



# Havana's self-provision gardens

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*SUMMARY:* This paper discusses how urban agriculture is promoted in Havana as a means of addressing the acute food scarcity problems that developed when Soviet aid and trade were drastically curtailed in 1989. It describes the contributions which Havana's 26,000 self-provision gardens make to household nutrition and income and to communities' environmental quality, drawing on research which included interviews with a range of households engaged in urban agriculture, and discusses what lessons can be learnt from this experience.

## I. BACKGROUND

URBAN AGRICULTURE IS actively promoted in Havana, Cuba, as a means of addressing the acute food scarcity problems of the "special period in peacetime" which developed when Soviet aid was drastically curtailed starting in 1989. Additionally, trade with the Soviet Union and the Soviet trade organization, the Council for Mutual Economic Assistance (COMECON), also fell drastically. During the period 1989 to 1992, average daily per capita caloric consumption dropped by an estimated 20 per cent and average daily per capita protein consumption dropped by 27 per cent.<sup>(1)</sup> Conditions were further exacerbated by a severe storm that destroyed much of the country's sugar crop in 1993 and by a tightening of the US blockade in the early 1990s.<sup>(2)</sup>

Cuba's agricultural sector has, historically, been export oriented, with sugar as its main product; from 1984 until 1989, sugar accounted for 77 per cent of Cuba's exports. During this time, 70 per cent of Cuba's foreign trade was with the Soviet Union.<sup>(3)</sup> Cuba did not reduce its reliance on food imports until after 1975, nonetheless, it is estimated that in the late 1980s, Cuba's imports accounted for 44-57 per cent of its per capita caloric intake. In addition, Cuba was importing many of its agricultural inputs in the late 1980s. It is estimated that Cuba was importing 48 per cent of its manufactured fertilizers and 82 per cent of its pesticides and herbicides at that point. However, the situation changed dramatically during the early years of the "special period". It is estimated that by 1992, Cuban trade with COMECON was at 7 per cent of its 1989 levels, leaving the country with an inadequate food supply.<sup>(4)</sup>

In response to the conditions of the "special period," the Cuban Ministry of Agriculture began promoting urban food production in 1991 and a number of urban agricultural activities are underway. An important

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component of the government's programme is self-provision gardens which are cultivated either on private land or on state land which the gardeners are able to use at no cost. It is estimated that Havana has over 26,000 self-provision gardens.<sup>(5)</sup>

Research was conducted in Havana in order to trace the contribution of these gardens to the nutritional intake of the gardeners' households and the effects of the gardens on the communities where they are situated.<sup>(6)</sup> In-depth interviews were conducted with 42 gardeners during the period July to September, 1995. Nine of Havana's neighbourhoods were selected for the study, representing a range of gardening conditions varying from neighbourhoods with highly organized gardening efforts to areas known to have problems with their gardening programmes. The researcher divided the neighbourhoods into three categories, based on the level of coordination between the gardeners and the Ministry of Agriculture:

- neighbourhoods that lacked direct support from the Ministry of Agriculture, where neighbourhood activists were encouraging and helping to coordinate gardening activities but lacked on-going assistance from the ministry;
- neighbourhoods where gardening activities had just started to receive coordinated assistance from the Ministry of Agriculture or where ministry extension workers had been somewhat active previously but not in a well-orchestrated fashion;
- neighbourhoods where ministry activities were well-developed.<sup>(7)</sup>

Every interview was arranged by an individual involved in gardening promotion, usually one of the ministry's extension workers. No attempt was made to randomize the sample as the logistical challenge of arranging the interviews precluded such a step.

At the time of the study, the Ministry of Agriculture was in the process of hiring and training agricultural extension staff to work at the community level in Havana. Sixty-seven workers were being hired to develop agricultural productivity through different types of urban agricultural activity. In addition, every municipality in Havana had a staff member who oversaw the extension activities. The extension workers assisted gardeners in obtaining land, encouraged the gardeners to form clubs, answered technical questions about gardening, acquainted the gardeners with resources available to them and maintained communication with the ministry. The ministry also publicized the gardening programme on television and worked with a number of Cuban and foreign organizations to coordinate training for gardeners and extension workers, and to provide materials such as tools and hosing to the gardeners.<sup>(8)</sup>

Many of the activities of the other agencies were coordinated by the ministry. The primary organizations were the Green Team, an Australian permaculture group; Consejo Ecumenico de Cuba (the Ecumenical Council of Cuba); a German organization, the Protestant Association of Cooperative Development, which provided loans, technical assistance and a small number of grants to establish gardens; Centro de Estudios sobre Relaciones Intramericanas (CERI) (the Centre for Study of Intra-American Relations), an Italian and Spanish non-governmental organization that donated food; AgroAcción Alemania (German Agrarian Action), which supplied powdered milk, canned meat and vegetable oil to nursery schools and elementary schools; Cooperative Credit and Services for Reforestation, an organization promoting urban forestry, including fruit trees; the Grupo para el Desarrollo Integral de la Capital (the Group for the Integrated Development of the Capital), a non-governmental organiza-

