Farmers in the City: The Case of Addis Ababa, Ethiopia

Girma Kebbede, Mount Holyoke College, South Hadley, MA, USA

Abstract: Urban agriculture—the cultivation of crops within or on the immediate outside edge of a city—is a common practice in most Ethiopian cities and towns. This study is based on in-depth individual interviews and focus group discussions with 60 of the 250 urban farming households, which was carried out in Addis Ababa, Ethiopia in May and June 2010. The farm households were randomly drawn from three locations along the Little Akaki River: Mekanisa (30), Gofa (20) and Lafto (10). The interviews and focus group discussions covered all aspects of urban farming, including demographic characteristics of cultivators, process of acquisition land and tenure system, duration in urban farming, water availability and quality, types of production and farming practices, and farm constraints. The farmers mentioned these problems as high priorities: tenure insecurity, inadequate cultivable land, high prices of inputs, shortage of irrigation water, contamination of irrigation water, lack of credit and extension services, and crop losses from pests/diseases.

Urban farming is not new to Addis Ababa; it has been a major part of the urban scene from the very beginning of the city’s development as the capital of Ethiopia. Many of the city’s early residents cultivated crops, raised chickens, and kept dairy animals. Well-to-do households raised cows for milk for home consumption. Migrants to the city also cultivated crops to supplement their livelihoods. The city grew by annexing rural communities whose livelihoods depended on raising livestock and cultivating crops. Today, the practice of raising livestock for milk in the city is widespread. Eucalyptus trees are grown for the market inside the city and on high grounds around its fringes. Less visible but present in large numbers are gardens in which medicinal plants are grown by city herbalists.

Urban farming has been a permanent feature of the city’s riverine landscape for a long time. Many streams and rivers traverse the city, but most of their valleys are unsuitable for construction uses and are thus better suited for urban farming. Most of this land belongs to the municipality, as all unoccupied land is within its jurisdictions. One of the most extensively used river valleys for irrigating urban farms in Addis Ababa is the Little Akaki. The Mekanisa-Gofa-Lafto co-operative farm is located along this river, the oldest and largest irrigation farming cite in
the city. The site stretches from Mekanisa in the north to the foot of the Lafto hill in the south, a three-to-five kilometer length. Most of the farm plots are located on gentle slopes while a few are on flat grounds near the river. The soil is mostly of a vertisol type but alluvial soils dominate close to the river.

Most of the Mekanisa-Gofa-Lafto farmers are of Gurage descent. Of the 250 farmers, 88 percent are Gurage and over three-fifth of them migrated from different parts of the Gurageland several decades ago. They all came with the knowledge of and experience in farming. The remaining farmers were second and third generation Gurage born in Addis Ababa who learned the trade from their parents. About seventy-four percent of the farmers own their dwellings which are made of wood and mud, with corrugated iron sheets for roofs. The remaining farmers live in publicly-owned, dilapidated rental units. The ages of the farmers is widely distributed: 11 percent are over 70 years of age, 19 percent are in their sixties, 24 percent in their fifties, 26 percent in their forties, 17 percent in their thirties, and 3 percent in their twenties. The great majority (77 percent) are married. Older farmers work less in the field but are quite active in their communities. They mediate family, intra-family, and community disputes, transfer farm knowledge to the young, supervise farm work done by hired workers, and keep an eye on the farms to prevent intruders.

Most farmers have no formal education and one-fifth of them have no education at all, especially the older members. Two-thirds are able to read and write in Amharic, thanks to the literacy campaign enforced by the previous regime. Eight percent have a minimum primary education (three to six years) while 5 percent have a secondary education. Over four-fifths of women urban farmers are literate and are able to read and write in Amharic. Eleven percent have a primary education and 8 percent have no formal or informal education of any kind. In general, older farmers, men and women, tend to be less educated than the younger generation.

