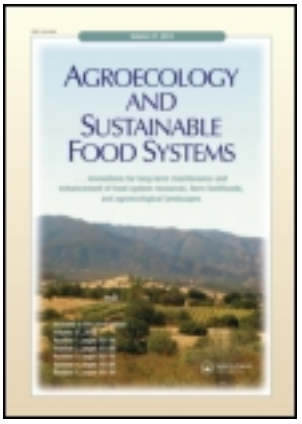

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Underwriting Food Security the Urban Way: Lessons from African Countries

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Neoliberal dominant discourses in the food security debate privilege large-scale investment in land in Africa over all "others" as the continent's only hope for food security. However, data from living standards and demographic health surveys, and studies of poverty trends in various African countries show that urban agriculture—typically carried out on small parcels of land in urban areas using urban resources—contributes substantially to a) food production and b) farmers' incomes and livelihoods. On this basis, this article argues that urban agriculture empowers rather than limits. However, this article contends that for urban agriculture to realize its full potential of being a motor to power food security in cities in Africa, it must be understood and be considered as part of a broader socioeconomic and political reality. In turn, factors such as food safety, access, and distribution ought to be given careful attention by advocates of urban agriculture.

KEYWORDS Africa, economic development, food security, political economy, urban agriculture

INTRODUCTION

The age-old debate about how best to provide food security remains rancorous, particularly in the light of recent large-scale investments in land (Borras and Franco 2012). At the core of the debate is the tension between global food security and local food sovereignty. While in theory food security has an elaborate definition,[1] in essence, global food security tends to

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aspire for more production by corporate agribusiness entities or processes to increase the quantity of food available globally. Local food sovereignty, on the other hand, is used to directly confront issues of power, distribution and access, autonomy, and self-determination in processes of food production and consumption (Young 2012, 17–27). Those who favor large-scale, mechanized agriculture argue that it is more productive because it enjoys economies of large-scale production and is *the* way to attain global food security. Also, it is more desirable because it uses better technology which, in turn, enhances the quantity and quality of agricultural production. Further, large-scale farming creates employment opportunities and enables peasants to obtain better wages. For customary landowners, large-scale agriculture ensures higher rental fees for land use. As well, large-scale agriculture is needed for the effective functioning of capital markets (World Bank 2007, 2011), as land is commodified (Deininger 2003).

Consider the following statement from Global Green Capacity, Ltd. (2011):

> Green or sustainable investments are a rapidly growing area of interest among investors. With annual returns of between 15% to 30% it's clear to see why. Agriculture provides one of the most popular entry points but with a vast choice of products and different asset classes available, newcomers to this highly lucrative sector can find themselves wondering where to begin. Investing in agriculture means being able to enjoy the benefits of long-term global population growth against a background of a rise in demand for commodities. It means investing in real assets, in food production, in timber, in renewable energy and in clean fuels . . . (3)

The overall vision of large-scale agriculture is to commodify and modernize agriculture for food security. "Commercial agriculture," according to Paul Collier (2009), an Oxford University economist, "is the best way of making innovation quicker and easier . . . [thus], allowing commercial organizations to replace peasant agriculture gradually would raise global food supply in the medium term" (n.p). It is not that proponents do not recognize the deep problems of hunger and food insecurity in Africa, but, as Norberg (2005) notes, "Hunger today is a problem of access to the available knowledge and technology . . ." (10). Framed this way, the posited solution lies with the green revolution and the expansion of private property rights. To Norberg (2005), "property rights provide an incentive for foresight and personal initiative, spurring growth and distributing the fruits equally, between rich and poor" (52). It is such arguments as this that have been used to justify and extend current large-scale investment in land, popularly called land grabbing.

However, these claims have been widely disputed. Commercialization has left in its wake widespread land dispossession, a worsening of food

security, and a crisis of livelihood (Crewett and Korf 2008; Cotula et al. 2009, 2011; Alden Wily 2011, 2012; The Oakland Institute 2011).

