Culturing Community Development, Neighborhood Open Space, and Civic Agriculture: the Case of Latino Community Gardens in New York City

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Agriculture and Human Values 21:399-412

Available online at http://www.kluweronline.com/issn/1572-8366/contents

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Abtract

To determine the role Latino community gardens play in community development, open space, and civic agriculture, we conducted interviews with 32 community gardeners from 20 gardens, and with staff from 11 community gardening support non-profit organizations and government agencies. We also conducted observations in the gardens, and reviewed documents written by the gardeners and staff from 13 support organizations and agencies. In addition to sites for production of conventional and ethnic vegetables and herbs, the gardens host numerous social, educational, and cultural events, including neighborhood and church gatherings, holiday parties, children's activities, school tours, concerts, health fairs, and voter registration drives. In some cases, the gardens also serve to promote community activism. The primary concern of gardeners is secure land tenure in the face of pressures to develop the garden sites for housing. The support organizations and agencies provide help with land tenure, as well as with advocacy, organization, and horticultural practices. Although the role of the Latino gardens in community development appears to be more important than their role in open space or agricultural production, the gardens also can be viewed as unique "participatory landscapes" that combine aspects of all three movements, as well as provide a connection between immigrants and their cultural heritage.

Key Words

Civic agriculture, community gardens, community development, Latino gardens, open space, urban agriculture

Abbreviations

NYC = New York City
GIS = Geographic Information Systems

Biographies

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Introduction

Changing Roles of Community Gardens through History

Historically, the community gardening movement in the U.S. can be seen as a response to changing socio-economic and demographic trends. During the late nineteenth century, rapid migration to cities and an economic depression led to a demand for cheap food. Municipal leaders responded by offering poor residents the opportunity to grow food in city-owned vacant lots (Hanna and Oh, 2000; Irvine et al., 1999). The First and Second World Wars and the Great Depression led to the establishment of liberty gardens, relief gardens, and "Gardens for Victory" to ease the demand for food. Following the Second World War, interest in food growing and community gardens declined among the general population and the government, perhaps due to the transition to large-scale agriculture and the expansion of the food distribution system.

The contemporary community gardening movement began in the late 1960's and early 1970's, when urban decline brought about renewed interest in urban green spaces. Many community gardens were created when local residents transformed vacant lots into green spaces that included vegetable plots, sitting areas, playgrounds, and flowers (Francis et al., 1984; Schmelzkopf, 1995). The vacant lots often were sites for drug dealing and other crimes; thus, the gardens enhanced the attractiveness of neighborhoods and created opportunities for community development. Many of the gardeners were recent immigrants or African Americans from the southern U.S., who introduced their own cultural influences to the gardens. During this period, the federal National Urban Gardening Program provided financial support for gardening efforts in five cities.

By the mid-1990's, over 1,000,000 individuals were involved in more than 15,000 organized community gardening programs (Bicho, 1996; Malakoff, 1995). Currently, NYC has one of the most active community gardening movements in the U.S., with over 14,000 gardeners working in somewhere between 700 and 1000 gardens, and over 15 non-profit organizations and government agencies working in support of the gardens (Neighborhood Open Space Coalition, 2002). Other large cities with strong community gardening movements include Philadelphia (with about 700 gardens, Philadelphia Urban Gardening Program, pers. comm.), Boston, Chicago, Minneapolis, San Francisco, and Seattle.

Concurrent with the growth of community gardens, the economic boom of the 1990's led to a demand for housing and commercial development in cities. Lacking secure land tenure, community gardens were seen as obvious sites for development (Schmelzkopf, 1995). Probably the most concerted attack on community gardens occurred in NYC, where Mayor Guiliano proposed selling city-owned lands on which community gardens were leased by community groups (Light, 2000; Nemore, 1998). As of fall 2002, recently elected Mayor Bloomberg had come to an agreement with community gardening and housing advocates, which would preserve 500 community gardens and use other gardens to build more than 2,000 apartments over the next year (Steinhauer, 2002). However, some gardens have been destroyed and many gardens remain unprotected.

Community Gardens within the Context of Community Development, Open Space, and Civic Agriculture

Whereas the earlier community gardening movements focused more on food production, the more recent interest in community gardens incorporates aspects of community development and open space, in addition to agriculture. Community development refers to community members analyzing their own problems and taking action to improve economic, social, cultural, or environmental conditions, as well as feeling part of and identifying with the community as a whole (Christenson and Robinson, 1980; Warner and Hansi, 1987). Urban open spaces, such as parks and gardens, provide a number of benefits, including recreational opportunities, preservation of ecological resources, shade, improved air quality, aesthetically-pleasing sites, and quiet places where individuals feel less crowded (Francis et al., 1984; Kaplan, 1973; Mantell et. al., 1990; McPherson et al., 1994).

Because community gardens serve many functions in addition to food production, their role as sites for growing food may best be viewed through the lens of civic agriculture. According to Lyson (2000: 45), "(Civic agriculture) represents an alternative for consumers who wish to support community businesses, preserve farmland, and substitute fresh, locally produced food for at least some of the products offered by the large, multinational food corporations." Civic agriculture also functions as an alternative food supplier for underserved populations through providing food to low-income residents and soup kitchens (Feenstra, 1997; Sustainable Food Center, 1996). Furthermore, civic agriculture focuses on agricultural literacy; through engaging in agriculture, individuals learn about food production and become more aware of the overall food system (Lyson and Raymer, 2000).

