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> URBAN AGRICULTURE SUPPORT POLICIES IN WEST AFRICA

# Taking account of informal arrangements

Ophélie ROBINEAU

In West Africa, urban agriculture plays an economic, environmental and social role. However, the support policies and actions that are beginning to target this activity remain relatively ineffective, since they fail to take into account informal arrangements between stakeholders — farmers, livestock holders, waste managers, and authorities —, or the spatial organisation of these activities and the proximity required between them. Supporting urban agriculture therefore calls for a global approach that takes into account these informal arrangements and this need for proximity.

In sub-Saharan Africa, the urban population has grown from 53 to more than 400 million people in 50 years. After the post-independence urban explosion, droughts combined with economic and food crises in rural areas resulted in a mass exodus to the cities. Unlike in Europe, this urbanisation was not accompanied by industrial development, and therefore job creation, in the formal sector. This lack of jobs has led households, especially the poorest, to continue or to undertake farming activities in the cities, both for their own consumption and to generate income.

Urban agriculture is particularly practiced by farmers who have lost most of their farmland due to urbanisation, and who continue to produce intensively on undeveloped land or on plots where building is not allowed (interstitial agriculture), as is the case in Bobo-Dioulasso (Burkina Faso). It is also carried out by city dwellers who take up this activity. It has several forms: market gardening in the low-lying areas; poultry, sheep, pig or cattle rearing in backyards; subsist-

ence farming along roadsides; and ornamental plant production in city centres, etc.

Urban agriculture is often criticised because of the pollution it creates (use of chemical inputs) and its health risks linked first to the use of waste water for irrigation and of urban waste for fertiliser, and second to the presence of livestock, which is a potential vector for disease.

Urban agriculture is still disregarded by many African officials and city planners, who consider it — based on a vision of public health inherited from colonisation — as unsuited to urban areas, or even dirty and degrading to the “modern” image of African cities that they are trying to promote. Since it has no official status, land tenure for this kind of agriculture remains insecure: agricultural land in urban and peri-urban areas is primarily seen as reserves of land for the expansion of housing or infrastructure. Moreover, urban agriculture is subject to restrictive regulations, which make it vulnerable, such as the national code of public health in Burkina

perspective

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Faso, which forbids agriculture and livestock rearing in cities, a prohibition that is not respected.

## Numerous benefits

However, for the last 20 years, international organisations and programmes such as UNDP (United Nations Development Programme), FAO (Food and Agriculture Organization of the United Nations) or RUAF (Resource Centres on Urban Agriculture and Food Security) have stressed the role urban agriculture plays in cities in developing countries, not only in terms of creating direct and indirect jobs – and therefore generating income –, but also in producing food, improving the environment and living conditions, and fostering social integration.

According to FAO, in 2012, 40% of urban households in sub-Saharan Africa were involved in urban agriculture activities. This figure reveals the scale of the phenomenon, despite the uncertainty it raises, particularly due to the fact that definitions are hazy. In addition to providing jobs and therefore income, urban agriculture contributes — sometimes significantly — to city food supplies. FAO estimates that all of the leaf vegetables consumed in Dakar (Senegal) and Accra (Ghana) are produced in urban and peri-urban agricultural areas. In Bobo-Dioulasso, 40% of all pork consumed by city dwellers comes from urban livestock, according to the Ministry of Animal Resources.

Urban agriculture can also contribute to better environmental management. First, it recycles organic waste: household and animal waste, to fertilise crops; waste from the processing of agricultural products, to feed livestock (brewers' grains, cereal bran, etc.). Without this recycling, this waste would have to be removed by the municipal services, which would imply costly investment to create or improve waste disposal and treatment systems. In addition, urban agriculture improves the landscape. It maintains green spaces along waterways, such as market garden areas that are open to the public. Crops and trees are also planted in green corridors, which have been created recently in public areas.

Finally, urban agriculture plays an important social role, by fostering the integration of poor households. Not only does it generate income, but it also encourages the creation of solidarity networks, as is the case for small-scale pig farmers in Bobo-Dioulasso.

Based on these observations, these international organisations and programmes promote the

implementation of support actions and the inclusion of urban agriculture in public policy. However, the actions and policies conducted, which focus on market gardening, have proved insufficiently effective, particularly because they fail to take into account the operational characteristics of agriculture in cities in developing countries. These characteristics explain the continued existence of this sector, in spite of hostile regulations and non-existent, limited or inappropriate support.

## Understanding operational characteristics...

Research conducted in Bobo-Dioulasso (see box p. 4) has identified two of these characteristics: informal arrangements between farmers, livestock holders, waste managers and agribusinesses, as well as with the authorities; and short distances between activities. These informal arrangements between stakeholders can be illustrated by the practices of market gardeners and livestock holders to ensure the supply of inputs in sufficient quantities and at low cost, in a context of high demand.

