CAIRO: URBAN AGRICULTURE AND VISIONS FOR A “MODERN” CITY

Jörg Gertel and Said Samir

1. Introduction

Cairo, the urban centre of Egypt, has experienced numerous transformations which shaped its social and spatial structure in the course of its long history (Abu Lughod 1971, Raymond 1993). A complex urban structure now exists, which bears the imprint of different phases of development. Modern urban architecture with a post-modern style is located side-by-side with centuries-old buildings; and inner city slums border directly on high-rise buildings with mirror-glass windows. Greater Cairo is a typical mega-city, with ca. 13 million inhabitants living in three municipalities (Cairo, Giza and Qaliyábáya).

<table>
<thead>
<tr>
<th>Table 1:</th>
<th>Egypt</th>
<th>Cairo</th>
<th>Unit</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>[b]60,792</td>
<td>[c]13,144</td>
<td>Million</td>
<td>1996</td>
</tr>
<tr>
<td>Annual population growth</td>
<td>2.35</td>
<td>1.9</td>
<td>%</td>
<td>1994</td>
</tr>
<tr>
<td>Cultivated area as % of total area</td>
<td>2.9</td>
<td>7.9</td>
<td>%</td>
<td>1990</td>
</tr>
<tr>
<td>Urban population as % of total</td>
<td>43.0</td>
<td>---</td>
<td>%</td>
<td>1996</td>
</tr>
<tr>
<td>Life expectancy at birth</td>
<td>66.7</td>
<td>65.5</td>
<td>years</td>
<td>1994</td>
</tr>
<tr>
<td>Infant mortality rate (per 1,000 live births)</td>
<td>31.8</td>
<td>34.2</td>
<td>1,000</td>
<td>1993</td>
</tr>
<tr>
<td>Adult literacy rate 15+</td>
<td>52.3</td>
<td>70.8</td>
<td>%</td>
<td>1994</td>
</tr>
<tr>
<td>GDP per capita</td>
<td>3,461.3</td>
<td>5,630.2</td>
<td>LE$^{1}$</td>
<td>94/95</td>
</tr>
<tr>
<td>Non-poor as % of total population</td>
<td>52.0</td>
<td>[d]55.0</td>
<td>%</td>
<td>95/96</td>
</tr>
<tr>
<td>Agriculture labour force (15-64)</td>
<td>29.6</td>
<td>0.8</td>
<td>%</td>
<td>1995</td>
</tr>
<tr>
<td>Agriculture product (% of GDP)</td>
<td>16.2</td>
<td>n.a.</td>
<td>%</td>
<td>94/95</td>
</tr>
</tbody>
</table>

a) The tremendous social and economic inequalities within Egypt and Greater Cairo are not reflected in the statistical information; b) The population in 1996 is calculated on the basis of 1993 data, assuming an annual growth of 2.35%; c) This refers to Greater Cairo. All following data refers to Cairo municipality, if not indicated otherwise; d) Data refer to all urban areas in Egypt.

Source: INP 1996.

Within this relatively small but agglomerated area, various groups with immense income disparities live next to each other. The agglomeration is still growing but not as fast as the Egyptian population as a whole. However, Cairo faces one of the highest population densities world-wide (32,000 people/km$^{2}$). In some neighbourhoods more than 100,000 people live on one square kilometre - often
in buildings no more than five or six storeys high. Located in an arid landscape, there is thus precious little space available which could function as green space, and there are almost no private gardens suitable for cultivation. Urban farming is thus chiefly restricted to small livestock production.

Two current developments make small livestock farming and subsistence food production particularly important: the national food production deficit and the recent steps towards macroeconomic deregulation.

Egypt has an extremely limited area of arable land relative to the size of the country. Only about 3.5% of the country’s area can be used to produce anything of agricultural value. In addition, the Egyptian population of about 62.5 million people (1998) is increasing by about 1.3 million people per year. Therefore, domestic food production is less and less capable of satisfying the growing demand. Especially for wheat, the most important staple food, the country has to cope with a huge food gap. Hence, Egypt is one of the countries most dependent on food imports. At times, it has received more food aid than India and Bangladesh (World Bank 1992), and it has to (commercially) import about 55% of its total wheat requirements, predominantly from the United States.2 However, only when Egypt’s economic situation and the conditions of urban and rural poverty are considered is the tremendous significance of the problem revealed. Almost half of the population is considered poor and lacks the purchasing power to access a comprehensive diet (INP 1996, 25). The political implications become clear if one realises that the Egyptian population obtains over 90% of its energy requirements from plant products; in 1991, for example, grain - predominantly in the form of bread - made up 70.7% of the energy supply, while (expensive) meat accounted for only 1.9%.3

In Cairo, this precarious situation first became dramatically visible with the “IMF-Bread-Riots” in 1977. Pressured by the International Monetary Fund (IMF), the Egyptian Government caused mass protests by reducing food subsidies. The protests ended only when the austerity measures were dropped. Now, more than 20 years later, the situation appears, on the surface, to be relaxed.
Crop cultivation in a former village in the southern part of Cairo (Picture Roxy Research Centre).

Poultry kept in a poor urban district in Rawd al Faraj near the centre of Cairo (Picture Roxy Research Centre)
Cost of Egypt's Food Subsidy System 1971 to 1994-95

However, the present Egyptian metropolis not only contains a much larger population, but it also houses an increasing number of low-income groups. These groups massively face entitlement declines in terms of access to food. Currently, on account of market liberalisation, the centrally planned and heavily subsidised public system of food distribution, built up under Nasser and Sadat, is being transformed. Until the late 1980s, people in Cairo had access to three channels of public food provisioning:

- government outlets, selling heavily subsidised, non-rationed bread;
- licensed retail shops, distributing restricted quota of subsidised ration-card items (such as oil, sugar, tea and rice); and
- government shops, offering partly subsidised goods (such as beans, lentils, frozen meat and fish).