The Mekanisa-Gofa-Lafto farmers have large families. Forty-one percent of the households have 8 or more people, 29 percent have 6-8 people, 22 percent have 4-5 people, and 8 percent have 2-3 people. The vast majority of the households, 69 percent, have married adult children as well as extended family members living with them. Most of the households have 3-4 rooms. All of the households are lit by electricity and have their water from a tap, although only 2 percent have a
tap inside the house. Sixty-two percent of the households have their own latrine in the compound and the other 38 percent share one latrine among two or more neighbors.

Two-thirds of the farmers had settled in the area between 1930 and 1975. They acquired the land in different ways. Many started as tenants working for urban landlords; others inherited the land from their parents, who were hired as farm workers during the Italian occupation in the mid-1930s. After their occupation of the country, the Italians built factories in the Mekanisa area of the city, as the nearby rivers and streams were favorable for industrial processing purposes. They also constructed several micro-dams to power processing factories, especially flour mills. In addition to processing activities, the Italians initiated vegetable production in the area and in the periphery of the city for the expatriate community. The fathers of some of the current Mekanisa farmers worked both as factory and farm workers for the Italians. After the Italians left in 1941, the farms were confiscated by a member of the ruling class and were leased to the farm workers. Some farmers obtained their farm by occupying vacant land by the river. As one farmer put it, “This was a vacant land before I started cultivating it. It required very little capital investment, just my own labor, some seeds, and a few hand tools.”

The current holdings are the result of the 1975 land redistribution by the military regime that ruled Ethiopia from 1974-1991. Tenant farmers received usufruct rights to the land previously owned by landlords. While selling or mortgaging the land is not allowed, it can be leased or transferred to children as inheritance. The initial land allocation was based on family size. Farmers with larger households received more land than those who had less. The government also required farmers to work the land as cooperatives; the Mekanisa-Gofa-Lafto Farmers’ Cooperative was established in 1975. The government provided the farmers with improved seeds, chemical fertilizers, and farm equipment until it collapsed in 1991. The Cooperative still exists today and has several functions: repairing dams and irrigation channels, buying seeds and fertilizers in bulk to distribute to farmers, and collecting land taxes from members to fund the revenue department of the sub-city administration. Members pay annual dues to cover administrative expenses and the maintenance of irrigation channels and dams. The Association has no control over land use decisions. Production, sales, and input decisions are made by individual farm households.
The Mekanisa-Gofa-Lafto farmers cultivate a total of 370,733 square meters of land. The household farm size varies from less than 500 square meters to well above 3,000 square meters. Twenty-four percent of the households operate plots of less than 1,000 square meters. Fifty-two percent have between 1,000 and 2,000 square meters, 19 percent between 2,000 and 3,000 square meters, and 10 percent operate plots of more than 3,000 square meters. The average household farm size is 1,538 square meters (0.1538 hectare). Plots are often fragmented into three or four smaller parcels. Most of the farmers have plots in proximity to their homes and the longest distance a farmer has to walk to his or her plots is less than half a kilometer.

Animals are kept by a relatively smaller number of farmers, about 24 percent overall. They keep 3-5 small ruminants (sheep and goats) for the market or home consumption. These animals freely scavenge around neighborhood streets and the edges of the farms. There are no dairy animals due to the lack of grazing space. Farmers living in rental dwellings are not allowed to keep any animals.

Urban farming is a labor-intensive activity. Farmers in this case study use no mechanical power for farm activities. Instead, they practice hand-powered farming, meaning that all tools are operated by human power. Simple farming equipment consisting mainly of forked hoes, pickaxes, spades, and rakes are used to work the land. Farmers make use of family labor and paid daily workers. The family labor force consists of spouses, adult children, and extended relatives residing in the household. Children work after school, on weekends, and during vacations. Hiring labor for cash is a common practice, especially among households with an insufficient labor force. Three-quarters of the Mekanisa-Gofa-Lafto farmers interviewed hire casual labor. A laborer receives 12 Birr and lunch in kind for seven to eight-hours of work. The work usually involves land clearing and preparation, raising and forking seed beds, transplanting seed, weeding, cleaning irrigation channels, repairing dams, and loading and unloading produce. The family labor force tends to be responsible for watering, seeding, harvesting the fields and transporting produce home and/or to the market. Some neighbors also help with various agricultural tasks such as weeding in exchange for some of the harvest.