Smallholder farming, in which farmers decide what and for whom to produce crops, has often been presented as more sustainable and ecofriendly. In turn, smallholder farming is said to be able to achieve local food sovereignty without sacrificing global food security. A key rallying point of this latter view is the global peasant movement, La Vía Campesina, formed in 1993. According to eminent sociologist, Walden Bello (cited in Desmarais 2007), "La Via Campesina is probably the most effective of these movements of people . . ." (4). Its central vision is fighting for food sovereignty—a broader concept than food security—that entails looking at food as a human right, not just as an aspiration, discouraging fast and junk food, and encouraging a return to common land in which people have use rights in the commons rather than owning the land as property. The movement challenges individualism and seeks to speak truth to power by advocating humanism and communalism (Desmarais 2007; Riddell 2009). La Vía Campesina embodies a transnational peasant struggle. Indeed, the name in the Spanish means "peasant way" or "peasant road" (Desmarais 2007, 8).

Yet, urban agriculture tends to be given only passing attention. When it is given some thought, orthodox economists argue that small-scale farmers should be encouraged to work alongside the large-scale farmers. Such economists encourage joint ventures (in which small-scale farmers give up their land for corporate farming in exchange for a share in the farming), the competitive supply of inputs to supermarkets in the global food chain, they create innovative finance, entailing micro-credit and micro-finance institutions, and co-operate producer organizations presumably to become cartels as they grow bigger, formalizing and commodifying tenure through a process of evolution, and developing input markets in seeds and fertilizer (World Bank 2007, 2010). The underlying view of this revisionist position is that small-scale agriculture is not sustainable by itself.

This article contests this stance. It aims to show the viability and vitality of smallholder farming in urban Africa, namely, via urban agriculture—regarded as the small-scale farming or gardening in urban areas often with urban resources. The focus on urban agriculture is justified for two reasons. First, the urban share of global population has exceeded the rural share of world population. Thus, urbanism and food security constitute an important focus of attention. Second, most of the attention about the vitality of smallholder food systems, including the famous La Vía Campesina campaigns, concentrates on rural areas. Thus, the analysis in this article departs from earlier research in Africa (e.g., Dan-Azumi 2011) and elsewhere (e.g., De Janvry and Sadoulet 2011), which typically look at rural smallholder farming systems in particular countries in Africa. In any case, topics on urban agriculture have only marginally appeared in the urban studies literature in Africa (Wang et al. 2011).

While this article defends the case of proponents of smallholder farming, it points out that there are serious problems with it that are often glossed over by its advocates.

The rest of the article is organized into three sections. The next section considers the history of urban agriculture, followed by a discussion of the positive socioeconomic outcome of urban agriculture, and an analysis of the challenges of urban agriculture. A brief concluding section highlights the key lessons of this article.

URBAN AGRICULTURE: HISTORY, NATURE, PROSPECTS

Urban agriculture has a long history in Africa. For instance, the colonial officers in Ghana farmed urban land (1873–1957), next postcolonial government bureaucrats did so too, and then urban agriculture became a national policy in 1973 when the then Kutu Acheampong government declared Operation Feed Yourself[2]—a program of attaining national food sufficiency (Obosu-Mensah 1999, 2002).

Urban agriculture was practiced in Kenya in 1899 and in Zambia in the 1920s and 1930s and has persisted to this day (Hampwaye 2008). The 1980s saw a dramatic rise in interest in urban agriculture as a survival strategy for those who lost their jobs due to austerity measures implemented during the structural adjustment era of the 1980s and early 1990s. Similarly, in cities such as Freetown, Sierra Leone, where civil war led to massive rural–urban migration and, hence, reduced the population in rural areas involved in farming, urban agriculture has remained a key livelihood strategy (Dubbeling et al. 2010; Lynch et al. 2012). Nevertheless, agricultural research and policymaking continued to focus on rural areas. Prain (2010) has suggested that this might have been because of the influence of "urban bias" theory and analysis. While this interpretation may be admissible because some international development agencies tried to balance the bias of policy in favor of urban development by focusing strongly on agriculture and rural development, the central reason why agriculture focused on rural areas is that, by definition and historical records, most agriculture happened in those areas (Lynch et al. 2012). Indeed, La Vía Campesina was formed in 1993 as a peasant-based movement, its primary focus being on rural and peri-urban areas and not as much the urban question (Desmarais 2007; Riddell 2009). The first time large-scale, formal research was conducted on urban agriculture was in the 1990s, when Jac Smith, often called the Father of Urban Agriculture, led a team of experts to undertake and write a formal document titled, *Urban Agriculture: Food, Jobs and Sustainable Cities*, a revised edition of which was published in 2001 (United Nations Development Programme [UNDP] 2001). Researchers interested in Africa had previously studied urban agriculture, of course (e.g., Maxwell et al. 1998; Levin et al 1999; Maxwell 1999; Maxwell