Research Questions and Rationale

Although several studies have described the amenities community gardens provide for urban residents, supporters of community gardens believe that more thorough documentation of the activities occurring in these gardens will be useful in the struggle to preserve these sites (L. Librizzi, Council on the Environment of NYC, pers. comm.). In this study, we chose to focus on Latino community gardens both because they usually are located in poor neighborhoods that lack amenities that could be provided by gardens, such as open space and community meeting places, and because they have not been extensively studied (existing research focuses primarily on African-American and White gardeners). Thus, the first research objective was to provide a description of the history, users, plants, activities, and problems of Latino community gardens in NYC. Second, although the literature suggests that in low-income African-American neighborhoods community gardens are most important for their role in community development, we were uncertain whether this would hold true for Latino gardens. Thus, we addressed the question: Do Latino community gardeners view the role of gardens primarily in terms of their contributions to community development, neighborhood open space, or civic agriculture? For example, a community gardener who talked about gardens as solving neighborhood crime problems would see the role of gardens in terms of community development; a gardener who spoke about gardens as a place to relax and enjoy nature would see the gardens in terms of open space; and a gardener who talked about gardens as a place to grow fresh food for his family would see gardens in terms of civic agriculture. Finally, because there is little information on government and other support provided to community gardens, we addressed the question: Do the services offered to community gardens by non-profit organizations and government agencies focus primarily on community development, open space, or civic agriculture?

Research Methods

Site Selection

We attempted to identify a representative sample of the types of Latino gardens one might encounter in NYC, so that we could better answer our questions about the various roles the gardens play. First, we consulted with garden support non-profit organizations and city agencies to identify gardens serving primarily Latino constituencies and located in Latino neighborhoods. We eliminated some vacant lots that were called gardens but functioned more as "hangouts" for adults, and thus were deemed unsafe to work in. In the end, we chose 20 gardens[1] that varied in location (seven neighborhoods within Brooklyn, Bronx, and Manhattan), garden age, and status (property threatened or not threatened by commercial development). The gardens were in community districts with percent Hispanic population ranging from 17 to 67%, open space ranging from 0.02 to 1.5 square ft/per capita (recommended open space is 2.5 square ft/capita [Harnik, 2000]), and with a high percentage of the population receiving income support (New York City Department of Planning, 2000; Saldivar-Tanaka, 2001).

The organizations and agencies were chosen based on initial discussions with staff of a few prominent community gardening non-profits. They represent 13 of the 15 major governmental agencies and non-profits that provide support to community gardens in NYC (Neighborhood Open Space Coalition, 2002).

Data Collection

Because of our commitment to conducting research that would benefit community members, we initially attempted to use a Participatory Action Research approach, which calls for outsiders working in poor communities to provide opportunities for education, empowerment, and actions to benefit the residents (Gaventa, 1991). More specifically, we planned to engage gardeners in a small number of gardens as co-researchers, following a Participatory Rural Appraisal approach, which has been used to document agricultural practices in developing countries (Chambers, 1994;

[1] About 70 community gardens with Spanish names are listed on the NYC Community Garden Mapping Project website (Council on the Environment of NYC, 2001), although the number of Latino gardens in NYC is likely higher.

Freudenberger, 1999).[2] However, after spending 80-100 hours visiting the gardens (a minimum of two, two-hour visits per garden), the field researcher (L. Saldivar-Tanaka) realized that it was extremely difficult to find individuals who were active in and knowledgeable about the gardens and who had the free time and willingness to act as co-researchers. It is possible that active participation of community members in participatory research is more likely to occur when the project is related to immediate survival or income, or is community initiated. Furthermore, we discovered that spending prolonged periods in a few gardens did not necessarily lead to a better understanding of their impacts relative to spending shorter periods of time in multiple gardens. Thus, we changed our approach to one of participant observer and interviewer, and also reviewed documents produced by the gardeners and garden support organizations.

To develop a profile of Latino community gardens and determine the role they play in the Latino community, the field researcher conducted 27 open-ended interviews with a total of 32 gardeners from 20 gardens. The interviews consisted of 30 questions focusing on demographics, crops and planting practices, activities, facilities, garden history, and issues facing the community garden. In some cases the interviews were conducted in Spanish and later translated into English. The field researcher also conducted participant observations in 18 of the gardens. These observations took place during gardening activities, such as watering the plants, weeding, planting, and harvesting, as well as during social and cultural activities, including meetings, block and birthday parties, barbecues, and theater performances. Finally, to aid in further understanding garden history, the field researcher reviewed numerous documents, including newspaper and magazine articles, support organization websites with profiles of individual gardens, photos, and gardeners' letters and poems.

To determine the support offered to Latino and other gardens by non-profits and government agencies, the field researcher conducted open-ended interviews with the staff of 11 community gardening organizations (seven non-profit and four governmental), and reviewed documents supplied by these and two additional non-profit organizations. The interviews focused on the type of support (material and non-material) the organizations provide to community gardens, other types of work they perform, and the staff's perception of the role of gardens in the context of community development, open space, and civic agriculture. The document review also focused on the work of and support provided by the organizations, and included analysis of journal articles, conference papers, books, pamphlets (Neighborhood Open Space Coalition, 2002), newspaper and magazine articles, GIS and other statistical data, and garden support organizations' web pages, brochures, reports, and newsletters.

[2] In many respects, conducting research in urban community gardens is similar to research in agricultural settings in developing countries—immigrant gardeners often have limited ability to speak and write English, they are often marginalized members of society whose research needs may be overlooked, and their gardens may be threatened by commercial development.

Data Analysis

The data collected on garden activities and the role of the garden in the community were coded into categories based on our interpretation of the results. Because of its ability to handle large amounts of text, we used the software FolioViews© to code and organize the data. To determine the role of the support organizations in the context of the community development, open space, and civic agriculture movements, we first developed a list of themes based on the community gardening literature (Table 1). We then organized the data based on these themes, and used this to interpret the role of the organizations. Although all the results seemed to fit into the context of community development, open space, or civic agriculture, we tried to be conscious of aspects of these movements that had not been covered in previous literature. We shared a draft of the resulting Master of Science thesis with staff who were knowledgeable about community gardening from the following non-profits: Bronx Green-Up, Brooklyn Botanic Garden, Council on the Environment of NYC, Cornell Cooperative Extension of NYC, GreenThumb, Green Guerillas, and Just Food. One of these individuals (L. Librizzi from the Council on the Environment of NYC) sent back comments.

Garden Profiles

Garden History

The gardens ranged in age from five to 25 years. Similarly, a 1997 survey of community gardens in NYC reported that the average age of community gardens was nearly 9 years old and some gardens were older than 20 years (Nemore, 1998). The lack of new gardens may be attributed partially to the fact that in 1993, NYC stopped assigning leases to community gardens.

