

# The rise of city farming: research must catch up with reality

*Farming has probably been carried out in cities ever since they came into being. Luc Mougeot from the International Development Research Centre (IDRC) in Canada traces the history of farming from ancient cities to the challenges facing urban planning and research in the North and South at the dawn of the 21st century.*

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**C**ity farming, or urban agriculture, is the growing of food and non-food plants and the raising of animals such as cattle, fowls and fish both within and on the edge of built-up urban areas.

Archaeological evidence suggests that food production was not at all uncommon in more advanced ancient cities, which had to secure a good share of their food supply from areas in their immediate control. Throughout most of human history and in quite different cultures, city people produced at least some of their own food near their homes. Authorities also built and managed massive food-producing systems, often associated within elaborate earth- and waterworks on urban sites. In some cases, they provided for food production when designing low-class living quarters. Farming in these ancient cities took various forms, making ingenious use of local resources. Many cities probably offered incentives and means for devising, testing, improving and disseminating more intensive and productive farming systems.

## Divorce and reconciliation

The divorce of farming from cities during the time of industrialisation is very recent in human history. It has been far from universal and shows increasing signs of being repaired in both North and South. The forces of urbanisation have been challenging both the economics of cities' over-reliance on food from distant rural areas and the political wisdom of blocking access of the urban poor to unused land for feeding themselves and others.

At the dawn of the 21st century, the largest-scale advances in city farming and marketing are found in and around major Asian cities. Here, since decades, policy-makers and planners have been deliberately incorporating farming as a vital activity in urban economies. Ancient home-gardening in cities was the seed from which urban courtyard gardening and then full-scale city farming systems grew to become what they are today in China after

the end of Russian occupation in the 1950s.

## Farming by Northern urbanites

Outside Asia, since the late 1970s, city farming has been growing in many developed and developing countries, in terms of number of people involved, space used, benefits to households and city economies, and new challenges.

Local authorities have been revising long-held attitudes toward city farming and developing more sustainable urban policies. More governments are creating agencies and programs to promote and manage city farming. Beyond private backyard gardening, a growing number of North American and European city governments are now supporting community and city-level gardening on public land. Good examples are Stockholm (Greenhow 1994) and Montreal (Cosgrove 1994). In the early 1990s nearly 2500 community-gardening sites could be found in nine major North American cities. Gardens are becoming accepted as urban parkland, and some are even protected for permanent use as a result of public pressure.

## Responsive Southern cities

An IDRC survey in 1994 of institutional capacities and initiatives in city farming in Latin America revealed a growing and diversifying range of official activities in the Dominican Republic, Mexico, Costa Rica, Peru and Argentina. Municipalities in Brazil are increasingly providing for city farming in new low-income housing projects.

In colonial Africa, farming was discouraged and often prohibited in low-income housing areas, public spaces and citywide zoning policy. However, like in post-Russian China, a growing number of independent countries are departing from strict urban regulations. This can be seen in the

design of the new national capitals of Côte d'Ivoire, Malawi and Tanzania, and is also expressed in master plans of Kinshasa (1975), Maseru (1986), Kampala (1994) and in the ongoing urban management of Dar es Salaam. Various city authorities have innovated with farming zones, crop irrigation and extension, allotments, land-use regulations and tax concessions. Harare is a particularly good example.

International meetings of city authorities are now paying much greater attention to the role and challenge of farming in urban development, eg. the International Union of Local Authorities World Congress in 1993, the Global Forum in 1994 and the International Colloquium of Mayors on Social Development in 1994.

## Food a basic luxury

Providing urban food security and productive employment to reduce urban poverty is the strongest argument invoked by politicians and planners in favour of city farming. It is easy to understand why. For a large and growing number of urban dwellers in the South, food is turning into a "basic luxury". Studies in Africa show a rapid expansion of food production in cities. For example, in Dar es Salaam 44% of low-income earners had farms in 1980, but 70% by 1987. In Lusaka, where about half the residents now grow vegetables in town, rainy-season plots have grown from an average of 300 m<sup>2</sup> in the late 1970s to 423 m<sup>2</sup> in 1992-3. In Harare, open-space cultivation has almost doubled in the last four years. Similarly, registered livestock numbers are growing in many African cities, particularly to produce milk, pigs and poultry.

No one expects city farming to supply the bulk of urban demand for cereals, tubers or meat from large animals (although some of these are being pro-

## Farming in ancient Mediterranean cities

Uruk, the most important city in fourth-millennium Mesopotamia, extended over 1100 acres, a third of which was covered with palm groves. Most working adults farmed part-time on their own holdings, on allotments of land from temples or on large estates. On Crete until the Late Roman period, the large inland city of Eleutherna had a vaulted aqueduct taking water from cisterns under the acropolis to extensive cropfields terraced down the limestone spur on which the city was erected. Some of these terraces are still cultivated. Greek city-states were self-supplied with goat milk and olive-oil fuel for house lighting. In the densely populated ancient Roman port of Ostia, a complex of 40-100 apartments with gardens was erected around 128 AD, apparently for middle and lower classes.