In male-headed farming households, division of labor is gendered. Women are responsible for household chores ranging from cooking, washing, and cleaning to childcare and care of the elderly and the sick. Young females help in the field with watering and weeding and sell produce
in the local roadside market. Men are primarily responsible for the provision of income for food, shelter and clothing. Despite these traditionally defined roles, women also participate in weeding, harvesting, and selling the produce.

The Mekanisa-Gofa-Lafto farmers surveyed produce anywhere between 12 and 16 types of vegetables, the most common of which are Swiss chard, kale, cauliflower, lettuce, leek, cabbage, beans, carrot, cucumber, pepper, beetroot, and potatoes. Kale and Swiss chard are the most popular crops grown by all the farmers. On average, each farmer grows five different crops per year. Cultivation is done year-round, with a short respite during the heavily rained months of July and August. Farmers grow vegetables that mature early and can be harvested multiple times a year. The land is cropped continually for at least nine months of the year. Outside of the rainy season, no piece of land is left fallow. Most vegetable plots are left uncultivated during the rainy season but vegetables that withstand the heavy summer rain are picked for home consumption. Factors that limit year-round cultivation include water-logging, flooding, and weed infestation during the rainy season.

Cultivation practices are dependent on furrow irrigation; no other water-saving forms of irrigation are utilized. The frequency of irrigation depends on the type of crop. Root and tuber crops are irrigated once a day; while leafy vegetables are irrigated every two to three days. None of the farmers use fuel-fired pump to carry water to their field because it requires considerable investment, which most farmers cannot afford. Instead, basin irrigation systems are used to water farm plots. The system requires the building of a series of small dams along the Little Akaki River and constructing a parallel irrigation channel to carry water down to plots. Each farmer opens a hole through the channel to allow water to flow between vegetable plots and vegetable rows by way of gravity and close-off the hole after irrigating the field.

Irrigation water is not equitably distributed: up-river farmers utilized more water than down-river farmers. Farmers say they do not use potable water from the city water supply for irrigation because it is too expensive. In any case, the city does not have allowed farmers to use municipal water for irrigation while the need for clean drinking water for the city dwellers remains unmet, even if the farmers could afford it.
Continuous cultivation of the land depletes soil nutrients. The two to three month fallow period is too short to allow soil to regain its fertility, necessitating the application of fertilizer. Eighty-three percent of the farmers interviewed use inorganic fertilizers consisting of both urea and diammonium-phosphate (DAP) to sustain productivity. Urea is applied to leafy vegetables such as kale and Swiss chard while DAP is applied to root and tuber crops. Farmers purchase fertilizers from commercial vendors at 4 Birr per kilogram, which is significantly higher than the 3 Birr/kilogram price rural farmers pay to the Ministry of Agriculture. Urban farmers generally have very limited access to fertilizers supplied by the Ministry of Agriculture because when the supply of fertilizer is short—which is often the case—rural cereal producers are favored over urban vegetable growers. The amount of chemical fertilizer urban farmers use is often restricted by cost, but despite the financial burden, fertilizer is often applied generously. On average, farmers reinvest 20-25 percent of their income in such inputs as seeds, fertilizers, and hired labor. Animal manure is also used to enhance soil fertility, but the availability of manure is dependent on whether or not households possess livestock. The vast majority of the Mekanisa-Gofa-Lafto farmers (76 percent) own no livestock. Those who use organic fertilizer (23 percent) used manure produced either by their own livestock or purchased from neighbors who kept livestock. Farmers do not recycle organic solid wastes for use on farms as fertilizer. The application of composted organic waste for farming still remains rare today.