All of the garden managers had had to apply for a lease from the city agency GreenThumb to be able to use the public land. In many cases, the garden managers applied for leases after the lots had already been transformed into gardens.

The majority of the garden sites had been vacant lots prior to community members organizing and cleaning them up. Common to all the gardens was the desire of a group of neighbors to improve their community and personal lives by keeping the vacant lots clean and free of hazards such as trash, abandoned cars, gangs, and drug sales. For example, one gardener stated, "We decided to participate in this project, because that empty lot was full of garbage and made the neighborhood look ugly and dirty, so we decide to clean it up and start a garden there. And right now a lot of people compliment us for keeping the garden clean and beautiful." Another gardener emphasized the connection of gardening to culture. "More then 25 years ago a group of neighbors got organized because they wanted to grow produce…This is a natural behavior that we brought from Puerto Rico. It reminds us of Puerto Rico." A non-profit staff member talked about both economic and social reasons for starting the gardens. "(Most of the old gardens in NYC got started) back in 1975-76 under a pilot program, the National Urban Gardening Program, for five cities (NY, Boston, LA, Chicago, Atlanta) with a federal government grant. NY got $450,000. At that time it was hard to get jobs. There was the energy crisis, therefore food was more expensive to get. And in the city there were a lot devastated and abandoned areas." (J. Ameroso, Cornell Cooperative Extension of NYC)

Gardener Demographics
We identified three main groups of garden constituents: "gardeners," who do the gardening and participate in other activities such as parties, barbecues, and meetings; "garden members," who organize and participate in garden activities but do not garden; and "garden friends," relatives or neighbors of all ages who visit the garden. The number of gardeners and garden members varies widely, ranging from two to 100. About 90% of the gardeners and garden members were Puerto Rican; the rest came from the Dominican Republic (3%), Mexico (2%), U.S. (2%, largely African-American), El Salvador (1%), and other Latin American countries. Only one garden (the Garden of Happiness) was dominated by other than Puerto Rican gardeners.

Even though the number of male and female garden members is fairly well balanced, there are very few women gardeners. In only two of the gardens does the number of women gardeners surpass that of men, while at only three sites is the gender distribution equal. In the remaining 15 gardens, few women are involved in gardening and in seven gardens 95% of the gardeners are male. Hanna and Oh (2000) found that in African-American and White gardens in Philadelphia, 75% of the gardeners were female. Schmelzkopf (1995) found that in mixed Puerto Rican, White, and African-American neighborhoods in NYC, men ran *casita*-based gardens, whereas women dominated in family-oriented gardens, but overall the majority of gardeners were female. She relates this finding to the fact that in Puerto Rico, *casitas* traditionally are places where men gather for a break from agricultural work. In this study, all the gardens had *casitas* (see below) and women often frequented the *casitas* to play games and socialize. Thus, it is unclear why men were more active as gardeners than women.

Senior citizens are the most active gardeners and also the most common garden members. They spend their time gardening, meeting with friends, chatting, playing cards and other games, and enjoying nature. Working adults are the second most active group in the garden; their involvement is limited by time rather than by interest. Children under 13 years old, although not well represented among gardeners and garden members, are the age group that visits the gardens most often (40% of total garden constituency, relative to 30% of total garden constituency for senior citizens and 22% for working adults). Most gardeners are happy to teach young people about gardening and many gardens have toys and activities geared toward children. The fact that so many children are involved in these Latino gardens is interesting in light of studies of African-American and White gardens, which have found a lack of engagement in community gardening by groups other than senior citizens (Hanna and Oh, 2000). It is unclear whether the NYC Latino gardens actually engage more children, or whether other studies have focused only on active gardeners and have not included garden friends.

Only 8% of the garden constituency is teenagers, who, similar to children, are not active gardeners or garden members. Many garden managers mentioned that they would like to have more activities for teens in the future and hoped this would increase their participation. Gardeners expressed pride when youth spent time and were able to connect with their ethnic background in the gardens. Youth become engaged in the garden either through relatives, or after-school or summer programs, often run by staff from non-profit organizations. For example, a Green Guerillas staff member commented, "Through our Youth Mural Project and Youth Environmental Fellowship Program, we are helping to create a future generation of community garden leaders."

Garden Organization

Each garden has a manager who is responsible for allocation of resources, organizing activities, paper work, and related tasks. Often the individuals who were instrumental in starting the garden remain in leadership positions for a number of years. Gardeners and garden members hold meetings to elect the garden manager and to discuss and make decisions about garden organization, maintenance, and preservation. Some gardens have additional people with defined responsibilities, such as an outreach coordinator or master gardener.

In most gardens, plots are allocated to individual gardeners. However, in some gardens the allocation of plots is largely symbolic, because one strong, usually male leader does most of the work, and then shares the produce with others. Generally all the gardeners help with maintenance under the direction of the garden manager.

Garden Structures and Plants

The garden structures, design, and plants reflect the country of origin of the gardeners and garden members. All 20 gardens have wood *casitas*, or small wooden houses that generally can accommodate no more than ten people standing or sitting at one time. *Casitas* are used to display pictures, store musical instruments, and most importantly, as places to sit, relax, socialize, and play pokeno or other games. In fact, the *casitas* are what makes the Latino gardens recognizable and unique from the gardens of other ethnic groups. In Puerto Rico, farmers build similar *casitas* in the fields to shelter them from the sun and rain, and for socializing and secular and religious celebrations (Feuer, 1998). Cooking facilities, such as a "kitchen," stove, or homemade pig roasters (*fogons*), are present in 40% of the gardens, and all gardens have unplanted areas surrounding the *casitas* called *bateys*. *Bateys* are used for barbecues, picnics, and potlucks. Nearly one-fourth of the gardens have animals (hens, rabbits, ducks, roosters) and most interviewees claim that they would have animals if it were not for the complaints of neighbors.