In the 1990s, the governmental shops were partly privatised, and the percentage of subsidies on the ration-card items and also on bread was reduced. Only three items (bread, cooking oil and sugar) remain partly subsidised. Again, low-income groups, who are heavily dependent on subsidised food items, are those most affected by these measures. The poor not only have to substitute bread for more and more food items, but bread - in the political context - is increasingly becoming a strategic food; i.e., its local availability and affordability is determined to a large extent by (external) market forces. Within this context, urban subsistence production and, in Cairo particularly, small-scale animal husbandry take on a new importance.

### 2. Ongoing urban agriculture in Cairo

In Cairo, urban production of crops and livestock, including poultry, can be found. The specific structure of agricultural activities in Cairo is caused not only by the scarce urban spaces available for cultivation and the demand for cheap meat. It is also a result of food availability at the household level and comparative costs. In this respect, it is important to note that the production of fruit and vegetables in Egypt’s rural areas is provisioning the urban markets with horticultural products over the year at comparatively low prices. Thus, backyard, rooftop and balcony gardening is of little importance. At the household level, the available space is used rather to raise (expensive) poultry.
2.1 Urban crop production

Besides the rural areas in the municipalities of Giza and Qaliyābáya, which are part of the Greater Cairo Region, there are still some smaller fields scattered around the periurban districts. In these neighbourhoods, the fields usually belonged to the villages which have been incorporated by the city. These agricultural areas - mainly irrigated by canals - are located close to residential areas. The size of the fields varies from less than one to several tens of faddân. Very few people practise urban farming and then only on a limited scale.

Mainly clover (birsám) is grown on the plots. This does not require a lot of work, and yields high prices as fodder for livestock. Another reason for growing clover is that the owners of these fields usually wait for permission for construction, so that they can build or sell the land. Others who have access to building licenses are speculating with the land. The agricultural use of these areas is, therefore, heavily constrained by prospects of real-estate speculation.

Al-Hagg Muhammad owns a field close to the Nile near Maadi, a well-to-do neighbourhood. He grows lettuce on his land surrounded by skyscrapers and sells it on a local market. He also raises a couple of sheep and a buffalo for home consumption:

> Ten years ago, I sold some of my land to a big construction company for 50,000 LE per faddân. Today the prices are up to 5,000,000 LE. I regret selling my land too early. Now I won’t sell until I get the highest price or until I find a partner and we build on it ourselves.

2.2 Animal husbandry

Some 16% of Cairo households keep animals, predominantly chickens, geese, ducks and pigeons. Of the production, 95% is for home consumption, suggesting that poultry is the main product in subsistence farming in Cairo. In spatial terms, this subsistence production is concentrated in periurban districts but, using the housing situation as an indicator, it becomes obvious that animal husbandry is an important activity in both informal settlements and (former) villages.

More than one-quarter of the respective households are involved in it, while the group with the highest percentage is found in an informal settlement close to the city centre within a “modern” high-income area (38.0%).
Table 2: *Spatial patterns of animal husbandry in Greater Cairo (1995)*\(^{11}\)

<table>
<thead>
<tr>
<th>Housing type Area</th>
<th>Private</th>
<th>Public</th>
<th>Informal</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percentage of all households</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Old inner city area</td>
<td>7.7</td>
<td>6.0</td>
<td>24.0</td>
<td>---</td>
</tr>
<tr>
<td>Medium-aged &amp; -located</td>
<td>17.7</td>
<td>6.0</td>
<td>8.3</td>
<td>---</td>
</tr>
<tr>
<td>New periurban area</td>
<td>10.0</td>
<td>7.7</td>
<td>35.5</td>
<td>36.0</td>
</tr>
<tr>
<td>“Modern” high-income area</td>
<td>0.0</td>
<td>0.0</td>
<td>38.0</td>
<td>18.4</td>
</tr>
<tr>
<td>All</td>
<td>9.0</td>
<td>5.1</td>
<td>28.3</td>
<td>27.2</td>
</tr>
</tbody>
</table>

Number of households surveyed = 703

*Source: Field survey 1995.*

One has to keep in mind that the majority of the urban population lives in what is classified as a private housing situation. It should also be noted that the subject of animal husbandry is sensitive and, in some sections of the population, specific aspects of it are even taboo. As a result, the residents of Cairo are often reluctant to disclose their poultry-raising activities or the number of chickens kept, and will remain vague on the matter even within their own social circle.

Table 3: *Structure of animal husbandry in Greater Cairo*

<table>
<thead>
<tr>
<th>Animal</th>
<th>Frequency (animals) (% n=1,002)</th>
<th>Avg. Size (herd) (Animals) (n=151)</th>
<th>Avg. Value (animal) (LE) (Single)</th>
<th>Location (in relation to house) (%): Inside (%)</th>
<th>Outside (%)</th>
<th>Selling (%)</th>
<th>Use (household economy) (%): Selling (%)</th>
<th>Own use (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water buffaloes</td>
<td>1.1</td>
<td>2.2</td>
<td>2,090.9</td>
<td>60.0</td>
<td>40.0</td>
<td>40.0</td>
<td>60.0</td>
<td></td>
</tr>
<tr>
<td>Horses*</td>
<td>0.1</td>
<td>1.0</td>
<td>6,000.0</td>
<td>0.0</td>
<td>100.0</td>
<td>0.0</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Sheep</td>
<td>1.3</td>
<td>2.6</td>
<td>213.1</td>
<td>20.0</td>
<td>80.0</td>
<td>0.0</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Goats</td>
<td>1.5</td>
<td>3.0</td>
<td>96.0</td>
<td>20.0</td>
<td>80.0</td>
<td>60.0</td>
<td>40.0</td>
<td></td>
</tr>
<tr>
<td>Geese/Ducks</td>
<td>18.5</td>
<td>4.6</td>
<td>11.0</td>
<td>65.0</td>
<td>35.0</td>
<td>10.0</td>
<td>90.0</td>
<td></td>
</tr>
<tr>
<td>Chickens</td>
<td>66.8</td>
<td>8.4</td>
<td>7.1</td>
<td>60.0</td>
<td>40.0</td>
<td>4.0</td>
<td>96.0</td>
<td></td>
</tr>
<tr>
<td>Pigeons</td>
<td>10.7</td>
<td>7.1</td>
<td>13.5</td>
<td>86.0</td>
<td>14.0</td>
<td>0.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