Municipal wastes contain lots of organic materials which are rich in soil nutrients (for instance, carbon, nitrogen, phosphorus, and potassium) if composted and made available to urban farmers at a reasonable cost. Organic wastes constitute the bulk of Addis Ababa’s household wastes, estimated at over 70 percent by weight. Food processing industries in the city also generate a significant amount of organic wastes that is simply thrown away. Most of the organic material (fruit and vegetable peels, leftovers, and leaves) is produced in households during the preparation and consumption of food. Restaurants, open markets, and food processing industries also generate solid wastes with significant amounts of biodegradable organic content. It is estimate that municipal wastes may contain 0.4 to 3.6 percent nitrogen, 0.3-3.5 percent of phosphorous, 0.3 to 1.8 percent of potassium, and 30-45 percent of carbon. All this can be recovered and reused as fertilizer by urban farmers. City residents should be encouraged to compost household organic wastes by providing each household with storage containers to sort out their wastes. Composting of municipal wastes can also be done at a community level by providing a dedicated
space for organic solid waste recycling in each of the city’s six sub-cities. Composting the city’s solid wastes will keep the urban environment clean as well.

The Mekanisa-Gofa-Lafto farmers have convenient access to transportation to bring their produce to the Wholesale Vegetable Market in Mercato, known as the *Atakilt Berenda*, which is run by the Urban Producers Association. Produce is hauled to the market in rental pick-up trucks during early morning hours. Usually two to three farmers rent a car or pick-up truck to bring their produce to the market and divide up the cost of transportation. Small producers usually use hired labor to transport produces to the market. Most women farmers sell their produce directly to consumers at the nearest roadside market. Some women carry their produces and others use haulers to bring the produce to the market. In some cases, family members provide help. Farmers sell their crops in bulk instead of in portions, which has the advantage of reducing the cost of harvesting and transporting to market. On the other hand, bulk prices could end up being much lower than the retail market price.
Urban farming is often perceived as a marginal economic activity, but for the Mekanisa-Gofa-Lafto farmers, it is of great importance to their livelihoods. Over four-fifths of the vegetables produced are destined for the market. Nearly all the farmers interviewed were unable (or unwilling in most cases) to disclose their earnings from farming. The major problem was that no one kept records of production, input costs, sales, and consumption. However, 60 percent of the farmers said the proceeds they receive from the sales represented the sole source of household income. Two-thirds of these farmers said this income sufficiently provides for all household basic needs and they consider themselves neither rich nor poor. The other one-third said they consider themselves poor and vulnerable because they do not have a house of their own, cultivate a small plot of land, and often have a hard time meeting the basic necessities of life.
Produce sales accounted for approximately two-thirds of the household income for 25 percent of the farmers and one-half for 15 percent of the farmers. In other words, 40 percent of the Mekanisa-Gofa-Lafto farmers earn additional income from other non-farming activities to meet basic household needs. Farmers in this group seem economically better-off. Sixty-five percent of them said their combined farm and non-farm income allows them to live a comfortable life. However, none of these farmers said they were rich. Among the remaining 35 percent, most said their combined income is enough to sustain their families’ lives and that they do not consider themselves to be poor. Some, however, said it is barely enough for a hand-to-mouth existence and that they feel they are poor. Most of the farmers in the latter category have less than 1,000 square meters of land to cultivate and their non-farming job pay less than 15 Birr per day.7

Every adult and teenage member of the family has to earn additional income for the household. Farming households receive income not only through the sale of produce but they also benefit from reduced expenditures on food since about 20 percent of the produce is consumed at home. Kale, Swiss chard, carrots, cauliflower, leek, cabbage, lettuce, beetroot, and shallot are popular vegetables consumed at home.