According to a Council on the Environment of NYC staff member, "*Casita*, literally small house, is a reminder to Puerto Rican people of their Taino ancestral indigenous tradition. Tainos are indigenous people to Puerto Rico. The *casita* is an expression of the *bohio* or communal house usually found in Taino *conucos* or communal gathering places in Puerto Rico." A Rincon Criollo garden member stated, "We are proud of having the *casita* with all the pictures of Puerto Rican artists that have visited this garden."

In addition to the *casitas*, the mix of crops distinguishes Latino from other gardens. Most of the gardeners plant a mix of conventional and ethnic vegetable crops (Table 2). Green peppers, garlic, cilantro, tomatoes, and onions often are planted in the same plot, and are used to make the condiment *sofrito*. The types of peppers vary, with Mexicans preferring hot peppers, whereas Puerto Ricans and other Latin Americans plant sweet peppers. Beans are commonly planted as intercrops with corn or by the border of the garden to provide a beautiful live-fence; some varieties include *frijoles negros, frijoles pintos, gandules* (*Cajanus cajan*), *habichuelas*, and *frijol enredadera*. Some Puerto Ricans also plant potatoes or sweet potatoes. More unusual plants include *ñame* (*Discorea* spp) and *kimbombo* (okra), usually grown by Puerto Ricans and other Caribbeans, and amaranth and tomatillos, usually grown by Mexicans. Mexicans also harvest purslane, which is commonly eaten in Mexico but viewed as a weed in most of the U.S.

Other crops include different types of oregano, such as *brujo* and *recado,* grown by Puerto Rican gardeners. Mexican gardeners from the state of Puebla plant greens (*pipicha* [*Porophyllum tagetoides*], *alache* [*Porophyllum* sp.]), herbs (*papalo* [*Porophyllum ruderale*], *chipile* [*Fabacea* spp.], *epazote* [*Chenopodium ambrosiodes]*), and rue for food and medicinal purposes. Mexicans grow large quantities of *cempazuchitl* (Mexican marigold), which they use to decorate altars for *Día de los Muertos* (Day of the Dead). Most gardens have trees including pines, apples, peaches, pears, apricots, figs, and nectarines. Grapes are almost as popular as tomatoes, beans, and peppers, and are used to form canopies.

The gardeners obtain seeds and plants from various sources. Most of the fruit trees are donated by organizations (e.g., Cornell Cooperative Extension of NYC, Green Guerillas, GreenThumb, and Council on the Environment of NYC), and are varieties that do not grow in Puerto Rico or Mexico. The gardeners obtain vegetable and herb seeds from donations, buy seeds, or bring seeds from their country of origin. They buy or bring with them the seeds for any ethnic crops. The planting practices vary, with many gardeners being fond of Miracle-Gro™, but some gardeners composting and avoiding chemical use.

Social, Cultural, and Educational Activities in Gardens

In addition to sites for growing food and flowers, gardens are seen as cultural and social neighborhood centers, where people go to meet with friends, family, neighbors, newcomers, and visitors. People of all ages get together, sometimes on a daily basis, to play (*pokeno*, domino, cards, etc.), relax, exercise, cook and share food, chat, and find out what is going on in the community.

Garden constituents stated that during the summer they would rather go and sit by or inside the *casita* and in the *batey* than go to a nearby park. They enjoy being surrounded by the *santos* (saints), images, music, and many other elements of the *Jibaro* (native people of the Caribbean Islands) and mestizo cultures of Puerto Rico.

Gardens not only provide opportunities for daily socializing, but also sites for special events and celebrations (Table 3). Birthday, wedding, and holiday celebrations take place in all the gardens and barbecues or picnics occur in 90% of the gardens. An example festivity is the *Fiesta de la Cruz,* which is coordinated by nine gardens (three of which were included in this study) in the South Bronx during Holy Week. Gardeners and other members celebrate Christmas in the *casitas* when the weather is warm enough. Live or recorded music accompanies all the parties. Some gardens organize cultural events including dance performances, theater, and concerts of Hispanic music such as *Bomba y Plena*. Block parties, which sometimes include activities such as wrestling and boxing matches, occur in about half the gardens. Other activities include voter registration and health fairs.

In addition to mentioning social, cultural, and religious activities, gardeners and garden members spoke about the educational value of the gardens. They enjoy talking to youth about farming, food, and culture, and over half the gardens conduct youth activities and school tours. For example, in the *Rincon Criollo* garden in the South Bronx, summer and after-school programs teach drumming and how to play and dance *Bomba y Plena*. Another garden, *Villa Santuce*, hosts tours for groups of children with disabilities. Educational activities also are conducted for gardeners and garden members, including workshops on horticultural techniques, garden organizing, carpentry, and vegetable and herb preserving, processing, and marketing. Finally, several people mentioned that gardens are used as a place for studying, reading, taking pictures, shooting videos, conducting research, writing, and learning.

Gardeners and garden members also are involved in fund-raising. To raise money for tools, seeds, plants, and other materials, some gardens hold neighborhood farmers' markets, garage sales, raffles, and similar activities.

Problems faced by community gardeners

Because only two of the study sites have secure land tenure, and thus the City can take back the land occupied by the other gardens at any time, land tenure was the main problem cited by the gardeners and garden managers (Table 4). Gardens lacking strong leadership seem especially vulnerable to losing their city lease. Lack of resources, such as water, tools, soil, and plant and building materials, is the second biggest problem. Several managers perceive a risk of the gardens not performing well either due to bad management or insufficient involvement from the members. The threat of tools being robbed is an issue, although apparently this has improved over recent years. In one garden, opposition from neighbors who complain about compost odors and the use of water from fire hydrants is a problem.

Support Provided by Non-profit Organizations and Government Agencies

The written and online descriptions of community garden support organizations and agencies most often emphasize their work providing advocacy and material/technical support (Table 5). Similarly, the results from interviews with staff from these organizations and from gardeners indicate that advocacy, organizing, and material/technical support are important (Table 6). The staff also mentioned education and information as an important type of assistance (Table 6).