5. Paez Medina, Egidio, Cuban Ministry of Agriculture (1995), interview, Havana, Cuba.

6. The research was conducted for a Master's thesis at the International Agricultural Development Graduate Group at the University of California, Davis, with funding from the Oberlin College Alumni Fund's Henry J. Haskell Fellowship, the Jastro-Shields Graduate Research Scholarship Fund and the International Agricultural Development Graduate Group. Interviews were conducted by the author and Ana Himeley who provided translation assistance and background information in conducting and transcribing the audio taped interviews.

7. The neighbourhoods of Los Angeles, Zayas, Pogolotti and Alturas de Belem were assigned the first category with Alamar assigned to the second category and Playa, Santa Fe, Diezmero and La Lisa assigned to the third category.

8. Paez Medina, Egidio, Cuban Ministry of Agriculture (1995), interview, Havana, Cuba.

9. Himeley, Ana, translator and agricultural specialist (1996), correspondence from Havana, Cuba.

10. Cruz, María Caridad, principal specialist, Havana Department of Planning (1997), "Presentation in the urban and community agriculture: cases from Cuba panel", international conference on Sustainable Urban Food Systems, Toronto, Canada, 25 May.

11. Chaplowe, Scott (1996), *Havana's Popular Gardens and the Cuban Food Crisis*, Master's thesis, Geography Graduate Group, University of California Los Angeles.

tion involved in planning issues for the city; Asociación Cubana de Producción Animal (Cuban Association of Animal Production); Movimiento Laico para América Latina (MLAL) (Lay Movement for Latin America); a Dutch non-governmental organization, NOVIB; local research institutes; the Havana province's physical planning office, which integrated the gardening efforts into an overall plan of urban greening for the metropolitan area; Sur-Sur (a network of Central American and Caribbean organizations); the government's irrigation, and drainage and soil departments; and government affiliated *casas de semillas* (seed houses), located in 10 of Havana's 15 municipalities, providing seeds and gardening information. The seed houses were in the municipalities where agricultural production and interest was highest.<sup>(9)</sup>

This paper presents the results of this study on the nutritional benefits that accrued to the gardeners and their households. It also briefly reviews the findings regarding the contribution of the gardens to their surrounding neighbourhoods. Discussion will begin with the characteristics of the gardeners and their gardens.

## II. STUDY FINDINGS

### a. Characteristics of the Gardeners

THE AVERAGE AGE for the study sample was 58, with ages ranging from 28 to 80. Twenty-eight of the gardeners (67 per cent) reported that they had learned their cultivation skills from relatives whilst growing up in the countryside. Eighteen (43 per cent) indicated that the garden was their first direct experience with horticulture, although some had previously acquired gardening skills by observing others.

Ninety-one per cent (38) of the gardeners were men and nine per cent (4) were women. The agricultural background of many of these men is presumably a factor in their high level of participation in the gardens. In addition, a Cuban study found that women's household responsibilities during the "special period" allowed little or no time for gardening.<sup>(10)</sup>

### b. Characteristics of the Gardens

Most (26) of the gardeners' land parcels were individual gardens, although the largest garden covered in the study included 72 gardeners on 53 plots. Garden size ranged from 18 to 40,000 square metres. Larger plots were usually tended by more than one gardener.

Half (21) of the gardeners had plots adjacent to their homes. A further 12 per cent (five), with distant plots, cultivated a second smaller plot at their homes. The furthest distance study participants had to travel to their gardens was one kilometre. However, another researcher spoke with gardeners who lived in neighbourhoods with very little available land and who had to travel across town to reach their plots.<sup>(11)</sup>

Thirty-four gardeners (81 per cent) used their land through a system of *usufructo gratuito* (free usufruct), the other eight owned the land they cultivated. *Usufructo gratuito* allows the gardeners free use of state land for the rest of their lives. Under this system, land can be passed on to relatives through a process coordinated by the Poder Popular (Popular Power), the local municipality's governing body, and the Consejo Popular (the Popular Council), the community's governing body. Legislation enacted

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shortly before the study clarified and stabilized land use for gardeners on state land as well as on under-utilized private land.<sup>(12)</sup>

Gardeners chose the crops they grew. They were constrained only by growing conditions and seed availability. Plantains were the most popular crop, cultivated by 98 per cent (41) of the gardeners. Both fruit and viand types of plantains were grown. Other popular crops were cassava, peppers, squash and yam. Sixty per cent of the gardeners (25) raised animals, including chickens, pigs, goats, ducks, rabbits, geese, *guanacos*<sup>(13)</sup> and turkeys. Twelve gardeners (29 per cent) indicated they used the manure from their animals to improve their soil.