\(n\) for households with animals = 112\(^{12}\)

*Source: Field survey 1995*  
*Only one case*

The structure of animal husbandry in Cairo can be further specified by two characteristics:

1) Households which possess animals are predominately nuclear households with an average of 5.5 individuals.\(^{13}\) About 43.4% of these households have children under the age of 6 years. This pattern is partially explained by the fact that households living in informal settlements are mostly young.
households. As they represent the majority of households with animals, they shape this demographic picture.

2) The availability of (suitable) space is limiting the possibilities for animal husbandry by single households. Of all households raising animals in Greater Cairo, 70.8% either live on the top floor and have access to the roof of the building, a preferred place for poultry production, or live on the ground floor and have easy access to a yard or to public space. This is confirmed by the average number of rooms that households dispose of, and is particularly evident in informal settlements, where 50% of all sample households with animals live. It is thus not only the particular social setting of lower-income groups but also the available space that determines the possibilities for animal husbandry in the low-income quarters of Cairo.

It has to be emphasised that people who raise animals do not have a different access to formal education than do low-income households without animals. What is more striking is the extremely high illiteracy rate in general, and particularly in (former) villages and informal settlements. As a consequence, both groups (with and without animals) have restricted access to employment in the formal sector of the economy.

2.2.i Poultry
The raising of poultry is by far the most important agricultural activity. It is almost exclusively undertaken by low-income groups in densely-populated quarters of the city.
Commercial poultry production at household level is an exception. Poultry is kept on rooftops of residential buildings, in small alleys and other available spaces - often also inside houses.

Abu Nasir, a big poultry wholesaler in Cairo, told that his wife once started raising some poultry in cages in a corner of his store in order to sell them later in her retail poultry shop. But the cost of feeding was high and some of the chickens got sick and died. The small profit she made did not encourage her to continue. He also indicated that raising poultry in rural areas is much more economical, because cheaper sources for feed are available and wider space, needed to keep the poultry healthy, is found there. Privately raising poultry, although a common practice, is thus not an easy task. It demands investments and experience, requires enough space and remains beset with risks, as even with expert handling the young chickens often die.
Umm-Muhammad - a housewife - is a poultry specialist. She was born in a small village in the Nile Delta and is 46 years old. Twenty-two years ago, she and her husband moved to Cairo in order to look for better opportunities:

Raising poultry is like a hobby for me, and is something I am used to since my childhood in the village. Prices of poultry are very high, especially during Ramaadân.¹⁶ Raising chickens saves our budget a lot, particularly as my husband's income is not stable. I don't sell any of my chickens. Most of the time we eat them and sometimes I give them as exchange gifts to friends and relatives. Home-raised chickens are much better than the ones in the market. They are tastier because the ones in the market are injected with hormones to gain weight quickly. I heard on TV that those hormones are not very healthy. The costs are not too high. I mainly feed them with the food remains of our household, and some neighbours who don't raise chickens give me leftovers for my chickens. From time to time, I give them some eggs in return. I clean the chickens' waste continually to not bother the neighbours; still at times this gives problems with neighbours, who don't like the raising of poultry in the building and complain about the smell and the noise. They call it an uncivilised activity. I try to keep good relations with them in order to continue my hobby. I don't know! Maybe if we were rich, I would not raise chickens, but sometimes I think, if we were rich, I would have done it on a larger scale, maybe with some other animals as well if we were to have a big house of our own.

The example of Umm Muhammad reveals that poultry raising in Cairo is a female activity, predominantly undertaken for home consumption. Compared to animals from the industrialised poultry industry, home-raised poultry is considered healthier and tastier. It also plays an important role in the household strategy of minimising expenditures, e.g. by using social networks to access cheap fodder. Although the activity is sanctioned by the local community in high-density quarters, conflicts about the use of space, the noise and other issues do arise in individual cases.

The controversial aspects of poultry raising are also illustrated in the following: While taking photographs of chickens belonging to a poultry retail shop in a densely-populated quarter of Cairo, four women - waiting to be served - discussed the issue of urban farming. Three of them agreed that they would economically benefit from poultry raising for household consumption, and emphasised they would like to practise it, but the lack of space inhibits them, as does their rental situation. According to them, many landlords either prohibit or
monopolise such activities. The youngest woman, however, criticised the photo shooting. She asked if the photos will be published abroad, and said:

*These photos are an embarrassment for the image of Cairo as a civilised city, and activities like poultry raising should be eliminated and kept for the villages. Poultry raising in the city is a source of dirt and diseases.*

Then she added:

*A few years ago, there was a media promotion to raise rabbits in cages for home food production, but it was proven to be unsuitable for Cairo. The houses of people who need such production are too small to be comfortable for humans alone as it is and do not have enough space to share with even more creatures.*

As everyday life in Cairo is increasingly determined by external forces that are shaped by a logic that is rooted outside the local community (like TV commercials), the images of poultry production - as that of other foods - at times become a special issue and subsequently are renegotiated at the local level. Food in this respect often works as a social marker, delineating and redefining group positions (Mann 1995). The meaning of food, and in particular poultry, therefore largely extends into the local culture and carries important values beyond purely nutritional aspects.