Advocacy and assistance with organizational and land tenure issues are offered by non-profit organizations, in particular efforts to protect the gardens from commercial development. The More Gardens! Coalition, which was formed in 1999, has been key in organizing rallies to protest commercial sale of gardens, and in coordinating the Garden Preservation Moratorium signature drive. Both garden members and garden friends have participated in these rallies and sit-ins. Green Guerillas and the NYC Environmental Justice Alliance have sued the City, demanding that it should follow the Uniform Land Use Review Process, which calls for community input and community board approval before City-owned land can be sold or developed. Many members of these groups, together with gardeners and garden members, worked on a bill to protect the gardens from being sold or easily taken away from the gardeners. Other efforts aimed at preserving the gardens include petition campaigns, empowering groups to meet with local legislators, and working with gardens to host voter registrations. Two organizations, The Trust for Public Land and New York Restoration Project, address issues of land tenure by leasing or purchasing land.

Bronx Green-Up, Brooklyn GreenBridge, and GreenThumb cannot be directly involved in advocacy work because they are city agencies. (GreenThumb is the agency that provides leases for the gardens.) However, these organizations provide information about the importance of gardens, which can be used to build a case for garden preservation and in public relations. For example, agency staff write letters of support and attend community board and City Council meetings to speak on behalf of the gardens. Furthermore, GreenThumb helps garden managers secure permits to use water from street hydrants.

The organizations and agencies also provide material support including tools, plant material (seeds, seedlings, bulbs, trees, shrubs), compost, soil, construction materials, and compost bins. Most of the time these materials initially are offered free of charge, although eventually gardeners may have to pay a minimum amount or cover transportation costs. A wide range of technical assistance is offered by the garden support organizations, including help with soil testing, pest identification, and horticultural practices.

Educational workshops focus on gardening, garden management, and community organizing. Topics include planting practices, garden design, food preservation, marketing, fund raising, event planning, program development, and coalition building. Only four out of 13 organizations have educational or informational materials in languages other than English.

Unfortunately, the available resources do not meet the demand. Nor do they reach all gardens equally. Support often goes to the better organized gardens with managers who are persistent, charismatic, and savvy about how to contact the support organizations. We noticed some confusion among gardeners, garden members, and managers in terms of what type of support different organizations provided. Furthermore, garden managers expressed that they would like to get more support, especially in terms of land tenure. The services offered by the organizations may reflect needs, such as for construction materials and technical assistance, from the 1970's and '80's when many gardens were first being formed (L. Librizzi, Council on the Environment of NYC, pers. comm.). For example, Cornell Cooperative Extension of NYC was instrumental in providing technical assistance and resources when federal support for community gardening was at is peak in the 1970's, and still fills this role to a more limited extent.

Community Gardens within the Context of Community Development, Open Space, and Civic Agriculture

Community Development

Much of the recent community gardening literature focuses on community development, and cites the role of gardens in creating a sense of community, economic opportunities, and an enhanced environment in poor, ethnically diverse neighborhoods (Armstrong, 2000; Blair et al., 1991; Chavis, 1997; Fitzgerald, 1996; Hanna & Oh, 2000; Huff, 1990; Hynes, 1996; Murphy, 1999; Nemore, 1998; Patel, 1991; Rees, 1997; Schmelzkopf, 1995). Furthermore, some authors claim that urban gardening is an effective tool for crime reduction, maintenance of cultural diversity, community empowerment, and promotion of civic participation (Hynes, 1996; Murphy, 1999; Warner and Hansi, 1987). Similarly, we found that gardeners and garden members view gardens more as social and cultural gathering places than as agricultural production sites. For example, a garden member stated that community gardens provide a site where people "develop friendship, learn to share and help other people, exchange plants, help each other in cleaning and building the plot boxes…[Gardeners] also help people of other gardens to build their *casitas*." It is possible that because the *casita* serves as a focal point of the Latino gardens, and *casitas* traditionally have been a gathering place for Puerto Rican farmers, the social aspects of community gardens are emphasized more in Latino than in other neighborhoods. In fact, in some neighborhoods in the Bronx, it is possible to find "gardens" where the *casita* is the dominant feature and there are few plantings.

Community development also is the most important focus of the garden support organizations, (represented by seven organizations/agencies), followed by the promotion, maintenance, and preservation of open spaces (five organizations/agencies, Table 7). Only one organization, Just Food, focuses primarily on civic agriculture; however, this organization also addresses community development issues. Six of the seven organizations focusing on community development have a secondary focus on open space, whereas one (Cherry Tree Association) has a secondary focus on civic agriculture. Similarly, all five organizations that focus on open space have a secondary focus on community development (Saldivar-Tanaka, 2001).

Several aspects of community development appear to be especially important for the Latino gardens in this study. These include the importance of the gardens to non-gardeners in the community, their role in empowering members to become more active in the community, their role as educational sites, the importance of preserving culture through community gardens, and the finding that not all community gardens appear to be cultural melting pots. Each of these is discussed below.

Community gardens serve a broader constituency than the actual gardeners and garden members. Cultural events taking place in the gardens attract community members of all ages, and these sites also provide a place for young people to work with and learn from adults, both informally and as part of school field trips. A *Chencita* Garden member stated, "(The community garden) helps to keep the community tight, anybody can use it, it gives an open space to hang around. It brings more people from other places and that benefits the local business."

In some cases, whole neighborhoods may be strengthened when residents reclaim a neglected urban area and transform it into a green focal point for community participation and enjoyment (Council on the Environment of NYC, 1994). According to a Cornell Cooperative Extension staff member, "By growing food for a soup kitchen, gardeners start to make connections with other organizations in the area and widen the scope of their community." Furthermore, because the gardens often are created by community members, they demonstrate the potential for community participation in planning and designing open spaces in neighborhoods where government funding for open spaces is lacking.

Similar to the findings of Armstrong (2000), the activities of community gardeners in this study serve to catalyze community organizing. In order to be more effective and to help each other, gardeners and garden support groups have formed coalitions to work on fund raising, publications, workshops, rallies, outreach, and support of other local campaigns. About 20% of the gardens in this study engaged in political activism.