### c. Challenges Faced by the Gardeners

The gardeners were asked a series of questions about the problems they encountered in operating the gardens, the severity of these problems and how they addressed them. The responses are summarized in Table 1.

Table 1		
Summary of the Problems Encountered by the Gardeners (based on a sample of 42 responses)		
Problem	Gardeners who reported problem % (number)	Severity of problem <sup>(a)</sup>
Insects	86 (36)	n/a
Water scarcity	76 (32)	2.7
Poor soil	74 (31)	2.4
Theft of garden products	71 (30)	2.3
Weeds	67 (28)	2.1
Lack of tools	55 (23)	1.9
Plant diseases	45 (19)	n/a
Seed scarcity	40 (17)	1.7
Lack of fertilizer	40 (17)	n/a
Problems with animals	33 (14)	n/a
Problems with work clothes	10 (4)	n/a

<sup>(a)</sup> The "severity of the problem" figure is a Likert Scale figure that represents the average response on a scale of one, "no problem" to four, "big problem".

12. Paez Medina, Egidio, Cuban Ministry of Agriculture (1995), interview, Havana, Cuba.

13. *Guanacos* are similar to llamas.

## III. IMPACTS OF THE GARDENS ON HOUSEHOLD FOOD AND ECONOMIC SECURITY

THE QUANTITY AND quality of the food available to gardeners' households was found to increase significantly through the production of plant and animal products. An average 5.83 people consumed food in the gardeners' households and a total of 9.52 people in their extended families received food from the gardens. If this pattern were true throughout Havana, then more than one in ten people in the city were receiving some food from the gardens. However, because the sample was not randomly selected, no generalization can be made from this finding.

The gardens were also found to have a profound impact on household budgets through a reduction in weekly food bills and through money earned from sales of garden products. Forty-one gardeners (98 per cent) indicated that they saved money with their gardens, saving between 10 and 250 pesos per week, with an average of 50 pesos per week. This is a

striking figure, as the average household salary reported by the gardeners is 125 pesos per week. Thus, the average savings from the garden represents 40 per cent of the average household salary.

#### IV. CONTRIBUTIONS OF THE GARDENS TO THE COMMUNITY

THE STUDY FOUND that the benefits of the gardens could also be traced to the surrounding neighbourhoods. Six areas were identified as community benefits: a greater food supply; contributions to the country; increased economic security; neighbourhood beautification; improved safety and improved public health; and an enhanced urban ecology.

##### a. More Food for the Community

The gardeners contributed and sold food to their local communities, thus enhancing local food supplies. One-third (14) of the gardeners sold some of the food they produced. Thirty-three (78 per cent) donated food to the community, for some, this was done through their gardening clubs. Donations were often made to schools, nursery schools and nursing homes. Gardeners reported that they also gave food to neighbours, especially those who were not very well-off.

##### b. Contributions to the Country

The gardens were characterized by some of the gardeners as contributing to the country at large. A number of individuals spoke about gardening as an important way of solving the problems facing Cuba. They indicated that they considered their work in the gardens as a means of helping the revolution. One commented that he wanted a farm to "...help the revolution with a huge harvest." Another observed that "...work is good for health, spirit and the revolution." Asked if gardening had been a positive experience for him and his family, another gardener responded: "Yes, for me, for my family, for the country." Three gardeners quoted José Martí, a nineteenth century Cuban writer, poet and revolutionary, in discussing their work in the gardens.

##### c. Increased Economic Security

The gardens increased economic security for the gardeners and their households through the savings accrued from growing food. Furthermore, the gardens' potential for income generation also contributed to economic growth at the community level. Given the limited income-earning opportunities during the "special period", this function is important.

##### d. Neighbourhood Beautification

Quite a few of the gardeners indicated that they had started their gardens in abandoned lots or garbage dumps. Gardeners from one of the municipalities included in the study had constructed impressive rock walls, usually about a metre tall, the rocks coming from the once vacant lots that many of the gardens now occupy. A number of the gardens in this area are quite lovely and contain multiple plots.

### e. Enhanced Safety and Improved Public Health

Neighbourhood safety was also improved. A number of the gardeners indicated that the lots they had transformed had been unsafe areas that people had previously been afraid to walk through or by. Two participants in the study mentioned that the area they gardened had previously been referred to as the "hill of fear". It had been restored to a series of beautiful gardens.

The replacement of unsightly landscapes with gardens also improves public health both through the removal of unsanitary dumps and through the nutritional foods that the gardens provide.