### 2.2.ii Other livestock

The raising and slaughtering of sheep is a very common seasonal activity in Cairo, and - as part of a religious practice - peaks during the period before the feast of the Muslim pilgrimage. The time animals are kept varies considerably between families. Usually the animal is bought alive a few days before the feast and kept inside the house - on the terrace and sometimes in the kitchen, or on the rooftop. Some people with access to more space, buy animals young and raise them for some months. Some might even produce for the market as well. However, sheep - and sometimes cattle as well - are usually raised only for religious occasions and slaughtered on the early morning of the festive day. Well-to-do households give some of the meat to poorer people, friends and relatives, while the rest is for home consumption during the feast. The local production is usually not adequate to meet the peaking demand, and the government, in addition to private companies, imports livestock for this occasion. However, locally raised animals are considered tastier and are preferred, although they are more expensive.
Cattle raising for dairy production, and sometimes for meat production, exists mainly on a commercial basis on a very limited scale. Cattle are mainly found in periurban districts, but sometimes also within the city in densely-populated quarters.

Mustafa Zaky, a man in his early forties, raises cattle in a periurban neighbourhood of Cairo. He inherited this job from his grandfather when the district was still a village. Mr Zaky indicates that the major constraints for urban cattle raising are suitable space, high fodder prices (birsám), plus the problem of waste disposal. He stresses that these problems are not found in the rural areas. Although his brothers pressure him to quit his job, he continues. His brothers even gave him money to open a new store in order to sell “modern” dairy products but, instead of changing his profession, he bought two more cows, raising them in the new shop:

To me, the crowd of customers waiting for me to milk the cattle to buy the fresh milk is the proof that what I am doing is the right thing!

Commercial pig raising is a special type of urban livestock production in Cairo; and is undertaken by a specific social group: the Zabbalán (zibla = garbage). The Zabbalán collect and recycle most of Cairo’s domestic waste. These predominately Christian families originate from Upper Egypt and comprise between 20,000 people (Meyer 1987) and 40,000 families (Haynes & El-Hakim 1979). The pigs are raised in pigyards (zarába) that are attached to the living units. The animals are fed with organic waste, and sold to pig traders, who do the processing and distribution. As Muslims are not allowed to consume meat and meat products from pigs, the products are bought by Cairo’s Christian minority, resident foreigners and tourists. Because of their allegedly inferior activity, the Zabbalán live in separate settlements on the urban fringes of Cairo, and have been forced to change location several times during the last decades. Recently, the largest settlement, in Muqaóóam, which was already evicted from its previous location in Imbâba in September 1970, is again being threatened to be removed.

3. Urban agriculture and the household economy

About 59% of the households surveyed in Cairo that possess animals (n=106) are living in poverty according to the Food-based Poverty Line. If the Lower Expenditure Poverty Line is applied, 72.6% of the households live in poverty. The poorest of these households live in informal settlements (with an average income of 60.2 LE capita/month) and in places with a rural background (44.5 LE
capita/month). In spatial terms, the poor households concentrate on the urban fringes. Thus, animal husbandry is predominantly found in economically and spatially marginalised areas within the metropolis and plays an important role in the survival strategies of the respective households, as it provides access to animal proteins which cannot be acquired otherwise.

Table 4: Comparison between household income and value of animals

<table>
<thead>
<tr>
<th>Housing type Area</th>
<th>Private (LE)</th>
<th>Public (LE)</th>
<th>Informal (LE)</th>
<th>Rural (LE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old inner-city area</td>
<td>130.8</td>
<td>30.0</td>
<td>80.3</td>
<td>---</td>
</tr>
<tr>
<td>Medium-aged &amp; -located</td>
<td>122.6</td>
<td>72.0</td>
<td>62.5</td>
<td>---</td>
</tr>
<tr>
<td>New periurban area</td>
<td>86.3</td>
<td>55.0</td>
<td>108.9</td>
<td>129.1</td>
</tr>
<tr>
<td>“Modern” high-income area</td>
<td>---</td>
<td>---</td>
<td>65.7</td>
<td>90.3</td>
</tr>
<tr>
<td>TOTAL average value of animals (LE)</td>
<td>116.7</td>
<td>52.3</td>
<td>85.3</td>
<td>114.3</td>
</tr>
<tr>
<td>Income average (capita/month, in LE)</td>
<td>104.7</td>
<td>107.3</td>
<td>60.2</td>
<td>44.5</td>
</tr>
<tr>
<td>Illiteracy rate (Head of household, in %)</td>
<td>31.6</td>
<td>10.0</td>
<td>70.2</td>
<td>55.5</td>
</tr>
</tbody>
</table>

(N for households = 103)

Source: Field survey 1995

A closer look at the value of animals illustrates that the ownership of animals can be considered an economic asset. Particularly in the periurban areas, where the majority of animal owners lives below the poverty line, the average value of the animals is not only relatively high; it exceeds two or even three times the monthly per capita income. On account of the restricted access to formal savings institutions like banks, it thus plays an economic buffer function. The asset can be mobilised and monetarised in emergency cases, such as to buy medicines in cases of sickness. It is also clear that animal raising carries economic risks; the death of animals, particularly if they are expensive, can pose an extraordinary economic burden on the affected households. The poorest people lack the basic economic security and means to invest; hence, they are not in a position to keep animals; and even if they would be able to buy, for example, some cheap young chickens, alternative spending (for bread or drugs) overrules this option, which is beset with economic risks.