et al. 2000), they did so on a small scale, whereas the study by Smith and the subsequent Harare Declaration, made in 2003, gave urban agriculture a major international and formal stamp of approval. The declaration was made by five East African and Southern Africa countries to promote urban agriculture and give it a broad appeal. The Harare Declaration calls for the acceptance and promotion of urban agriculture as a motor of food security in urban areas in Africa. Since the making of that declaration, United Nations Human Settlements Programme (UN-HABITAT; 2008, 2010) has supported the campaign for urban agriculture in its two reports on the state of cities in Africa by recognizing the potential of urban agriculture, although not in any detailed form. It is that detail—about jobs, incomes, and security of tenure—that the next section of this article considers.

Food Supply

The contribution of urban agriculture to food production is substantial. It is estimated that in Ghana, 90% of the vegetables consumed in Accra and Kumasi are produced in those cities. Numeric evidence of the share of urban agriculture in total agricultural production is hard to find, but one estimate puts it at 15% in 1998 (Zezza and Tasciotti 2010). In Burkina Faso, Kinane et al. (2008) have noted that "since the 1960s the number of sites on which exotic vegetables are grown has increased in the city of Ouagadougou alone from just a few to more than 50, representing about 2500 ha" (25). A recent survey of 100 people in Bameda, Cameroon (Ojong 2011), reveals that as much as 42.1% of the respondents depend on urban agriculture for a living. In Freetown, the first large-scale survey of people involved in urban agriculture (Lynch et al. 2012) shows that for about 65% of the participants, urban agriculture is their main source of livelihood. According to Ludovic and Lebailly (2011), in 2008, urban agriculture contributed some 18,848 tons of vegetables in Niamey, Niger. Also, some 14% of the rice needs of Antananarivo, Madagascar, are produced by urban agriculture (Aubry et al. 2012).

Another way to gauge the contribution of urban agriculture to food supply is by looking at the share of the urban population involved in urban agriculture. According to Prain et al (2010), on average, some 35% of people in cities in Africa report that they are involved in urban agriculture. Lusaka, Zambia (49%), Maputo, Mozambique (40%), and Addis Ababa, Ethiopia (50%), to name a few, all have a substantial share of their urban population involved in urban agriculture. A few cities have only a small share of the population engaged in urban agriculture. In Accra, for example, according to the analysis of Prain et al. (2010), only 15% of the population and 3.4% of households are involved in urban agriculture. However, in urban Ghana as a whole, at least 28% of households are estimated to be engaged in urban agriculture (Ghana Statistical Service 1995, 2008). Thus, although there is no

quantitative figure of exactly how much urban agriculture contributes to total food supply in Africa (Prain et al. 2010), the estimates for people involved in urban agriculture and how much it contributes to the total food supply in urban areas in individual countries suggest a substantial contribution to the food supply in African cities.

Incomes

While most urban agriculture is informal (Cabannes 2012) and, hence, data on incomes can be hard to find, national estimates give some indication of the contribution of urban agriculture to incomes. In Yaoundé, Cameroon, Prain et al. (2010) identified that urban farmers typically have earnings that are 50% in excess of the minimum wage, while heads of households involved in urban agriculture in Kampala, Uganda, earn 70% more than the per capita income in the country. In Accra, urban agriculture contributes about 15% of the incomes of those households that are financially stressed (Armar-Klemesu and Maxwell 1999), but this is likely to dramatically improve over time, given the substantial reduction in income poverty among food crop farmers from over 60% in 1991–1992 to under 50% in 2005–200 (Ghana Statistical Service 1995, 2008).