### f. Enhanced Urban Ecology

A pattern of gardens is prominent throughout much of Havana. The peripheral areas contain many more gardens than the city centre, nonetheless, it is not uncommon to see food gardens in many parts of the city. Farm animals are much more conspicuous in Havana than in many capital cities, although they are often kept close to houses to guard against theft. Food production is also environmentally sound in that its transportation, storage and input requirements are quite low. The gardens' plantings also bring the many aesthetic and environmental benefits of increased vegetation to the city. Furthermore, gardeners who compost their food scraps and garden residue produce soil nutrients and divert them from the waste stream.

The food gardens in the study were organic, both as a response to the lack of chemical inputs and to the emphasis placed on organic cultivation methods by those offering technical assistance. Chemical inputs are not sold on the open market in Cuba.<sup>14</sup> The gardeners showed varying levels of attachment to the environmentally benign gardening methods they were practising. One reason for this appeared to be a variation in skill in managing soil fertility and insect problems. A number of educational efforts were on-going under the Ministry of Agriculture and other organizations. Gardeners who were aware of composting and pest control techniques were far more enthusiastic about organic gardening than those who had no knowledge or limited knowledge of these techniques. For instance, when asked about soil conditions, gardeners who had been trained in covered composting techniques spoke glowingly about the importance of compost in maintaining soil fertility. One gardener explained: "Through enriching the soil I am fostering beneficial organisms." Other gardeners spoke of the hardships caused by the lack of chemical inputs. Twenty-four per cent (10) of the gardeners used compost in their gardens. The gardeners were not asked about the materials used in the compost but some indicated that they used garden and household food wastes. Gardeners who lived in the vicinity of a sugar-processing plant indicated that they used sugar by-products in their compost. Twenty-nine per cent of the gardeners (12) used manure and thirty-one per cent (13) used organic matter, including green manure, in their gardens.

The gardeners were asked how important "improving the environment" was as a reason for gardening. The average response was 3.14 on a scale of one ("not important") to four ("very important"). When asked, one respondent noted: "I am aware that the environment has to be protected." Another gardener spoke about his plans to develop a living fence around his garden.

14. Consejo de Administración de la Provincia de la Ciudad de la Havana (1995).

## V. DISCUSSION

THERE IS WIDESPREAD recognition of the importance of Havana's food gardens and widespread commitment to their continuation. Ninety-three per cent (39) of the gardeners in the study indicated their intention to continue gardening when the "special period" ends. Government officials interviewed for the study indicated the government's strong support for gardens and their intention to continue the gardening programme. The impressive scope and achievements of Havana's gardening programme should be an inspiration for all those who practise or support urban agriculture. Nonetheless, the unique factors at work in Havana may not necessarily be replicable in all settings.

The role of the Cuban government in promoting and supporting urban agricultural activities, and coordinating the contributions of the international community is exemplary from a global perspective and surely accounts for much of the success of the programme.<sup>(15)</sup> Cuba is being heralded for its "green" agricultural practices, including urban agricultural practices, which have developed in response to the striking drop in agricultural inputs and fuel during the "special period". Much of the success of this approach is attributable to the country's impressive research and outreach capabilities. In addition, others credit the commitment of many Cuban scientists to environmentally sound farming methods.<sup>(16)</sup>

Havana is a low-density city with a considerable amount of land designated for its gardens. In many of the world's cities, locating available land can be a challenge, especially if government land is not available. Determining the owner of a vacant plot can be difficult in some cities and, while the costs of renting land can be quite low, farmers are evicted if the owner decides to build on the land. Similarly, if the land is owned by the government, that too does not preclude development plans. There is a need, therefore, for the land-use rights of gardeners to be articulated, as they are in Havana.

Some of the world's cities discourage urban food production because it is seen as "backward" and is thought to compete with countryside production; also there may be the wish to build on vacant land or there may be public health concerns about agricultural enterprises in densely populated areas. In *The Greening of the Revolution* (1994), Rosset and Benjamin indicate that some in Havana view urban agriculture as a backward activity,<sup>(17)</sup> although the researcher did not speak with any individuals who expressed these views. Nonetheless, she was told by Ingeniera Cruz of the Havana Department of Planning that some individuals in Havana were upset that so many resources were being devoted to the urban agricultural programmes.

The commitment and efforts of the gardeners must also be recognized. In addition to their considerable agronomic achievements, the gardeners interviewed for this study expressed a strong community ethic which was manifested by the large number (78 per cent) of gardeners who donated food to the community. It is probably unrealistic to assume that this level of generosity is replicable in countries that place less emphasis on high nutritional standards and societal welfare. Furthermore, it is important to be mindful that the country had previously enjoyed high nutritional standards and has shown a strong commitment to universal access to high quality nutritional intake.

15. Marsh, Robin, senior research associate, North American Integration and Development Centre, University of California, Los Angeles, August, 1996, interview, El Cerrito, CA.

16. Rosset, Peter and Medea Benjamin (editors) (1994), *The Greening of the Revolution*, Ocean Press, Melbourne, Australia.

17. See reference 16.