Linked to the issue of food security is the topic of food safety and food contamination. The image of food produced in Cairo is not very positive. A woman from a low-income neighbourhood reflects the public opinion:

*Food that is commercially produced in Cairo is always looked upon with suspicion of high contamination.*
Air pollution accumulates in water and soil. A study of an industrial district in Greater Cairo assessed the concentration of heavy metals (lead, cadmium and zinc) in the soil. The soil contamination has resulted in a very high lead concentration in vegetables (El-Fouly 1996). This study demonstrates that the degree of contamination differs tremendously between Cairo and rural areas. Depending on the plant, the contamination is between 10 and 40 times higher in Greater Cairo; watercress, parsley, melon and lettuce, among others, are extremely exposed. Some agricultural fields on the fringes of Cairo, such as in ʻIzbat an-Nakhl, depend on untreated sewage water for irrigation; in this respect, water contamination is a serious problem demanding further research (PRIDE 1994).

Another aspect of urban food contamination is related to the demand for sheep for religious feasts. Some “entrepreneurs” commercially raise sheep in the poorer districts of Cairo and feed them on garbage from the dumpsites in the streets. The problem became clear in an interview with Muhammad Ali, who was herding about 50 sheep within Cairo.

_Those sheep are not mine. I am here with my brother to take them out to the garbage dump twice a day for feeding. The owner buys the sheep young and has them fed with nothing but garbage, until they are sold during the period before the grand feast._

Muhammad Ali emphasised, moreover, that the sheep are sold outside Cairo at a market that is frequented by customers from Cairo. Thus, merchants may claim a different (rural) origin of contaminated products. A governmental employee in charge of garbage collection indicated that such flocks are in all waste dumps in Cairo. However, because more detailed studies are lacking, it remains unclear to what extent contaminated food (and water) pose serious health hazards.

**Table 5:** _Concentration of heavy metals in the soil of Šubrâ al-Ōaima_24 compared to a remote rural area in Egypt25

<table>
<thead>
<tr>
<th>Location</th>
<th>Lead (ppm)</th>
<th>Cadmium (ppm)</th>
<th>Zinc (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Near to metallurgical complex (Šubrâ)</td>
<td>547</td>
<td>18,0</td>
<td>271</td>
</tr>
<tr>
<td>Close to glass and metallurgical work</td>
<td>384</td>
<td>5,6</td>
<td>230</td>
</tr>
<tr>
<td>Near to urban industrial activities</td>
<td>276</td>
<td>5,1</td>
<td>197</td>
</tr>
<tr>
<td>Bigam (neighborhood of Šubrâ)</td>
<td>160</td>
<td>3,9</td>
<td>160</td>
</tr>
<tr>
<td>Remote area (Sharqiya Governorate)</td>
<td>15</td>
<td>0,2</td>
<td>32</td>
</tr>
</tbody>
</table>

*Source: El-Fouly (1992, 61)*
Table 6: Mean lead concentration in edible portions of vegetables grown in Šhubrâ al-Ēaima compared to a remote rural area in Egypt

<table>
<thead>
<tr>
<th>Area</th>
<th>Crop</th>
<th>Cairo (Šhubrâ) (ppm)</th>
<th>Rural (Šarqâya) (ppm)</th>
<th>area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lettuce</td>
<td>26</td>
<td>0.9</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Melon</td>
<td>29</td>
<td>0.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Watercress</td>
<td>38</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Parsley</td>
<td>32</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tomatoes</td>
<td>4</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pepper</td>
<td>5</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Carrots</td>
<td>8</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Turnips</td>
<td>7</td>
<td>0.4</td>
<td></td>
</tr>
</tbody>
</table>

Source: El-Fouly (1992, 61)

4. Urban environment and policies regarding urban agriculture

I don’t find any need for agricultural activities in Maóáráya [a periurban district of Cairo]. In the local council we don’t encourage agricultural activities. My family has lived in Maóáráya since it was a village, but I don’t think Maóáráya will be a village again. The wheel of time never goes back. When we will get rid of all remaining agricultural activities, we will be able to make of Maóáráya a nicer place to live in, even compared to Heliopolis [a well-to-do neighbourhood in Cairo].

Environmental policy is an issue in Egypt which has received increasing attention over the past years. City greening, for example, has a high political priority. However, parks and public gardens are extremely scarce and are located only in low-density high-income areas. Up to now, there are no official policies regarding urban agriculture in Cairo. There is no specific policy to encourage urban agriculture despite its contributions to food and income security of poor urban households. So far, the government has not regarded urban agriculture as a policy issue.

4.1 Authorities in charge

There are at least four different governmental institutions in Cairo that could be involved in promoting urban agricultural activities. However, none of them does so.

- The Governor of Cairo is the highest decision-making authority concerning planning and developing the city. On many occasions, it has been obvious
that governors were interested in increasing the green space in the city, but urban agriculture was never mentioned as a way to achieve this;

- the Ministry of Agriculture is responsible for some agricultural projects inside the city, but they are linked to research and educational purposes, such as the glasshouses along the bank of the Nile River, and agrarian land in agricultural schools;
- the Agriculture Colleges in both Cairo University and Ain Šams University run research centres with some agricultural activities inside the city, but they are only used for experimental and research purposes, simulating the rural situations. Urban agriculture is not addressed; and
- the Ministry of Health has offices in every district of Cairo. The representatives in the six offices visited emphasised that they consider animal husbandry inside the city a health hazard and a source of pollution. They investigate reported cases and inform the police, who usually stop the activities and fine the person responsible.

While small-scale animal husbandry is a vital part of the informal economic sector and important for the survival economy of low-income groups, the concept itself is not well known and not supported by the political decision-makers. Urban agriculture is considered an illegal activity.

