

Flowers watered with beer



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Summary

Urban and peri-urban farmers may be peasants, engulfed by an expanding city, or they may be migrants to the city, or even educated people from the city. Their products are diverse, but tend to be perishable, marketable and of high value. They farm with little land but great creativity, can make use of new information, and often have more access to extension or other forms of new ideas than do more remote farmers. Peri-urban farmers face unique problems, such as land conflicts with builders. On the edge of the city, farmers can buy a wide range of specialty, store-bought supplies (such as mushroom spores), but they also have access to quirky inputs, often industrial by-products, such as sawdust or waste water from a brewery.

Peri-urban agriculture: potential and some issues

There is a large brewery, painted a brilliant white, where the Taquiña Canyon emerges from the Bolivian Andes, overlooking the Cochabamba Valley. It takes a lot of water to brew beer, and this brewery discharges its waste water into an irrigation network, used by the community of Central Taquiña, a former village, that has been swallowed by the city of Cochabamba. Draining waste water into the irrigation system is not a case of corporate abuse, but is an arrangement reached with the community. The brewery could just as easily dump the water onto the river bed.

Peasant communities that depend on irrigation water organise themselves to use it, with various ways of naming officers, timing the turns, and cleaning out the canal every year or so (Trawick, 2001; Lansing, 1987). This community of irrigators is no different, except that the source of their water is the tail end of a brewery. Some days their irrigation water runs soapy, if the brewery is washing its tanks. On other days, the water is filled with the spent grains of barley, or it is sweet with molasses; sometimes the water is as clear and clean as a trout stream, and at others the water looks and smells like beer, and even has a good head on it.

The farmers who use this water wait patiently for their turn to come, and then divert the water, no matter what it looks like on that day, onto their tiny, stony fields, high on the alluvial fan over the valley bottom. In a semi-arid area like this, land with abundant water can be valuable, even if the soils are rocky. These particular fields are not only stony, but they are also small: just slivers between the houses of a community which is rapidly becoming a neighbourhood of the city. Over the

years, the villagers made room for many outsiders, including miners, who came down to Cochabamba when the tin mines closed. More recently, city people have moved in, attracted by the small green spaces and plentiful water.

The fields themselves are strange and beautiful; nearly all of them are planted in carnations and other flowers (Figure 1). The farmers harvest their flowers in the afternoon, after the hot part of the day is over. They tie the flowers into bunches which are bound into large bundles, almost too heavy to lift, and wrap them in plastic burlap bags.



Figure 1. Harvesting lupin flowers high above Cochabamba, Bolivia (Photo: Brian Sims)

Before dawn, two of the city bus lines reach the cobblestone streets of Central Taquiña. The flower farmers load their bundles onto the roof of the bus, take a seat inside, and take the flowers to the wholesale market of the city centre. By noon, the flowers are being placed on graves, in vases on the dining room table and are on their way to brighten someone's hospital room. The flowers are not food, but then neither are they part of the global trade in export commodities. The flowers simply help to give meaning to life in the city.

Although I am an anthropologist, for years I missed the importance of these flower growers. I thought they were an eccentric remnant. But I was wrong. The flower growers on the edge of the city are peri-urban farmers, and they share a way of life that is becoming more important in today's world.

In this article, I argue that peri-urban agriculture is qualitatively different from rural agriculture. Peri-urban agriculture is not dysfunctional farming, poorly transplanted to town. Peri-urban farming must adapt to scarce land. But peri-urban agriculture also enjoys unique resources, such as low transportation costs and privileged access to markets which allow peri-urban farmers to produce and sell valuable, fragile products. Peri-urban agriculture has access to unusual resources like organic wastes (sometimes bizarre ones such as water that smells like beer). Peri-urban agriculture also depends on unusual skills.

Land

Many cities today, like Cochabamba, evolved from farming communities that were built on the world's finest farmland. As these cities expand, they leave some small plots within the city that can be gardened. The expanding cities also grow closer to peasant villages, and sometimes swallow them, amoeba-like. These farmers become peri-urban without ever migrating to the city. The city has come to them.

Kumasi is a fairly large city in central Ghana. With 1.2 million people, Kumasi has an airport, is the capital of the Ashanti Region, and a centre for cacao production. The city is also expanding onto the farm land around it. In 2014 I visited a farmers' group with the unforgettable name of the *Peace and Love Farmers' Association*. They had an extension agent who visited them regularly, another advantage of being close to town. *Peace and Love* had a contiguous block of land, divided into individual gardens which looked much like those of the African countryside: neatly arranged into raised beds, covered with cabbage, lettuce and onions, with papaya and bananas growing here and there. Men and women were hauling water by hand from a well and watering their seedlings with watering cans. The *Peace and Love* farmers were obviously taking good care of their land, and getting high yields of vegetables to sell in the city. New houses were being built on all sides of the large garden, as the city of Kumasi engulfed the farmers.