Women farmers account for only a small percentage of the urban farmers in Addis Ababa. Of the 250 vegetable producers, 18 percent are women and none have land ownership rights. Most of these women are involved in farming as a result of their husband’s death or incapacitation or shift to a different vocation. A few of the women have leased land from other male farmers. Limited female participation in many socio-economic activities, including farming, is the result of a lack of access to resources, as well as the influence of cultural beliefs. The general perception is that it is a woman’s role is to manage the home. Men are the heads of the household, and make the decisions regarding the utilization of income and other household resources.8

For most of the women farmers interviewed, life as urban farmers is extremely arduous and un-rewarding. Most women farmers spend 5-6 hours working on the farm and another 7-8 hours doing household chores. Of the 20 interviewed, 70 percent said their income from farming is woefully inadequate. They said they do not have enough land, labor, and funds to purchase farm inputs. Women farmers who leased the land find themselves in far worse situation. One farmer has to cede one-half of her income to the land owner and pay for all of the inputs. Another
woman said she has to pay an excessive 400 Birr per year for a 700-square meter plot of land. On the other hand, the other 30 percent of women farmers said the income they derive from farming is sufficient to cover expenses for basic household necessities. These farmers can afford to cultivate a larger plot of land, hire extra labor, and/or get help from family members.

Formal credit services are not readily available to Mekanisa-Gofa-Lafto urban farmers. This is mostly because the farmers cannot use the land they cultivate as collateral to access credit from formal lending institutions such as banks. In the absence of formal credit services, farmers resort to using informal means of accessing credits, namely the wholesalers to whom they intend to sell their produce. The wholesalers extend credit to farmers in the form of advance payment. The farmers use the advance payment to purchase seeds, fertilizers, and tools; they repay the money owed to the wholesalers after they have sold their produce. In most cases, interest is not assessed on the advance payment. Farmer-wholesaler relationships and familiarity with each other are necessary for such informal credit arrangements to occur.
Problems of Urban Farmers

Although urban farming is the most important source of household income for the majority of the surveyed farmers, the activity is faced with a number of production problems and constraints. The farmers identified the following problems as high priorities:9

Tenure insecurity: Farmers’ most common concern is the fear of losing the land they cultivate at any moment without advance warning or notice. Land is constitutionally a public good, and it can be taken away by the state or the municipality for residential or other urban uses.10

High prices for inputs: The increasingly high cost of improved seeds and fertilizers is the most critical problems experienced by the farmers. Rural farmers have access to government-subsidized inputs but urban farmers do not.

Shortage of irrigation water (particularly during the dry season): There are ten micro-dams on the Little Akaki River. Some were built during the Italian occupation and are in disrepair; others were made from simple materials such as sandbags, wood, branches, mud, and stone and are prone to breaking when the water level in the river rises. When the dams break, less water flows into the irrigation channels, creating a water shortage.

Contamination of irrigation water: The quality of irrigation water is also a major concern. Wastewater and chemicals dumped or leached from nearby industrial sites polluted the rivers and streams used for irrigation. Irrigation channels are also filled with all kinds of wastes such as household solid and liquid wastes, leaves and twigs, discarded plastic bags, and eroded materials. Every year, farmers labor for days repairing dams and dredging irrigation channels.

Inadequate cultivable land: The first generation farmers used to farm a much larger land than the current generation. Each subsequent generation received smaller and smaller pieces of land because of subdivision. In 2010, the average household farm size was only 1,538 square meters or 0.1538 hectare. Many farmers, especially the younger ones, said they would be more than willing to move if land was made available to them anywhere in or on the fringe of the city.

Lack of credit and extension services: Urban farmers lack access to formal credit services. Due to the small-scale nature of their operations most require short-term finance which is not available to them through conventional lending institutions. The Ministry of Agriculture and
other formal institutions have never extended such services to urban farmers. This is because urban farmers are not considered real or full time farmers; they are simply seen as urban dwellers. They are thus forced to purchase inputs like seeds and fertilizers on the market at higher costs. Extension services are not extended to urban farmers for similar reasons.

*Lack of good quality farm equipment:* Farmers complain that Chinese-made farm tools are not sharp enough and break pretty quickly. They yearn for the sturdy, Asmara-made tools they were accustomed to working with before the 1997-98 war with neighboring Eritrea.

