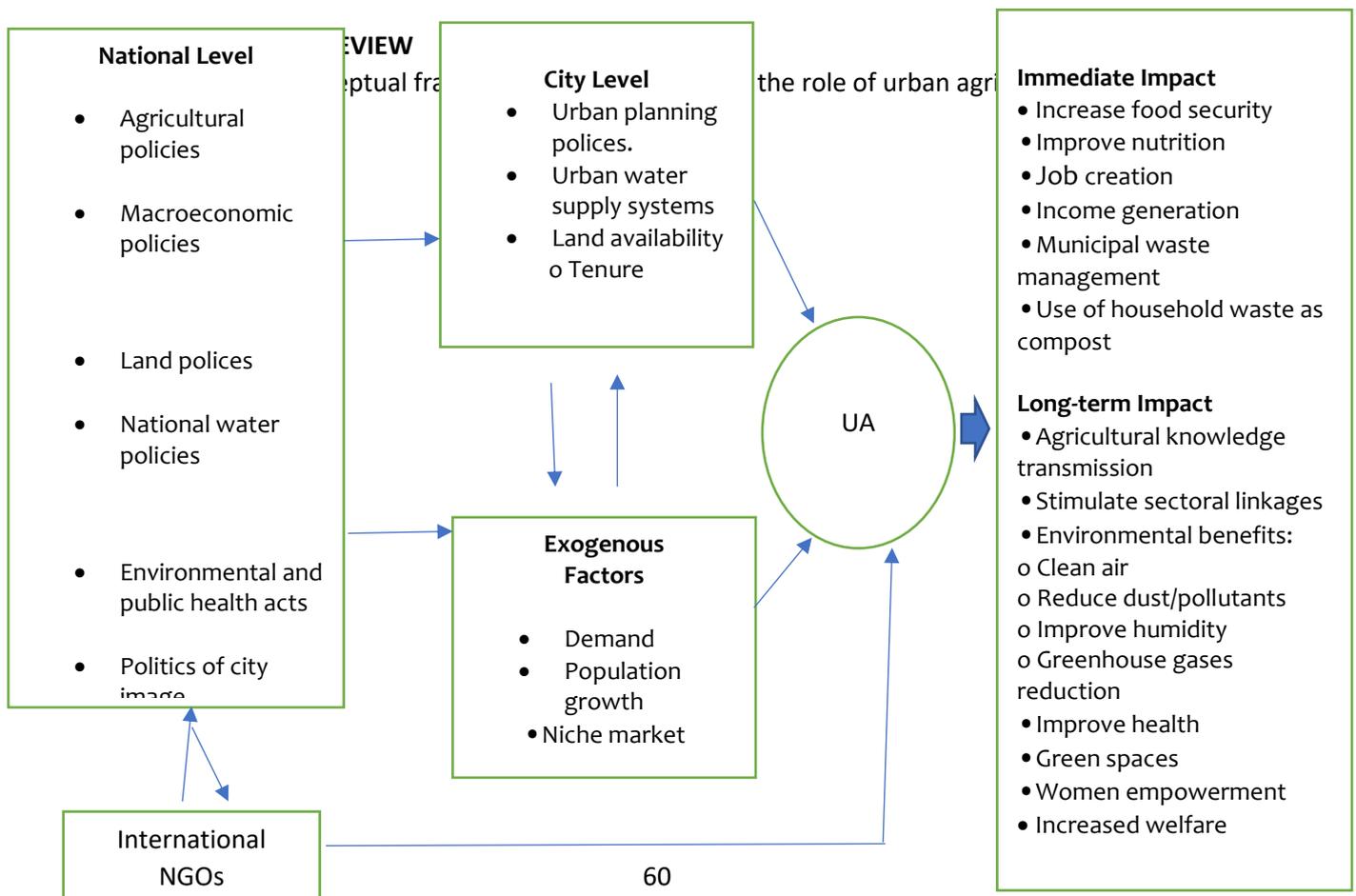
## 5. Significance of the study

The paper will significantly improve the livelihoods of the generally marginalized urban population. The development of UA is strongly influenced by the dynamics of the urban social, economic, political, ecological, and spatial systems with which it is connected. UA adapts to new economic and spatial conditions. Consequently, there is a great variety in Harare, people involved and their relations. These systems adapt to the continuously changing local conditions of the city where UA takes on new functions. A major function of UA is and will always be food supply and income generation in the cities, but increasingly, UA also plays a