Peace and Love had a small shed where they kept some tools. They proudly showed me some of the papers that acknowledged the group's existence, and certificates from training courses they had attended. But by far the most unusual thing about *Peace and Love* was the brick wall they were building around their land. They had the same kinds of problems that farmers often mention, such as too many pests, not enough credit, and fickle markets; but they were also worried that the city people would take their land away from them. Walls are expensive, and this one was unfinished, but it showed that *Peace and Love* was willing to invest, to assert its ownership. Government policy that protected farmers would allow them to invest their money in productive agriculture, or their children's education.

Markets

As towns grow, they develop consumers. I have talked to farmers in Guatemala who are finding that, for the first time, they can load a pickup truck with tomatoes, and sell them in the local municipal town. They no longer have to sell in the big city. Or women living in small towns raise chickens to sell directly to their neighbours.

Low transportation costs mean that, like the flower farmers in Cochabamba, mushroom growers on the outskirts of Nairobi can also travel to the city, sell their mushrooms, and return home the same day. Paul Van Mele describes how the Muhia family raises mushrooms as their main business. They are young and well educated but gave up jobs in the city to become peri-urban mushroom farmers (Van Mele, 2014). Tending mushrooms is quite exacting; the family could lose their whole crop if they got the humidity wrong, let too much light enter the shed, or allowed other fungus to contaminate the corn

cobs where the mushrooms grow. The nearby city is an opportunity to sell fancy oyster mushrooms to upscale restaurants and shops. Because the city is so close, the mushrooms arrive fresh. And the mushrooms need very little land, just a small shed, so they are a perfect crop for growing in or near a city.

Unlike rural agriculture, the peri-urban farmers can sell all of their produce and buy food with it, just like salaried people in the city. Rural farmers often live in places with such poor consumer markets that households must grow their own food commodities, even if they produce a cash crop.

Unique resources

Cities also have unique resources such as brewery water, and organic wastes from the city market, which can be composted or fed to animals. Cities also have specialised input shops, where peri-urban farmers can buy mushroom spores ('seed'), or yoghurt culture or jars and other containers for selling products. In Entebbe, Uganda, I met farmers who bought wood shavings from city carpentry shops to use as bedding for pigs. Entebbe is a rapidly urbanising community near the capital city, Kampala. Uganda's international airport is also in Entebbe. The little country lanes of Entebbe are rapidly filling up with houses.

In Entebbe, we met Noola Nalongo and her son Waswa who were raising pigs in a densely populated neighbourhood. The pigs were living in neat wooden pens, right next to the family home, on a plot of land no larger than a suburban garden. Mother and son tended their pigs together. They were able to feed them with vegetable scraps that they got from the many peri-urban gardeners around them. They made the pigs comfortable beds of wood shavings, which they got from the cabinet-making shops along the nearby Entebbe-Kampala highway. The wood shavings are another example of an eccentric input, which is more readily available in cities than in the deep countryside. Like the *Peace and Love Association* of Ghana, this household also had access to extension advice, so they had learned about micro-organisms which they applied to the wood shavings. The micro-organisms turned the pig faeces and wood shavings into a soft, odourless material, which looked and felt like soil on the forest floor. The neighbouring vegetable farmers eagerly bought this manure as organic fertiliser, whenever the family cleaned out the pig pens (Bentley, 2014).

The skills

Peri-urban farmers may live in villages that are being engulfed by the city, or the farmers may be country people who have migrated to the city, bringing their work ethics and farm skills with them. Peri-urban farms are closer to extensionists and other sources of technical ideas. Yet, as we saw with the pigs of Entebbe, farming in or near a city demands new skills. Few country dwellers have to learn to raise sweet-smelling pigs. These skills can be learned by research and shared by extension, as long as research and extension see that peri-urban farming is a unique space, with its own needs.

Some organisations do realise the importance of serving city

farmers with new ideas. The international NGO *Access Agriculture* realises the importance of peri-urban agriculture (as well as rural agriculture). *Access Agriculture* provides videos, for free, on topics of interest to peri-urban farmers, like growing African snails, grass cutters, rabbits, chickens, mushrooms, vegetables and other high-value horticultural crops (*Access Agriculture*, 2015).

Conclusions

Peri-urban agriculture makes intensive use of small pieces of land, and generates dignified, profitable employment by taking advantage of people's intelligence and creativity. Often, peri-urban farmers are able to acquire new skills that allow them to start new enterprises to provide city markets with perishable, high-value products, while saving on transportation costs. The main inputs of peri-urban farming are labour and

information, but this modern type of agriculture often relies on quirky inputs, like the waste from urban industries and recycles them instead of turning them into a waste disposal problem.

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