*Crop losses from pests/diseases:* Farmers also complain about crop losses caused by diseases. The most common pest was nematode (also known as *komata*), which attacks cabbage, cauliflower, and kale. The pest causes the root systems to swell and eventually die. There is no known remedy to this problem, but farmers have tried different measures to minimize the incidence of the pest. They often plant other resistant crops, rotate crops, or try spreading cow dung in the hope that the bad smell will scare off the pest. According to those who tried it, the last measure did not work at all.
Vegetable roots deformed by disease

*Pollution:* Because untreated effluents discharged from industries pollute the Little Akaki River, there are some health concerns associated with the consumption of vegetables grown using the water. The farmers are worried that they might lose their source of livelihood if the public stops purchasing their produce due to health concerns.

*Night-time theft:* This is a problem for 19 percent of the farmers. Roadside farms (such as those by the city’s slaughterhouse) are especially susceptible to theft. Farms located far from the homestead are also prone to theft. Farmers say the thieves are mostly not outsiders but hired workers who return at night time to take advantage of their familiarity with the land and help themselves without trepidation. Losses from theft are hard to estimate but significant. Farmers at Lafto said they take turns guarding their produce against pilferers during the harvest. Frost attacks in October and November also incur some losses.

Micro-dam for irrigation: Mmekanisa, Addis Ababa

The farmers said they get no assistance from the sub-city government despite positive views held by federal and city government officials towards urban agriculture. In fact, the Ethiopian
government has established the Addis Ababa Urban Agriculture Office and the city has become a signatory to the declaration "Feeding Cities in the Horn of Africa" intended to promote and support urban and peri-urban agriculture. Almost all the farmers said they could make significant improvements in their productivity if they had tangible assistance from the city or the federal government. The assistance the farmers are seeking includes raising the irrigation dams by a meter or two to reduce water shortages, dredging and lining irrigation channels with concrete, providing access to urban extension services, subsidizing the cost of improved seeds, fertilizers, and farm implements, preventing industries from disposing effluents into rivers, promoting organic waste recycling for use in urban farming, legalizing private rights to land in order to do away the sense of insecurity, and recognizing the importance of urban farming and incorporating urban agriculture in the city’s master plan.

1 In the early 2000s, small- and large-scale dairy producers in the city had 60,000 cows and produced 44 million liters of milk annually—more than 60 percent of the city’s milk consumption. Fisseha Itanna, Workshop on the Experience of Urban Agriculture in Addis Ababa, Environmental Development Action, Addis Ababa, 2002, p. 12 and 16. However, recent years have seen threats from municipal authorities to get rid of dairy farming from the city. The fear of provoking opposition has thus far prevented officials from taking steps to remove the dairy enterprise from the city.


4 These farmers recall that Bitwoded Mekonen Habtewold, who served as a Minister in Emperor Haile Selassie’s cabinet, became the owner of the Mekanisa farms and factories that were previously owned and operated by the Italians during their period of occupation. The Minister often collected the lease fees through a third person to obscure his illicit possessions.

5 Tessema, pp. 33-34.


7 US$1 equals 18 Ethiopian Birr (2012)
Ibid., p. 32.

These problems are not new; other studies have also identified them, especially the study by Sitotaw.

During the imperial regime, the vast majority of peasant farmers had no land of their own and suffered extreme exploitation at the hands of a tiny class of feudal landlords. When the military regime overthrew the imperial rule in 1974, peasants were forced to pursue collective agriculture. The farmers worked under strict orders and control of the state. The state determined what to grow, how to grow it, and what and to whom to sell. Under the current government that came to power in 1991, the state still retains ownership of and control over the distribution of both rural and urban land and individual farm households only have the rights to use it (AbdouMaliq Simone, *From the City yet to Come: Changing African Life in Four Cities*, Durham: Duke University Press, 1994, pp. 194-95).