In Niamey, Niger, Ludovic and Lebailly (2011) found that, depending on the produce grown, urban farmers can obtain about $1,200/acre/year to slightly over $4,000/acre/year.

Table 1 contains numeric evidence of the income effect of urban agriculture compared with national monthly per capita incomes. While, in most cases, earnings from urban agriculture seem to be higher than per capita incomes, caution is needed in interpreting the evidence.

First, the figures must be treated as estimates because of the difficulty in delinking various sources of income from urban agriculture—a challenge, which, in turn, is linked to issues of record keeping. Second, although a range is used in most of the figures, it is not clear to what extent the range is flexible enough to capture the variety of earnings that accrue to farmers depending on what crops and varieties are grown, and whether the incomes are derived from a variety of sources. Third, the figures are not directly comparable because they have not been adjusted for purchasing power parity and do not show any temporal characteristics. In spite of these challenges with data availability, collection, and interpretation, the numeric evidence complements the qualitative evidence, further suggesting that urban agriculture contributes substantially to incomes in cities in Africa (see also Larson et al. 2012).

Apart from contributing significantly to food supply and incomes, urban agriculture avoids speculative financialization and is not accompanied by large-scale dispossessions. Recent research by Cabannes (2012) shows that most urban farmers use informal, small-scale, communal credit systems

TABLE 1 Per capita monthly incomes from urban agriculture vis-à-vis national per capita income

City	Income/farm (US$)	Income Per capita (US$)
Accra, Ghana	40–57	27
Bamako, Mali	10–300	24
Bangui, Central African Republic	≤320	22
Banjul, the Gambia	≥30	26
Bissau, Guinea Bissau	∼24	12
Brazzaville, Republic of the Congo	80–270	53
Cotonou, Benin	50–110	36
Dakar, Senegal	40–250	46
Dar es Salaam, Tanzania	∼60	24
Kumasi, Ghana	35–160	27
Lagos, Nigeria	53–120	27
Lome, Togo	30–300	26
Nairobi, Kenya	10–163	33
Niamey, Niger	∼40	17
Ouagadougou, Burkina Faso	15–90	25
Yaoundé, Cameroon	34–67	53

Source: Dubbeling et al. (2010, 11).

called *Osusu* (in Ibadan, Nigeria), *Susu* (in Accra), and *tontines* (in Porto Novo, Benin). Urban farmers in Africa exhibit little or no tendency to take loans from formal financial institutions. In turn, they do not provide the conditions conducive for the growth of speculative finance (Cabannes 2012). Further, by definition, expropriation is rare, as urban agriculture in Africa takes place on backyards, along drainage systems, around factories, street corners, and rooftops (Dubbeling et al. 2010). In Accra (in Ghana) and Freetown (in Sierra Leone), for example, most urban agriculture is done on land under 1 acre (Armar-Klemesu and Maxwell 1999; Obosu-Mensah 1999; Lynch et al. 2012) and, on average, farmers till about 0.21 ha of land in Kinshasa (Lebailly and Muteba 2011). Indeed, most urban agriculture is done by poor people, not elites who are typically involved in the process of land grabbing (The RUAF Foundation 2008, 2011). The poor are able to start urban agriculture with little or no support, as urban agriculture has low barriers to entry and exit (Dubbeling et al. 2010). Thus, for all the merits, urban agriculture does not have the social cost that accompanies mechanized, large-scale farming.

EXISTING CHALLENGES, POSITED SOLUTIONS, AND SCHISMS

The evidence on the role of urban agriculture in creating livable cities is not altogether positive. Urban agriculture faces daunting challenges. Most studies and advocates of urban agriculture recognize this issue, but they concentrate

on the well-known problems of loss of land, the loss of produce due to thievery, lack of credit, and insecurity of land tenure (Obosu-Mensah 1999, 2002; Dubbeling et al. 2010; Cabbanes 2012; Lynch et al. 2012).

These are important problems, but there are even deeper seated problems of safety, access, and distribution, which are hardly ever recognized. Yet, most urban farms in Africa are irrigated with water that is polluted with household, factory, and industrial waste (The RUAF Foundation 2008, Hope 2008). Quite apart from health risks for the farmers themselves, there are health dangers for consumers—especially poorer ones who depend solely on informal sources of food—as well because of the risk of consuming contaminated food.