An example of community activism can be found in one group of mostly Latino gardeners who pressured community district members to support the gardens and wrote letters to their representatives. A Green Guerrillas staff member commented:

> I think Latino community gardens have a lot of potential. You can see [that] in the coalition like the *Familia Verde* they are mobilizing. I think that we have to recognize from community gardeners, that this is a group of people that by definition already have what it takes to develop into activists. Only somebody that has a certain level of initiative or a certain level of agency can go to the City, get a lease, and take a lot and organize something. I think there is a lot of potential in them to become advocates for their community gardens.

A Green Guerillas member commented that the Puerto Ricans are more likely to become community activists than the Mexican and Central American gardeners. This may be due to the fact that the Puerto Ricans, having grown up in a U.S. protectorate, are more accustomed to demanding their rights, more used to the U.S. political system, have lived in NYC longer, and speak better English.

Nemore (1998) found that nature education took place in more than half of the gardens she surveyed in NYC. It appears that in the Latino gardens in this study, a variety of types of learning take place. A gardener who teaches acting in the garden talked about his dream of creating classrooms that are accessible to everyone and about the positive skills youth learn at these sites. According to this gardener, "(kids) plant seeds that become plants and flowers, and we plant seeds of culture that will grow and make (kids) stronger for this society." Other gardeners commented:

> Some people go to work perhaps in other gardens or they come to our garden to exchange information about gardening. I started planting since I was young, that's how I got my skills. Now I know more things than the beginning. We learn from the workshops, and from what we read or watch in the TV." (Newport member).
>
> The fundament of the garden is to learn from each other, get together and meet our neighbors. Here we learn a lot from different cultures and countries. We also learn about the things that are happening in the neighborhood community—this is a center for *bochinche* (spread the word). We all get a lot, especially elderly people who come here to spend their spare time." (*Jardín Criollo* member)

The Latino gardens seemed to be particularly important as sites for maintaining Puerto Rican farming culture in an urban environment. In Latino cultures, agricultural practices are tightly intertwined with community celebrations, which often include dance, music, and food. As expressed by a Brooklyn GreenBridge staff member, "(S)o many of the (Latino) people come from a farming background that gardening gives them a sense of that culture, a sense of strength. Gardening is a way of affirmation of their culture."

Several authors have described community gardens as cultural melting pots, where different races and ethnicities mix freely (Malakoff, 1995; Nemore, 1998; Slack, 1995). Nemore (1998) found the overwhelming majority of gardens listed more than one ethnicity and suggested that community gardens may be the only amenity that draws together such diverse groups. However, in this study, the majority of gardeners in any one garden were from the same ethnic group, reflecting the ethnicity of the surrounding neighborhood. Thus, in cases where neighborhoods are segregated, community gardens may not be the cultural melting pots cited in the literature. On the other hand, as neighborhoods change, existing gardeners may invite newly arrived residents to participate. This appeared to be the case in the Garden of Happiness in the Bronx, where the African-American and Dominican managers invited newly arrived Mexican immigrants to become part of the garden. Although the role of community gardens in reaching out to neighborhood residents was brought up in interviews throughout this study, there is also a risk of excluding people who are not seen as members of the majority community in the neighborhood (e.g., people of other ethnic backgrounds, homeless people).

Open Space

In contrast to parks, many community gardens are "community-managed open space," i.e., they are designed, built, and maintained by local residents and reflect cultural traditions and needs of the surrounding neighborhood (Fisher et al., 2000; Francis et al., 1984). Thus, community gardens in poor neighborhoods provide an alternative to traditionally designed and managed parks, which often are in wealthier neighborhoods and are inaccessible to poor residents (Francis et al., 1984; Harnik, 2000).

The Latino community gardeners and garden members in this study live primarily in multi-story, low-income apartment buildings in poor neighborhoods, with limited open space. It is clear that the gardens serve as open space for residents who might not be able to afford visiting city parks. For example, transportation for an urban family of five visiting a public green space can cost $15 (Fisher et al., 2000, C. Tse, Cornell Cooperative Extension of NYC, pers. comm.). Nemore (1998) found that 38% of gardeners in the Bronx said that there was no other open space in their neighborhood.

Similar to other parks, the Latino community gardens are sites for relaxation, socialization, and cultural events. As a community gardener testified, "I am 75. This helps me as a therapy. I live alone and in the evenings I come and people will come... Thanks to the garden I do not have to be indoors the whole day." Another gardener explained, "(The garden) has helped me a lot in improving my health. Before I used to go to the hospital a lot, I have a heart problem… Since I come here I feel much better."

However, the gardens serve as much more than inexpensive places to gather and relax. Community gardens have unique plants and structures that reflect the culture, creativity, and aesthetics of the members. These personalized, independently-created, and constantly changing "participatory landscapes" contrast sharply with the more uniform and refined aesthetics of institutionalized landscapes, such as city parks. A GreenThumb staff member noted, "I see [that members] in the Latino gardens, more than any other garden, try to recreate their heritage, where they are from. Like Dimas' or Choco's gardens have a flavor of Puerto Rico in it." These participatory landscapes may create a feeling of comfort for the gardeners, some of whom mentioned they feel uncomfortable or unsafe in city-designed parks. Gardeners often commented, "This garden is Central Park or Long Island to our kids!"

In some cases, the fact that the gardens are designed by neighborhood residents results in conflict with City officials. For example, the *casitas* serve as sites for the gardeners to socialize and play games, whereas City authorities consider them a fire hazard.

Civic Agriculture

Access to good quality and affordable food often is a concern among community gardeners and community gardening support organizations, especially in low income neighborhoods where access to affordable, high quality produce is limited (Sustainable Food Center, 1996). Studies in the Northeast have found that, by growing their own food, community gardeners were able to considerably lower their food bills and gain access to food that had higher levels of essential micro-nutrients and protein (Blair et al., 1991; Fox et al, 1985; Ohio State University Extension, 2000; Patel, 1991). In the early 1990's, a garden plot of approximately 100 square feet could yield an average of $160 worth of produce per season (Blair et al., 1991; Patel, 1991). Furthermore, several studies (Murphy, 1999; Rees, 1997; Smit et al., 1996) point out that urban farming reduces poverty by creating jobs and small-scale businesses focusing on the sale of produce, and by reducing costs associated with shopping and transportation.