From: Mougeot L. 1994. *Urban food production: a survey of evolution, official support and significance*. Paper for Habitat 94, 20 Sept 1994, Edmonton, Canada.





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duced in urban areas). However, what is striking and is finally being recognised is that city farming, with little if any official support, already contributes a significant part of urban food needs.

### Policies starve cities

In many parts of the world, international development policies have been starving

food intake, improved child nutrition and general health, cash savings, income and employment. The unfolding evidence should lead the international humanitarian agencies and others to incorporate city farming into more effective and lasting urban food security strategies.

### Research lagging behind

Science and technology must now catch up with the rapidly evolving reality of city farming. The challenges are many. Ignoring them would particularly affect those vulnerable groups who could gain most from more productive, healthy and equitable city farming, both as producers and consumers. The challenges for research are found in at least six major areas of concern:

- We need comparative and longitudinal analyses of farming and nonfarming urban households to measure the impact of city farming on nutritional status and general health of producers and consumers. Many existing data sources can be exploited. Nutrition and health specialists need to be involved.
- City farming requires higher technological and organisational precision than rural farming, because it needs to be more intensive, more tolerant of environmental stress, and carefully monitored to protect public health. Many profitable city-farming systems must be adapted and made available to poorer urban households, particularly systems making more efficient use of limited space.
- We need better accounting of the costs and benefits associated with urban agriculture on a city scale, both as a form of land use in synergy with other forms (including environmental, social and health dimensions) and as an industry in combination with other job- and income-generating activities, such as safe recycling of liquid and solid waste, food processing and vending.

- New ways must be sought to provide access to land, credit and crop security. There is an enormous amount of vacant and underused land in most large cities. The greatest problem is access to land. Innovative permanent and temporary tenure and usufruct arrangements can go a long way to clearing this roadblock. Credit for city farming is almost universally unavailable. This means high failure rates, low yields and non-investment in more profitable production systems. Current credit schemes for housing improvement and small enterprise development could be re-oriented to encompass city farming as well.
- City farming is generally a thrifty user of water and it could go further in reducing its use of high-quality water if sewage systems were designed to recycle sewage locally. Low-cost processes for eliminating disease vectors and pathogens must be developed, and assessments of crop susceptibility to contamination should provide guidelines for crop selection. Pollution of the watertable and soil by agrochemicals can be curbed through the use of biological pesticides, multiple cropping techniques, compost and treated sewage.
- Very little attention has been paid to ways of reducing gender and ethnic inequalities in city farming. There is often discrimination against minorities immigrating into cities, who could be major sources of innovation. The majority of city farmers are women, who have particular needs in terms of domestic space use, tenure rights, income management, childcare and related activities. These need to be catered for by new policies and technologies.

### Island city of gardens

The Aztec capital city Tenochtitlán was built on a man-made island in Lake Mexico. In 1519 Diaz marvelled at the agricultural nature of the island capital he found, with five times the population of Henry VII's London at the time. Rectangular raised-beds or *chinampas* anchored with planted fences of willows, were filled in and periodically fertilised with marshy vegetation and mud from the canal and with manure from livestock and humans. The chinampas carried gardens, trees and houses and were the source of most of the food consumed in the city when Diaz arrived.

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cities, literally. Low prices paid to producers of food for local markets; growing reliance of food imports; export-oriented primary production; post-disaster food aid without strengthening local production capacity; wage reduction affecting even middle-income earners' ability to feed their families; and insufficient transportation, storage and distribution systems have led to food shortages and losses and lower-quality supplies in many cities. Farming has been part of urban dwellers' response to this.

More and more data is becoming available about the benefits enjoyed by urban farming households, in terms of self-grown

### Opening the road

To meet these challenges, a growing number of local community and grassroots organisations, city authorities, national agencies and international institutions are beginning to coordinate their efforts. They are either revising past orientations or creating new areas of support to break away from myths, face the roadblocks and capitalise on opportunities. This will bring city farming into the mainstream of 21st century urban development in the North and South alike.

### References

- Greenhow T. 1994. *Urban agriculture: can planners make a difference?* Paper presented at IDRC panel "Cities Feeding People: Urban Agriculture and City Planning in North and South", September 1994, Edmonton, Canada.
- Cosgrove S. 1004. *Une histoire des deux villes: comparing Canadian community gardening programmes in Montreal and Toronto*. Paper presented at above panel.

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