### 4.2 Local scientific perceptions of urban agriculture

The academic institutions and specialised research organisations, particularly in the field of agriculture, do not show much interest in urban agriculture and there is no local literature on urban agriculture.\(^{29}\)

The dean of the Agricultural College in Cairo University, Prof. Abu al-Rus, underlines that neither the term “urban agriculture”, nor the concept, is found in Egypt. He believes that one easily associates the term with large-scale industries relying on agricultural production, such as dairy and meat-processing factories. Prof. M. Nawwar, an agricultural sociologist at Cairo University, is familiar with the term, but he claims that there is no local definition for urban agriculture. He emphasises that the concept is completely unknown to policy-makers and adds that there are other concepts such as self-sufficiency and environmental awareness that might build a basis for the concept of urban agriculture to catch on. According to him, however, even these concepts are not well applied in Egypt. He also recalls a research proposal about urban agriculture in Cairo introduced by some foreign agency, but no local counterparts were interested. He concludes that urban agriculture is not suitable for Cairo, because of the lack
of space. He rather favours gardening [in the form of public parks] as a suitable activity. Dr. Mahmud A. Al-Alim, an Egyptian economist and thinker, considers urban agriculture as “ruralisation of the city” and judges it as a negative trend. He comprehends semi-rural or semi-urban districts in Cairo as sources of pollution and even of crime.

In Arabic the terms “urban” (haæar) and “civilisation” (haæâra) are of the same root and are found to contradict with the term “agriculture“(zirâÓa) by almost all those thinkers and scientists interviewed. To quote Prof. Abd Al-Ati, head of the Social Science Department and professor of urban sociology in Alexandria University:

*There is nothing called urban agriculture and, by definition, it is a contradiction in terms. Ruralisation of the city is a negative phenomenon, which is mainly found at the fringes of the city and should be destroyed. We aim for seeking greater civilisation, while this is aiming for more ruralisation!*

These statements offer a very strict reading of the term “urban agriculture” and are rather sceptical about its connotations. Hence, it may not be so much the contents of the (western) concept that are addressed and discussed, but rather the semantics of its Arabic translation. The statements nevertheless reflect a distinct understanding of modernity. From this perspective, agricultural activities (nišât ziraÓáya) do not (any longer) befit the image of “modern” Cairo. This, of course, raises fundamental questions about the policies and implications of concepts that are invented by the international development community (Escobar 1995),30 and also about the role of local (technocratic) planning. However, in contrast to the discourse about environment, the scientific rhetoric about urban agriculture is not (yet) a local issue in Cairo.

### 4.3 Urban planning and restructuring

Urban planning is also related to the image of Cairo in general. The Capital provides a model for Egypt and it is from this perspective that it should present itself not only to Egyptians but also to foreign communities. In fact, the economic situation of the country depends not the least on Cairo’s image, for example, via the sensitive tourist industry. In recent years, the urban restructuring of Greater Cairo and the related vision for a “modern” city are based on a technocratic approach as reflected in the Homogeneous Sector concept. The goal is:
to encourage and channel [the] process of urban de-concentration and to organise the Greater Cairo agglomeration and its extensions into a number of manageable urban sub-units (GOPP & IAURIF 1986).

In Cairo, this is expressed in the recent “face-lifting” activities in the inner city and includes the sanctioning of informal activities, e.g. at the beginning of the 1990s, (informal) booksellers in al-Azbakáya and people selling clothes in ÓAtaba were removed. Also included is the “upgrading” of inner-city slum areas, such as in BälÂq or in Sayyida Zainab, and the planned relocation of the tourist infrastructure, such as the envisioned move of the Egyptian Museum to Giza. The removal of a garbage-collecting community in Manšât Nâœir in the east of Central Cairo is planned. Manšat Nâœir hosts one of the biggest garbage-collecting communities in Cairo, where people make their living by recycling the waste and rearing pigs.

Mustafa Mazoun, director of the local administration of the Manšat Nâœir District, underlines:

The Governor of Cairo has given strict instructions that all animal sheds be moved from Muqaóóam to [the desert area of] Qaóóamáa, 30 km outside of Cairo, by 1 January 1999. Muqaóóam is in the heart of the capital and it can't be used as a garbage dump. It's not healthy. Besides, it's very unhygienic for people to live with animals. The decision is the best for everyone.

Many of the garbage collectors believe the decision to relocate their activities was taken after the owners of “villas” and middle-class residents complained about living close to animal sheds and the burning of rubbish. The collectors argue that they established their community at least 20 years ago when there was nothing in the area and therefore should not be moved just to please more powerful residents.

Sharif Mahmoud, a garbage collector, believes that the government also overlooked an important issue, and asks:

How can the animals survive in the middle of the desert? We can manage without electricity and other infrastructure, but our pigs need water.

The need for urban restructuring of a growing metropolis in general is not doubted; however, the particularities of related policy measures are questioned. In the past, spatial transformations have often been based on technocratic
planning and on large-scale projects that do not automatically solve social problems at the local level, but too often render them simply invisible for a certain (tourist) clientele (Kuppinger 1995).

5. Perspectives for urban agriculture in Cairo

The prospects of urban agriculture in Greater Cairo are constrained by its morphological pattern (i.e., the extreme housing density), the structure of private animal husbandry (small-scale subsistence production) and vested interests in Cairo’s image production. Within Egypt, Cairo must be classified as a politically sensitive area: the city has a showcase function in Egypt, and is simultaneously characterised by highly unequal living conditions. Recently, the macroeconomic liberalisation has further transformed the relationship between society and space, exposing particularly the urban low-income groups to new risks. Alongside the privatisation of state-owned companies and the entailing mass redundancies, the crucial issue for the poor has been the cut in subsidies, most importantly for foodstuffs. In this context, urban food (subsistence) production takes on a new meaning.