Non-farmer risks abound too. For instance, it is on record that wholesalers and retailers of farmers' produce use similar types of water sources to "clean" the produce. While there are some claims by the traders that they sometimes use brine or salt water to wash produce from urban agriculture, scientific evidence suggests that brine only reduces contamination (The RUAF Foundation 2008, 2011). There are also those primary consumers—such as wayside food sellers—who typically do not wash the farm produce properly before using them for food preparation and, in turn, endanger the health of secondary consumers. These problems have been reported in various cities in Burkina Faso, Ghana, Nigeria, Kenya, Uganda, and Zimbabwe (see, e.g., Hope 2008, Abdulai et al. 2011). Non-farmer risks are borne differently by various socioeconomic strata in society. In Accra, for example, while there are some traces of contamination in the food prepared in restaurants and hotels, which are the places the rich go to eat (Addo et al. 2007), the poor, who depend on street food, stand the risk of consuming substantially contaminated food (Mensah et al. 2002; Davis 2008) prepared with ingredients from urban farms irrigated with polluted water. These levels of contamination are worsened by the poorly maintained environment within which produce from urban farms are processed and the low levels of education of food vendors (Adjaye-Gbewonyo 2008; Hope 2008).

There is also the problem of access. Most people who buy products from urban farmers hawk them by the roadside, in lorry parks, in between moving vehicles, and at other informal and unauthorized places. The majority of people in cities in Africa—80% in one study in Gaborone, Botswana (Lane et al. 2012)—find the location of such food items convenient. However, the city authorities regard informal activities collectively as a nonconforming user and a nuisance. In turn, the hawkers and other sedentary sellers are subjected to recurrent forced evictions and attacks to modernize the urban space. Such cases of forced evictions have been recorded in most cities in Africa, including those in Zimbabwe, Uganda, Kenya, Ghana, Cameroon, Nigeria, Niger, and the Democratic Republic of Congo (UN-HABITAT 2003; Ludovic and Lebailly 2011; Ojong 2011). While these attacks do not permanently drive the traders off the street (Asiedu and Agyei-Mensah 2008; Davis

2008), they put the source of food, mostly for the poor, under threat (Aguda 2009). Indeed, if the scope of urban agriculture includes the retailing of food produced on urban farms, as argued by Ludovic and Lebailly (2011), then forced evictions constitute a direct assault on one key link in the food chain.

Forced evictions are common in cities in Africa, but global audits on the size of the phenomenon are hard to come by. The last time the Centre on Housing Rights and Evictions (COHRE) published such a survey was in 2002. It revealed that, between 1998 and 2000, 1,607,435 people are said to have lost their wares (COHRE 2002). This figure errs on the conservative side because it excludes forced evictions that take place outside of slums. Yet, there is substantial evidence that forced evictions take place on areas outside slums and informal settlements. In Ghana, entire food markets are the target of destruction (Afenah 2012), relocation and harassment (Adaawen 2012). While not everything on sale can be said to be from urban farms, there is evidence (see, e.g., Lince 2011) that urban street hawkers and food sellers also sell products of farmers.

Finally, there is the problem of distribution. While the number of households involved in processing foodstuffs from urban agriculture in Ghana has grown, rising from over 60,000 in 1991 to over 1,200,000 in 2008 (Ghana Statistical Service 1995, 2008), about 99% of urbanites do not consume the Ghana Health Service's recommendation of 5 or more servings of vegetables a day (Ghana Statistical Service et al. 2009). Quantity has improved through urban farming, but obtaining balance in urban diets remains a challenge. Indeed, the share of the amount of vegetables (16.6%) and fruits (1.6%), compared to the share of tubers (45.7%) in a typical Ghanaian diet is low (Ghana Statistical Service 2008). Furthermore, responding to market signals, some people involved in urban agriculture have switched to the growth of exotic vegetables or local vegetables, which they do not consume themselves, as has been reported in the case of Togo (Tallaki 2005) and Ghana in West Africa (Field et al. 2010). So, urban agriculture faces a fundamental challenge of food distribution.