In order to fertilise their crops and to maintain soil fertility, at certain times market gardeners require large quantities of animal and organic manure. To ensure they get what they need, they make informal arrangements: with livestock holders, especially pig farmers; with rubbish truck drivers or urban waste collection associations; and with cart drivers who transport manure. These arrangements are based on interpersonal relationships — family, neighbours, friends, etc. — and on trust. With livestock holders, the market gardeners agree on a certain amount of manure and, in exchange, they undertake to pay for it within an agreed time-frame. As for rubbish truck and cart drivers, the market gardeners pay them to deliver the required waste to their plots. All parties benefit from this system: the market gardeners, who can guarantee their supply of manure; the livestock holders, who can dispose of their animal waste, which is unpleasant to their neighbours; and the cart drivers, who make a living from transporting this material.

Less is known about how livestock farmers' guarantee their supply of animal feed. In Bobo-Dioulasso, farmers feed their pigs with food residues, for example brewers' grains, known as *dolo*. They access this feed by means of contacts made through friends or family. The resulting informal arrangements secure their supply, in a context of high demand (more than 500 farms

> Urban agriculture is insecure and vulnerable

> Job creation, food production, waste recycling and social integration

> Informal agreements and spatial proximity to maintain urban agriculture

> Informal arrangements with the authorities

with an average of five pigs to be supplied daily). For brewers' grains, an oral contract commits the *dolo* producer to sell the agreed quantity every day and the farmer to pay what is owed within an agreed time-frame. This arrangement benefits both parties: the farmer guarantees his supply; and the *dolo* producer disposes of a product that rots very quickly.

if the district council claims to be willing to defend the site due to the benefits to the municipality of the food produced, and to the improved economic and social situation of local people, it is unlikely that this will be translated into official protection.

Another example is that although livestock rearing is forbidden, the municipal public health service sometimes intervenes in disputes between farmers and their neighbours to maintain this activity, a sign of implicit tolerance. These informal arrangements perpetuate this activity, even if they do not remove the threat of prohibition posed by official regulations.

Another factor explaining the maintenance of urban agriculture is the spatial proximity of the activities involved. As movement is difficult, especially for carts in the city centre, and the cost of transport high, market gardeners and livestock holders prefer to source supplies nearby. The market gardeners in Kuinima only source their manure from pig and ruminant farmers in the neighbouring districts, and the manure is transported by cart (Fig. 1). Livestock holders transport brewers' grains and other feed daily on foot, by bike and sometimes by cart, and also prefer suppliers who are nearby.

> Agriculture, one component of a new form of urban planning

Informal arrangements are also concluded with the authorities, for example in order to gain access to land or to maintain a farm in case of conflict with neighbours. In Bobo-Dioulasso, for instance, it is thanks to informal negotiations with the military authorities and to mediation by the municipal authorities that market gardeners in Kuinima (750 producers over 70 hectares in the city centre) continue to cultivate land in the military camp. Finding themselves unemployed further to the urbanisation of the 1970s, these market gardeners occupied some of the camp land, which had belonged to their ancestors before they were expropriated. Faced with threats of eviction by the army, the traditional chiefs challenged the authorities to find work for the market gardeners if they forced them to leave. This tacit arrangement remains fragile: it is entirely dependent on the colonel in charge. Even