For one section of the urban poor, small-scale animal husbandry is of crucial importance, as it renders (affordable) meat for consumption. This group can be delineated, to simplify matters, by those having access to - more or less suitable - spaces, possessing the necessary skills, and in the position to command over some means of investment. Animal husbandry, therefore, does not take place in isolation from the wider economy, but is rather, embedded and intertwined in a variety of ways within the local community and broader development processes. Hence, the images associated with urban agriculture and animal husbandry are also constraining its potentials. The prospects of animal husbandry are thus articulated with global forces, but contested and negotiated at the local level and, so far, widely ignored at the official level.

What remains to be suggested for the future? It clearly emerges from the present argument that animal husbandry is one important strategy to cope with food insecurity in Cairo. With on-going economic privatisation at the national level and in view of the absence of a comprehensive system of social security, the focus on the local situation provides the starting-point for possible answers. Local actions, both on the household and on the community level, have long been dealing successfully with structurally imposed problems. Why not reverse things and let the local logic impose on the structure?
LE = ca. US$ 0.20, July 1995

Concerning Egypt’s wheat dependency and the role of transnational corporations, see Gertel (1998).

Sugar and sweets supplied 7.9% of energy requirements, edible oil ca. 4.5%, fruit almost 4%, vegetables and milk products about 3% each; in addition, legumes, eggs, fish and milk made up a total of a little over 5%; see IFPRI (1994).

The last official price increase of the most common bread, the baladá, occurred in 1989 (from 2 to 5 piasters per loaf). However, the real price still increased after 1989; the extraction rate for flour was increased in 1990 (resulting in a lower quality), and the weight of a loaf of bread was reduced in 1991 (cf. Gertel 1998).

About 90% of Cairo's inhabitants had access to ration-card items in the 1980s but, since 1995, only oil and sugar are cheaper on the ration card than on the free market. In February 1995, per person and per month, half a liter of oil could be purchased for LE 0.5 on the card (the free market price per liter was LE 3.35), and one kg of sugar could be bought for LE 0.5 (the free market price of sugar was LE 1.7). Tea was also on the ration card with an allowance of 37 grams per person per month at a price of LE 0.4. The quality of tea, however, was considered very poor and, on the free market, a much better quality was available for only LE 0.08 more (50 grams for LE 0.65). The price of rice (LE 1.2 per kg), too, was sometimes cheaper on the free market (cf. Ali & Adams 1996).

Concerning the related reproduction crisis of low-income households in Cairo, see e.g. Tekce et al. (1994) on child health, Azer and Afifi (1992) on social support systems for the aged, and Gertel (1995) on food security.

The demand for clover is based on the feed required for animals used in the transport sector. Raising donkeys and horses, e.g. to pull wooden carts, is still a common practice in the densely-populated districts of Cairo, in spite of government actions against this means of transport.

All the following interviews were carried out by Said Samir in January 1999.

Cf. Gertel 1997; data are based on research jointly undertaken by the Institute of Cultural Geography, Freiburg University, and the Institute of Agro-Economics, Cairo University, in 1995 (cf. footnote 14).

There is little official interest in fishing as a source of urban food production. However, it is noteworthy that fishing in the Nile and in canals like the Ismailiya Canal is a “traditional” occupation for a few inhabitants of the city, who have inherited the profession over generations. These fishermen are licensed and controlled by the river police. Usually they sell fish in nearby markets close to the river. In general, the amount caught is rather small. The fish supply in Cairo depends to a very large extent on the wholesale fish market, located in Al-Ubãr, where fish - from the Mediterranean, the Red Sea and Nile fish farms - is sold on a large-scale commercial basis.

The figures in Tables 2 to 5 are not representative; at best, they indicate a trend: because of the scope of the described research (vulnerability and food insecurity), the households were not selected on a (completely) random basis. In order to be independent from official census data, which do not include people in informal housing areas, a spatial approach was chosen. Three areas with a low-income population (Gamâliya, Rawd al-Fara and
Ma‘oaráya) were selected for their differences in location and age; for purposes of comparison, one “modern” district (Muhandisán) with a section of well-to-do households was also chosen. Within each area, 4 housing types were then distinguished (private housing, public housing, informal settlements, old rural constructions) which can be used to indicate different resource structures available to the respective households. Within each of these 14 areas (4 x 4 = 16, 2 districts have no rural constructions), approximately 50 households (n=704) were selected on a random basis.

12 The number of buffaloes, horses, sheep and goats is very small and the results should be interpreted with great caution.

13 Compare types A and B: (Type A) = households with animals: nuclear households (68.1%), followed by female-headed households (17.7%) and extended families (9.7%), the remaining 4.5% is almost equally distributed between couples, male-headed households and households that do not belong to one of the other categories. (Type B) = households that do not raise animals: nuclear households (59.4%), female-headed households (18.6%) and extended families (16.6%). The remaining households (5.4%) show a similar distribution as for the rest group of households with animals (n for total sample households = 704).

14 Households raising animals have on average 2.4 rooms, whereas other households only have 2.0 rooms.

15 The poultry he sells to the retail shops originates from outside Cairo; it comes in on a daily basis.

16 Holy fasting month for Muslims. Paradoxically, food consumption increases considerably during that time.

17 In the 1980s, Environmental Quality International, a consulting firm based in New York with an office in Cairo, conducted a series of studies on the Zabbalán. These studies have not been published, see therefore Haynes & Hakim (1979), Meyer (1987) and Kamel (1994). For the history of development intervention in the Zabbalán community - ranging from Soeur Emanuelle and World Bank (IDA) to Oxfam - see Fahmi (1987).