These challenges are not easily resolved by the four broad avenues for change normally advocated by writers on urban agriculture, namely, legal transformation (the design of pro-urban agriculture rules), institution of economic incentives (e.g., tax holidays for landowners who give their land to others in cities to farm), community education, and urban design solutions (e.g., pro-urban agriculture zoning) (Dubbeling et al. 2010). Indeed, they reveal the inherent inadequacy of the concept of food security, which emphasizes quantity, without considering issues of safety, access, and distribution. Indeed, the idea that "modernizing the streets" is development is inherited by postcolonial governments in Africa that continue to mimic colonial town planning and its rigid separation of the colonizer from the natives under the guise of ensuring order and good health (Njoh 2012). In turn, the issues about distribution and access may be taken as suggesting the

continuing influence of unequal power relations in setting the tone for the debate about food and sustainable urban livelihoods.

Also, solutions such as high technological fixes, farmers markets, and partnership agriculture, which are highly regarded in the urban agriculture literature (e.g., Constance 2012; Kledal 2012; Renting 2012) are fundamentally inadequate in other ways. Quite apart from their irrelevance to the problems of safety, access, and distribution, they have inherent weaknesses. High technology usually developed in the global north and which works with specific scientific requirements, such as pH levels (e.g., hydroponics) may be said to be innovative because it can even exist on rooftops (see, e.g., Kledal 2012), however, its promotion is based on the erroneous and pernicious thinking that the problem there is to urban food is only supply. It forgets that there are problems of safety, access, and distribution. That the technology proposed is expensive and, hence, may not be able to meet the needs of poorer people in Africa is a warning bell. While that challenge may be solved by another technological fix, by making the technology low and less expensive, it does not succeed in taking into account the voice of farmers in Africa.

There is a fundamental problem with using hydroponics, too. It acts as a way of extending the wheels of capital and making money out of the process under the guise of solving food security. Often the strategy is to suggest that traditional forms of urban agriculture are retrogressive by looking for numeric evidence that urban agriculture does not contribute enough to farmers' incomes. Next, that evidence is used to make a case for a more efficient system. Then, that system is sold to African governments. Indeed, blueprints are sometimes recommended to be used wholesale by African farmers, without careful analysis of their relevance to local contexts. So, quite apart from the problem of the schism between issues of safety, access, and distribution confronting urban agriculture and the posited solutions, there are inherent weaknesses in those solutions as well.

CONCLUSION

Urban agriculture has considerable beneficial outcomes for urban livelihoods. The evidence from Africa shows that urban agriculture substantially contributes to the supply of food for urban residents, enhances the income of urban farmers, and enhances their well being, without being dispossessive, expropriatory, or exploitative. However, currently, much of its potential goes unrealized because it does not sufficiently deal with food security in the form of safety, access, and distribution all of which intermingle and are co-constitutive of the idea of food security. Food security is a multifaceted notion, so, for urban agriculture in Africa to realize its full potential, its advocates need to view it more broadly than it being just a farm to considering it as a *just* social activity. Failing that will mean diverting attention from

social inequality, and the dispossession of urban street food sellers. Urban agriculture can help to attain local food sovereignty. This, in turn, can be posited as an alternative to the dominant, large-scale mode of food production. If the world is becoming one urban planet, and cities all over Africa and the world attain local food sovereignty, will global food security not have been underwritten? This is the lesson that urban agriculture in Africa teaches.

NOTES

1. According to the Food and Agriculture Organization of the United Nations (1996), food security, broadly, means adequate food supply, access to the available food and the reliability of the systems to ensure the functioning of both supply and demand to enable people to live healthy and active lives.

2. This policy was implemented after the *Yentua Policy*. *Yentua*, literally meaning "we won't pay." The policy entailed the reneging and repudiation of debt owed to Western governments. It contrasted with an earlier policy, called *Okafo didi* ("the debtor must be allowed to eat, at least"), which pleaded with the creditors to give Ghana more time to make good its debt. The government, in turn, had little international donations to develop the country ("Between Okafo Didi, Yentua And Aban Dze", 2009). Consequently, it developed Operation Feed Yourself.

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