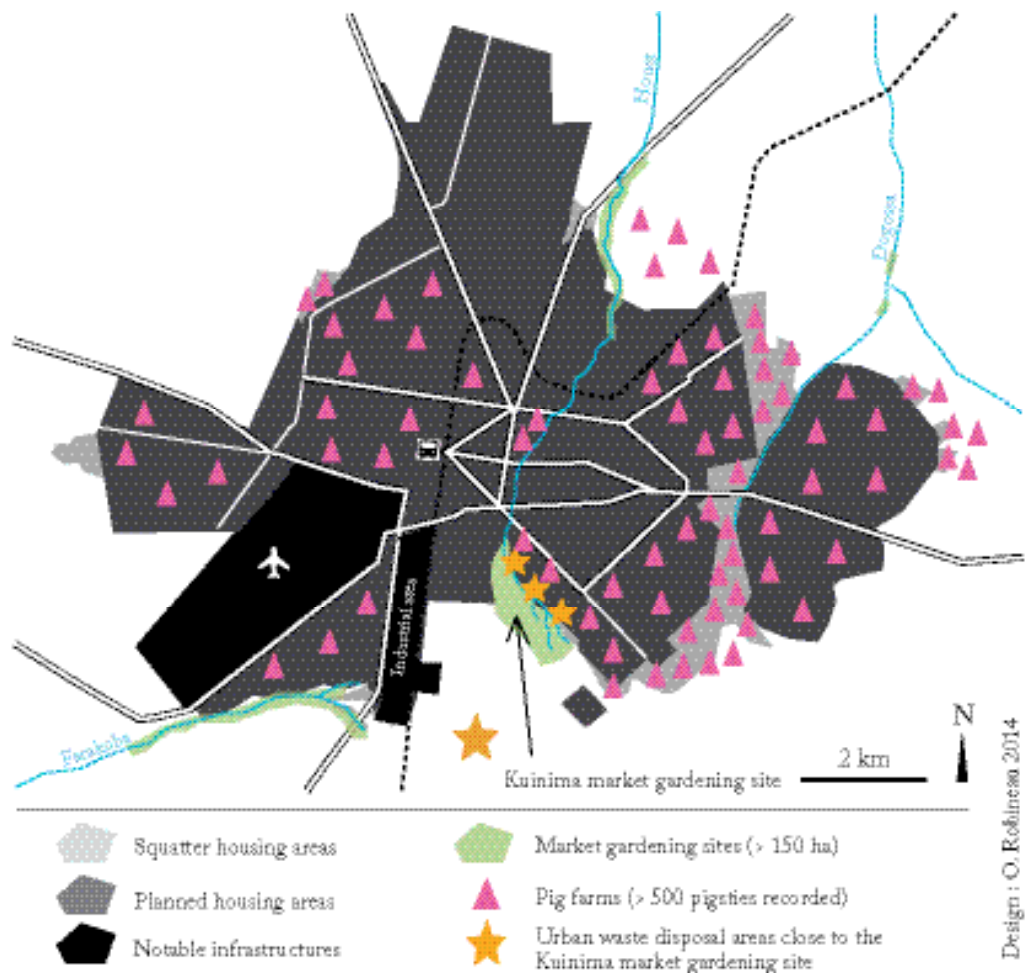


Figure 1. The proximity of activities guarantees the maintenance of urban agriculture.

(Bobo-Dioulasso: distribution of market gardening sites, pig farming and urban waste disposal, 2013. Source: field data, Ophélie Robineau)

## A few words about...

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is a geographer. She wrote her PhD thesis within the Innovation joint research unit (<http://umr-innovation.cirad.fr/>) from December 2010 to December 2013. Her thesis received the *Thèse sur la Ville 2014* award.

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## ... in order to act

Public policies fail to take into account these operational characteristics of urban agriculture. They focus on market gardening and neglect urban livestock rearing, which suffers from a negative image due to the pollution it may generate. However, a study by the International Livestock Research Institute (ILRI) on livestock rearing in several East African cities stresses the fact that urban livestock rearing carries a low level of risk in terms of the spread of animal-to-human diseases. Moreover, it highlights the importance of maintaining livestock rearing in cities in view of the malnutrition affecting certain segments of the urban population.

Supporting urban agriculture therefore requires a global approach that takes into account the often informal interactions between farmers, livestock holders, waste managers and agribusinesses. Supplying market gardening sites with animal manure implies maintaining livestock rearing in or close to cities. And maintaining livestock rearing calls for removing or adapting the regulations prohibiting this activity, and fostering complementarities with agricultural and agribusiness activities (both traditional and modern). Supplying market gardening sites with urban waste requires a neighbourhood waste transportation network and the prevention of environmental risks, such as those linked to heavy metals. Policymakers must therefore make improvements to facilitate the movement of manure, waste and by-products.

A global approach of this kind and the resulting solutions require coordination between stakeholders and must be adapted to each context. In addition to the informal arrangements described, consultation and agreements are needed between urban planners and agricultural extension services, in order to find compromises between city development (infrastructure, etc.) and the development of agricultural production: for example, districts combining areas for housing, market gardening and livestock rearing. The movement of agricultural products and inputs should also be addressed as such in discussions on urban planning.

This global approach will be all the more effective if it is included in a city policy that considers agriculture as one component of a new form of urban planning, rather than as an element that is external to the city. Indeed, while urban areas and agricultural areas have always been considered as being in opposition, African cities are showing that the combination of urban and agricultural activities is one possible way of living in cities.

However, including urban agriculture in city planning raises the question of its formal recognition. African societies are marked by a culture of compromise, which produces a hybrid of the formal and informal sectors. Although formal processes such as master plans for urban development are required in order to reinforce urban agriculture, it is essential that they neither challenge nor disregard informal arrangements. <

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This research has resulted in the following publications:

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