



The greening of the “barrios”: Urban agriculture for food security in Cuba

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Abstract. Urban agriculture in Cuba has rapidly become a significant source of fresh produce for the urban and suburban populations. A large number of urban gardens in Havana and other major cities have emerged as a grassroots movement in response to the crisis brought about by the loss of trade, with the collapse of the socialist bloc in 1989. These gardens are helping to stabilize the supply of fresh produce to Cuba's urban centers. During 1996, Havana's urban farms provided the city's urban population with 8,500 tons of agricultural produce, 4 million dozens of flowers, 7.5 million eggs, and 3,650 tons of meat. This system of urban agriculture, composed of about 8,000 gardens nationwide has been developed and managed along agroecological principles, which eliminate the use of synthetic chemical pesticides and fertilizers, emphasizing diversification, recycling, and the use of local resources. This article explores the systems utilized by Cuba's urban farmers, and the impact that this movement has had on Cuban food security.

Key words: Urban agriculture, Cuba, Agroecology, Sustainable agriculture, Food security, Biological pest control

Abbreviations: ACAO – Asociación Cubana de Agricultura Orgánica; ANAP – Asociación Nacional de Agricultores Pequeños; CREEs – Centers for the Reproduction of Entomophagous Agents; FAO – Food and Agricultural Organization; GDP – Gross Domestic Product; INIFAT – Instituto de Investigaciones Fundamentales en Agricultura Tropical; IPM – Integrated Pest Management; MINAGRI – Ministry of Agriculture; UN: United Nations

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Introduction

The collapse of the socialist bloc in 1989 marked the beginning of a new era in Cuban history. Without the support of the international socialist economy, Cuba suddenly plunged into a severe economic slump. The

socialist bloc had accounted for 85% of Cuba's trade, and with its collapse, Cuban imports dropped by 75% and the deficit reached 33% of GDP. Russian oil imports, previously purchased at below market prices, fell from 13 million tons in 1989 to less than 7 million tons in 1992. Cuba had to establish an entirely new set

of trading partners, a task made far more difficult by the Torricelli Bill, signed by the Bush administration in 1992, which tightened the United States' economic embargo. From 1989 to 1993, Cuba's gross domestic product dropped, according to official estimates, by 35% (Rosset and Benjamin, 1994).

Officially called the Special Period in Time of Peace, the ongoing economic crisis has had a devastating impact on Cuban food security. Cuban agriculture, which was highly dependent on chemical inputs from the Soviet Union, suddenly confronted a 50% reduction in fertilizer and pesticide imports. Food imports, which previously accounted for up to 57% of the caloric intake of the Cuban population, also dropped off due to the shrinking import quota bill. Food production became Cuba's most important task (Rosset, 1997a). The major challenge facing Cuban agriculture is to provide for a more equitable access not only to food but to the locally-available resources and low-input technologies required for its production.

Fortunately, some of the investments of the revolution paid off. With Cuba accounting for only 2% of the Latin American population but with 11% of the scientists, this tremendous human resource was modified along with the grassroots to face the crisis. Cuban farmers, scientists, and planners responded to the challenge of food security with a whole array of alternative agricultural technologies to sustain agricultural productivity in the farm sector. This process has been well documented (Rosset, 1997b). Less known, however, have been the urban agricultural endeavors of both spontaneous popular groups and government organizations, efforts that have been pivotal in averting a catastrophic shortfall of food availability for the urban populations (Companioni et al., 1997).

With the onset of the crisis, urban gardens began to spring up all over Cuba, especially in Havana, as a massive popular response of residents themselves to the food shortages. In the abrupt absence of the food previously provided by the government at very low prices, thousands of urban dwellers began to cultivate it for themselves. These new gardeners were growing food to satisfy family needs. Relaxing laws on the sale of garden food items has helped many gardeners improve the family economy by selling any excess. These popular gardens have been augmented by state support, both through technological and informational services and through the establishment of extensive state-run gardens, which produce horticultural products for local residents. Urban agriculture in Cuba has far surpassed the dimensions of what may be termed conventional vegetable gardening. It is rapidly becoming a significant source of fresh produce for the urban and suburban populations (Companioni et al., 1997). In fact, these programs are starting

to be perceived by Cuban agricultural officials as key components of the overall national food system strategy.

This article examines some of the characteristics of the Cuban urban agriculture movement, focusing on its extent, organization, agroecological features, and the socio-economic and food security implications for the island.

Extent and typology of urban agriculture in Cuba

Cubans understand urban agriculture as all agricultural and animal production that occurs within cities or peripheries that receive direct influence from cities, so that the productive process is intimately linked to the urban population. Without having precise limits, urban agriculture includes all gardens, which are integrated into the city (Companioni et al., 1997). It is a "popular agriculture," extremely heterogeneous in size, crop mixes, and management levels. One of the primary benefits of these gardens is that they target the increased food production and supply to the communities and neighborhoods where food is needed most. It is important to mention also that several urban production systems supply primarily to the tourist trade.

The way Urban agriculture in Cuba can generally be classified can be seen in Table 1.

The *organopónicos* and *intensive gardens* are the primary methods of urban cultivation. The only difference between the two is the structure of the garden: whether cultivation occurs in raised beds or in the pre-existing soil. Because of the poor quality of many urban soils, the *organopónico* method is the most popular. Although statistics are still being compiled, official estimates in 1996 calculate the total number of *organopónicos* in Cuba to be about 1,613, covering about 250 hectares. They have an average yield potential of 16 kg of produce per square meter, with a total production of about 840,092 qq. [1 quintal equals 100 pounds]. There are about 430 *intensive gardens* with a total area of 165 hectares and a total production of 421,000 qq., or about 12 kg. of produce per square meter. More data are available for the capital city of Havana, which has the largest and most developed system of urban agriculture in the country (Table 2).

The *popular gardens* are the most widespread, and easily accessible to the public. By June, 1997, there were some 26,604 gardeners working in roughly 5,000 popular gardens throughout the 43 urban districts that make up Havana's 15 municipalities. The popular gardens range in size from a few square meters to three hectares. Larger plots of land are often subdivided into smaller individual gardens. Garden sites are usually vacant or abandoned plots and are located in the same