According to J. Ameroso (Cornell Cooperative Extension of NYC, pers. comm.), the average economic profit of NYC gardens is $5-10 per square foot, but in well managed gardens, it can go up to $40 per square foot. Thus, in a 10x20-foot lot, gardeners could produce $500-$700. Although Ameroso considers collards and bush beans to be the most valuable crops, tomatoes are also valuable. One tomato plant in 4 square feet can yield up to 50 pounds for a savings of at least $50. A gardener from the Garden of Happiness reported he saved at least $200 worth of tomatoes each season. It also should be noted that many gardeners grow herbs, which may be very expensive and difficult to find in stores. According to one Garden of Happiness member, "It [the garden] gives poor Mexicans the chance to grow ethnic produce that is expensive in the markets. They have big families, and growing their own food helps them to save."

Economic development related to selling produce does not appear to be an important aspect of the Latino community gardens in this study. None of the gardens allow selling produce for personal profit. Some gardens have a vegetable stand and use the profits for garden improvements. It appeared that the profits do not cover the time invested and other monetary investments involved in selling produce. In some cases, these costs are covered by non-profits such as Just Food and Green Guerillas, as part of their efforts to promote community-based entrepreneurship and economic opportunity.

On the other hand, donating food does appear to be an important activity. One gardener mentioned that "[the garden] yields produce that can be given away among the people that pass by." Another gardener stated, "We give away harvest from this garden to the church, the firefighters, and the senior citizens. We put together baskets with produce from all around the garden."

Through their educational activities, the Latino community gardens in NYC also foster agricultural literacy among children and gardeners, and promote related aspects of civic agriculture. Thus, community gardens provide excellent models for community food security in that they look for ways to solve both food and social problems (Feenstra et al., 1999; Sustainable Food Center, 1996). In this way, the role of the community gardens in civic agriculture overlaps their contributions to community development. However, community development focuses more on social interactions and civic empowerment, whereas civic agriculture emphasizes problems related to food supply.

How Are Community Gardens Unique?

Over the past 125 years, community gardens have varied in their emphasis on food production and other aspects of civic agriculture, open space, and community development. Whereas the Latino gardens in this study seem to play a greater role in community development and open space than in agriculture, in reality it often is difficult to separate these different functions. In fact, community gardens are unique among parks, home gardens, and other open space because of their ability to combine these sometimes disparate elements. For example, formal parks do not address issues of food security or community development, and may even be less safe from crime than the surrounding neighborhoods. For many immigrants and low-income people, formal parks do not provide a sense of cultural continuity. And unlike community gardens, they do not encourage people to organize or provide opportunities for poor residents to gain experience designing and managing open space.

In some cases, organizing and leadership experiences gained through participation in community gardens lead to engagement in the political process, such as voter drives and rallies. Thus, community gardens can be seen as proactive sites that play important roles in civil society in urban areas.

Community gardens also are unique in how they reflect the ability of immigrants to large cities to transform neighborhoods by introducing their own cultural influences. White gardeners often are "gentrifiers" and artists, seemingly motivated by their desire to clean up the community and create an art space, as well as to grow fresh food. African-American gardeners tend to have grown up on farms in the American South and desire to grow food, but their primary motivation often is cleaning up the neighborhood. Latino gardens are designed to be meeting places for the community and often grow fewer vegetables than other gardens.

Conclusion

The results of this study documenting the multiple roles that Latino community gardens play in NYC should prove helpful in the debate that has pitted garden supporters against housing developers. Perhaps more than in other communities, Latino community gardens, with their *casitas*, provide a place for social interactions in neighborhoods where social gathering places are often lacking. This study also points out the importance of community gardens in providing leadership, landscape design, and organizing experience for community members—experiences that sometimes spill over into other aspects of civic life. While this aspect of community gardens is likely not unique to Latino neighborhoods, it takes on added importance in immigrant and poor communities where residents may not have had other opportunities to develop these skills.

Thus, the most important role of Latino gardens appears to be in community development, even though they are also important as open space, and to a lesser degree as sites for food production. In this way, the Latino gardens may be similar to many gardens in other poor and immigrant communities, but differ from gardens in more gentrified communities where enjoying nature and production of fresh produce are most important. It should also be noted that the neighborhood gardens in NYC that served as a focus for this study tend to be small and thus not ideally suited for larger-scale food production. In the Far Rockaway section of NYC and in other cities where more land is available, poor immigrant and working class residents engage in gardening primarily for food production.

Although studies such as this one are important in providing information for organizations seeking to preserve gardens, additional research that focuses on the economic benefits of community gardens is needed to more fully understand the importance of these sites. Such research might address the relationship of housing prices to proximity to gardens, or the costs saved in park development and maintenance by having community members actively creating and managing these open spaces. Furthermore, efforts to preserve gardens might benefit from examining cases in NYC (Honigman, 2003) and elsewhere where local officials and community garden supporters have worked collaboratively to develop a common agenda of providing housing and open space for low-income communities.

Acknowledgements

This work was conducted while the senior author was a Fulbright fellow at Cornell University. The authors thank Rebekah Doyle, Davydd Greenwood, Lenny Librizzi, Barbara Lynch, and Thomas Lyson for their contributions to this project. We also appreciate the comments of six anonymous reviewers.

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Table 1. Themes derived from the literature related to community gardens in the context of civic agriculture, community development, and open space.