role in environmental, landscape and biodiversity management and in providing recreational services, among others. This flexibility and multi-functionality of UA will likely determine its sustainability in the long-term. It is estimated that, in 2030, 40 per cent of the world population will live in rural areas and another 23 per cent in settlements with less than 300 000 inhabitants. It is estimated that 9.8 per cent will live in ‘small’ cities with between 300 000 and one million people (The Economist 2015). The fastest-growing urban centres will be small and medium-sized cities with less than one million inhabitants, which account for 59 per cent of the world’s urban population and 62 per cent of the urban population in Africa (UN Habitat 2016). Zimbabwe will not be an exceptional case; hence, urban poverty will persist. Urban Agriculture seems to be a viable intervention strategy for the urban poor to earn extra income and grow their own food. However, in Zimbabwe, policy makers and governments have neglected this veritable sector. There is need to highlight the potentials and constraints to its development to capitalize on the potentials and integrate it into the city system in a more viable and sustainable way. The recommendation of this study contributes to the economic growth of the cities in Zimbabwe based on the case of Harare. Furthermore, this study is an eye opener to the responsible authorities as far as sustainable UA as a poverty alleviation strategy is concerned.

**Figure 1: Conceptual framework for mapping the role of UA.**





**Source:** Arku, G. et al (2012) in Africa's Quest for Food Security: What Is the Role of Urban Agriculture? Africa Capacity Indicators Report (ACIR) - Capacity Development for Agricultural Transformation and Food Security.

## 6. Importance of urban agriculture

Urban agriculture (UA) in world cities is not a new phenomenon and is today a current issue to be considered as an integral part of urban land management (Friedmann 1987:47, Lynch 1990:536, Drescher et al 2000, Drescher 2003). The urbanization process is accompanied by a phenomenon referred to as the 'urbanization of poverty': rural-to-urban migration combined with limited employment opportunities in cities, which lead to a shift in the locus of poverty from rural to urban areas. In addition, the recent global financial crisis and rising food, fuel, and energy prices have affected developing countries, with a disproportionately large effect on the urban poor. Urbanisation is a process accompanied with demographic transition and economic expansion of cities. The process includes migration and industrialization that tend to influence spatial city expansion, and increases demand for land for housing, investment, and food. The expansion of the city engulfs rural land mainly used for agriculture-based livelihoods. UA has gained popularity in cities all over the world. The research provides insights into the chances and challenges of UA for sustainable city development by making use of Harare as a case study to show how UA can contribute to the social, environmental, and economic pillars of sustainable city development. However, there are limitations which should be taken into account for cities that want to invest in urban agriculture.

The urbanization process in many developing countries goes closely together with increasing urban poverty and growing food insecurity and malnutrition especially of the urban poor. Their situation is particularly difficult in the context of volatile food prices and financial, fuel and economic crises, since urban consumers are almost exclusively dependent on food purchases and the urban poor are the most affected. There are many external pressures that will cause changes in UA and the design of cities. First, there is growing acceptance that the structure and function of cities must change rapidly to respond to various drivers, for example., resource scarcity, population pressure (urbanization) and climate change (van Ginkel 2008). This implies an opportunity for UA, as a component of cities, to effect this change through the UA–built environment interface. Second, as cities become very large, issues such as the increasingly complex and costly food transport chains (in financial, infrastructure and energy terms), and the negative effects of the built environment, for example., heat islands, cause researchers and policy makers to review the outputs from UA and perhaps place more emphasis on their benefits or modify UA, to minimize dis-benefits that arise from it. Third, there is a growing call for changes in the practice of agriculture itself to create systems that are integrated and deal with the by-products from food transformation and consumption (see Pearson 2007).