18 The Zabbalán have to buy the right to collect the domestic garbage in Cairo from another group (the Wbá há - the people from the oasis, i.e. the Western Desert), who were garbage collectors until the 1930s and who nowadays control the property rights to Cairo’s domestic waste (Meyer 1987).

19 According to Meyer, each Zabbalán family sells an average of 25 to 35 pigs annually, while Haynes & El-Hakim estimate that almost 10 tons of pigs are sold daily by the Zabbalán (1979, 104).

20 The following data are based on the household survey in Greater Cairo in 1995 (see endnote 13). The calculations concerning the sources of income comprise both labour-based income (formal and informal activities) and transfer incomes (such as pensions, migrant transfers and income from rentals) (Gertel 1997).

21 According to the Egypt Human Development Report, about 45% of the urban population lived below the poverty line in 1995/96 (cf. INP 1996, 25). The overall poverty line is calculated at 1.098 LE per person per annum, or 91,5 LE per capita per month, respectively. The report distinguishes different poverty lines in the urban sector, depending on the calculation, ranging from 58.5 LE per capita/month (Food-based Poverty
Line) to 117.4 LE per capita/month (Upper Income Poverty Line). Whereas the first poverty line reflects only the cost of the food basket per capita, the second line includes non-food items and represents the actual income situation. The household expenditure per capita is considered to be the more reliable indicator. Thus, a third poverty line, the Lower Expenditure Poverty Line, reflecting the cost of basic needs, is set at 80.7 LE per capita/month for urban areas (cf. INP 1996, 2).

In order to reduce statistical disturbance concerning the distribution of the values of animals, 9 cases were excluded from the table. In 3 cases the respondents did not give any value, and in 6 cases the value given was over 1,000 LE; indicating that these households possess expensive animals such as horses or buffaloes. Of the latter, 5 cases are located in periurban areas (Ma'arayá), 4 in the rural setting of Ma'arayá (the value of animals ranges between 3,060-10,300 LE) and 1 in an informal housing area (2,540 LE). Only one case was found in the rural setting within the “modern” high-income area (Muhandisán), (1,660 LE). Note that the average income category relates only to households that raise animals (cf. footnote 24).

“Cairo Today” emphasises that the inhabitants of Cairo are threatened by dangerous levels of air pollution; quoting from a governmental study, it states: “the amount of smoke in the air has increased by 15 to 25 percent over the past five years, the amount of dust (natural and industrial) is more than 10 times over maximum safety levels, and the amount of lead in commercial areas is twice that of maximum safety levels” (Cairo Today, No. 116, October 1992). Already in 1984, Cairo residents who did not live close to heavy traffic had an average level of 30.5 micrograms lead per 100 cm3 blood. The upper limit in the EU is 35 mcc. People who are particularly exposed to air pollution – such as policemen - had a level of lead up to 63 mcc to above 80 micrograms (Cairo Today, No. 118, October 1992).

An industrial district in Greater Cairo.

Concerning Tables 5 and 6, it is not clearly indicated when the data were gathered (“during late 70’s and early 80’s”; El-Fouly 1992, 61) and it is also not clear who was responsible for the soil survey. Therefore, the reliability of the information cannot be assessed.

Zakaria Mantawy, head of local council in Ma'arayá (ma'lis al mahallá) is in charge of approving cooperation with the district administration (al-hayy) on all economic activities taking place within Ma'arayá.

Since 1972, Egypt has ratified 34 conventions relating to the environment and has taken part in almost all major environmental conferences of the region (Gomaa 1997). With the inception of the Egyptian Environmental Affairs Agency (EEAA) in 1982, the initiation of the National Environmental Action Plan in 1992, and the formulation and enactment of the Environmental Protection Law in 1994, public activity is remarkable. The Egyptian Green Party was established in 1987 and became legally recognised in 1990. In the mid-1990s, 62 environmentally-oriented NGOs were counted in Egypt, about 85% based in Cairo (Gomaa 1997).

For example, Maryland in Heliopolis, Orman Gardens and the Zoo in Giza, the “Aquarium” in Zamalik, and the International Park in Madánat Nāsir. High-density, low-income districts - where residential buildings are stacked next to each other with very narrow dusty lanes - lack public parks and clean open areas. Such districts are not part of official development priorities. One of the factors limiting the possibilities to increase the
green spaces and public gardens within the city is the scarcity of state-owned land inside Cairo. A recent report of the Central Accounting Agency stated that 60,746 citizens illegally occupy 950 faddân of state-owned land in Greater Cairo (Saied Ali 1998: Mafia of state-land, Al-Ahram newspaper, No. 40888, 17 Nov. 1998). Egyptian authorities are also alerted by the loss of agricultural land and are trying to preserve what is left. The “Military Order” No. 1 for 1996 prohibited transforming agricultural land into housing land, with a maximum penalty of 3 years’ imprisonment and confiscation of the land. This order, however, excludes land that is located inside cities. Therefore, valuable agricultural land within Greater Cairo can still be illegally transformed and used for housing, paradoxically protected or at least not actively hindered by existing legislature.

29 All the following interviews were carried out by Said Samir in January 1999. The interviews with Prof. Abu al-Rus, and with Prof. Abd al-Ati were by telephone.

30 For example, who identifies social phenomena and defines the categories of “development” problems? Are “food insecurity” or “urban animal husbandry” perceived as such by the groups in question? What kind of vested interests are found in the respective development discourses, and who is ultimately benefiting from “development” projects?

31 In 1998, the booksellers moved back to their original location. Through a media campaign, some intellectuals have been able to convince the authorities that the booksellers do not pose a threat to the image of a modern city but rather add to the attraction of Cairo.
References