Civic agriculture	Food security; fresh and diverse produce; cultivation of own foodstuff; localized food production; agricultural literacy; improved household finances
Community development	Sense of belonging; citizenship building; empowerment and self-reliance; local jobs; multiculturalism; reduction of crime and racial tensions; alternatives to drugs; quality of life
Open space	City beautification; neighborhood designed participatory landscapes; recreation; horticultural therapy, health; environmental enhancement

Sources: Blair et. al., 1991; Bicho, 1995; Huff, 1990; Hynes 1996; Kaplan, 1973; Malakoff, 1995; Murphy, 1999; Nugent, 1997; Patel, 1991. Rees, 1997; Warner and Hansi, 1987

Table 2. Crops grown in Latino community gardens in NYC. (Order of plants follows approximate relative abundance, except for flowers.)

Vegetables	Tomatoes, hot and bell peppers, beans, zucchini, cabbage, pumpkin, corn, eggplant, green beans, broccoli, lettuce, garlic, carrots, green peas, collards, cucumbers, tomatillo, beets, onion, celery, radish, Swiss chard, kale, potatoes, melon, spinach, garbanzo beans, Brussel sprouts, alfalfa, amaranth, *gandul, ñame*, okra, purslane, *quelites, chipile*
Herbs	Spearmint, mint, cilantro, basil, parsley, oregano, rue, rosemary, sage, *recado, alache, epazote, papalo, pipicha*, chives, lavender, comfrey, *molem*
Flowers	Numerous species, roses being most common
Trees	Pine, apple, peach, apricot, nectarine, pear, fig
Fruits	Grapes, strawberries, blueberries, raspberries

Table 3. Activities taking place in Latino community gardens in NYC (n=20 gardens).

Activity	Gardens (%)
Gatherings of members, neighbors, family, coalitions, church	100
Parties: birthdays, Christmas, Halloween, weddings, Mothers'/Fathers' day	100
Barbecues, picnics, pig roast	90
Children's activities	55
School group visits / tours	55
Block parties	50
Table games: *pokeno*, domino, cards	50
Religious activities: *Día de la Cruz,* Easter, honor death of relative/friend	40
Cultural events: plays, music, *Bomba y Plena*	40
Fundraising activities: produce sales, garage sales	30
Workshops: compost, organizing, marketing, preservation, carpentry	25
Courses: dancing, drumming, after school, summer school	15
Study or read (e.g., Bible study)	15
Harvest festival	10

Table 4. Issues faced by Latino community gardens in NYC (n=20 gardens).

Issue	Gardens (%)
Land tenure	75
Lack of resources (water, money, etc.)	50
Not enough involvement	25
Management / leadership	15
Threat of being robbed	15
Opposition from neighbors	5

Table 5. Work of community gardening non-profit organizations and government agencies in NYC, as described in written and online documents.

Organization/Agency	Work Related to Community Gardens
Non-Profit Organizations	
Cherry Tree Association	Creates consciousness of the importance of community gardens through coalition building.
Council on the Environment of NYC	Provides materials and technical assistance to community gardens; developed online GIS of community gardens in NYC; works with other organizations to influence city legislation regarding community gardens.
Green Guerillas	Helps grassroots groups to protect and preserve community gardens; assists community gardeners with garden design, event planning, fund raising, and building coalitions to gain stronger voice in local planning.
Just Food	Helps to develop a just and sustainable food system in the NYC region by fostering understanding, communication, and partnership among diverse groups concerned with farming, hunger and other issues related to food, such as community gardens.
More Gardens! Coalition	Promotes development and preservation of community gardens through legislation, judicial actions, voter registration drives, and other direct actions.
Neighborhood Open Space Coalition	Dedicated to improving the quality of life for all New Yorkers by expanding and enhancing city parks and open spaces through research, planning, and advocacy.
NYC Environmental Justice Alliance	Assists community groups with research, planning, organizing, and advocacy to preserve gardens.
Trust for Public Land	Assists established community gardens with preservation issues, through purchasing land and establishing land trusts; provides grants to gardens for organizational development and community outreach; conducts children's gardening program.
New York Restoration Project	Through its New York Garden Trust, acquires community gardens and works with the members to develop and maintain them.
Government Agencies	

Bronx Green-Up	Provides free on-site technical assistance, workshops, compost information, a school education program, and supplies (community outreach program of the NY Botanical Garden).
Brooklyn GreenBridge	Conducts workshops and special events; provides technical assistance, information, tools, and materials (program of the Brooklyn Botanic Garden).
Cornell Cooperative Extension-NYC	Offers technical assistance related to gardening practices, technologies (hydroponics), and marketing; conducts youth gardening education programs.
GreenThumb	Leases city-owned land at no charge to neighborhood groups and trains them in garden design, construction, and horticultural techniques; provides garden supplies and plant materials (program of the NYC Department of Parks and Recreation).

Table 6. Types of support provided by non-profit organizations and government agencies to community gardens in NYC.

Type of Support	Responses (#)
<u>*Advocacy/ Organization/ Land Tenure*</u>	<u>*56*</u>
Advocacy	*20*
Advocacy work	9
Lobbying	7
Information about gardens' importance	4
Organizational/ Funding	*17*
Organizational development	10
Fundraising	2
Insurance	3
Financial support	2
Community Organizing	*12*
Voter drives, coalition building, health clinics	12
Land Tenure	*7*
Legal advice	4
Leases and ownership	3
<u>*Material/Technical/Labor*</u>	<u>*50*</u>
Materials	*23*
Tools	7
Seeds	7
Plants	6
Deliver materials	3
Technical Assistance	*16*
Planning and design	6
Tree planting/ tree care	4
Composting	3
Insect and pest id	2
Soil tests	1
Labor	*11*
Gardening	7
Help with building, mural painting, etc.	4

Education and Information	*38*
Education	*19*
Courses, workshops	11
Fact sheets	8
Information	*19*
Web pages	11
Library	4
Newsletters	2
GIS	2

Table 7. Focus of community gardening non-profit organizations and government agencies in NYC.

Community development
Cherry Tree Association
Cornell University Cooperative Extension-NYC
Green Guerillas
More Gardens! Coalition
Neighborhood Open Space Coalition
NYC Environmental Justice Alliance
Trust for Public Land

Open space
Bronx Green-Up
Brooklyn GreenBridge
Council on the Environment of NYC
GreenThumb
New York Restoration Project

Civic agriculture
Just Food