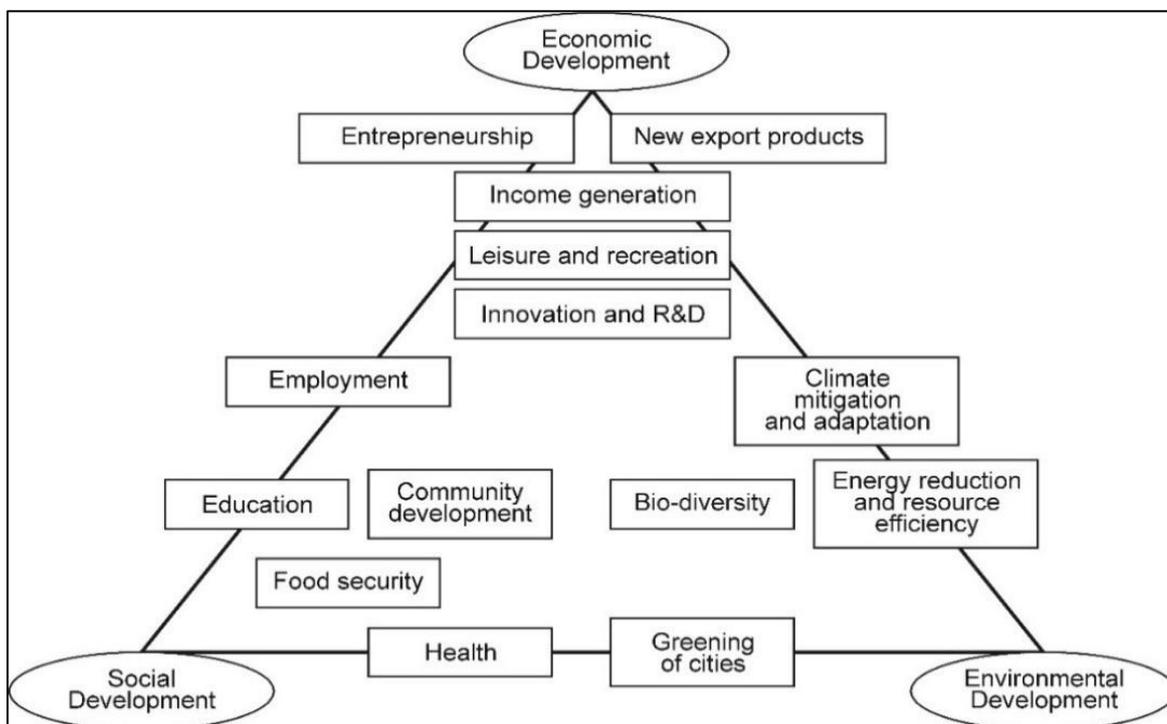
UA and food security cannot be separated. The food sector is an important urban economic activity often overlooked by planners and economists. As cities expand, so do the food needs of urban families. Urban agriculture has great potential to enhance the wellbeing of urban residents, including meeting the food needs of a burgeoning Africa's urban population. Africa's urban population is projected to increase from 39 per cent in 2005 to 53 per cent in 2030. This rate will translate into a dramatically high increase in urban population in developing regions. Such growth is expected to significantly increase household food demand in urban areas at the same time as rural-urban migration is contributing to a declining rural agricultural productivity due to loss of farm labour. It is within this context that urban agriculture stands to play a strategic role not only enhancing urban food and livelihood security, but also in meeting overall national food self-sufficiency. The scale of UA and its magnitude in providing food for the majority of urban residents, employment alternatives to a decreasing employment in the formal sector, environmental conservation, and ongoing civil service reforms in Zimbabwe and other Sub-Saharan Africa countries is supra. In only a few cases, urban agriculture should have been integrated into policy making, and in urban planning and management practises in developing countries, including Zimbabwe. Despite its importance as a major food provider sector, employment generator and its importance in sustaining livelihoods for the urban poor and for environmental resources, urban agriculture practice seems hardly integrated in land use planning processes and structures.

Urban agriculture is an all-important step in this direction. It can generate new employment opportunities such as urban farming, production and distribution of resources for urban farmers, horticulture experts, food processing, and retail of local foodstuffs; maintain a stable municipal tax base; and create a local buffer against global food shocks. A thriving local food industry can reduce unemployment and poverty and improve food security thus, enhancing the overall quality of life in urban areas.

In figure 2, the researcher plotted the potential contributions of UA to the different pillars of sustainable city development. UA can be beneficial for social development in the form of urban food security (to prevent hunger as well as to provide access to fresh and healthy food), community development for example, to increase social cohesion and crime prevention) and for educational purposes. Regarding environmental development, UA can be used for the greening of cities, climate mitigation and adaptation, increasing biodiversity, and for pollution reduction. UA also has the potential to apply new closed-loop systems with other urban activities. From an economic standpoint, UA offers potential for the generation of new income, entrepreneurship, knowledge development and innovation, and for new export products. However, the research stressed that the 'success' of UA in a city is far from being guaranteed, as clearly indicated by the limitations to the concept and challenges ahead, like legal barriers, high costs, a lack of space, conflicts with other urban functions, and health risks regarding food produced on urban farms.



Figure 2. Urban agriculture and the potential for sustainable city development



Source: Van Tuijl et al, (2018)

## 7. Conclusion

UA must be understood as a permanent and dynamic part of the urban socio-economic and ecological system, using typical urban resources, competing for land and water with other urban functions, influenced by urban policies and plans, and contributing to urban social and economic development. The integration of UA into the urban land use system and the creation of a favourable policy environment are critical steps in the development of the sector. UA can bring important environmental benefits, such as retention of stormwater. If UA is properly managed, it can be a wonderful tool for boosting cities’ resilience and sustainability. In addition to food production, urban agriculture also offers a wide range of other functions such as energy conservation, waste management, biodiversity, nutrient cycling, microclimate control, urban greening, economic revitalization, community socialization, human health, preservation of cultural heritage, and education.

## Notes on contributor

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