

**URBAN AGRICULTURE:
A NEW APPROACH TO DEVELOPMENT IN PROVIDENCE**

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With Support from the USDA Community Food Project Grant and
the Jessie B. Cox Charitable Trust

Fall, 2006

Our Research Plan

In keeping with the Urban Agriculture Policy Task Force's commitment to public engagement and replicability, the research methodology and results reported here are in the line with standards of community research/popular science. We looked at a variety of factors, probing for information, piecing things together, combining it with what we had learned before, and paying attention to policy and city politics.

This is the information we sought to gather:

- How much gardening is already going on in the metro Providence region.
- How much gardening and growing is going on in cities elsewhere so we can place our work in Providence in context.
- What does agriculture look like in Providence and other cities.
- What are the effects of urban agriculture on communities.
- What should we look for to assess the economics of food gardening and farming in the city.

Summary:

Providence 59 food gardens were counted in about 5 hours of walking in 4 neighborhoods.

Fifty-nine food gardens is an undercount, and only a very small part of the City's 25 neighborhoods was surveyed. It seems reasonable to estimate that more than 500 food gardens are to be found in the city. Southside Community Land Trust has space for 200 garden plots.

Several other community gardens exist across the city. Extrapolating from these numbers, we estimate that there are 1000 food gardens in the city of Providence. In a city of 63,000 families that means something like 1.6% of families in Providence are growing food.

Compared to other cities world-wide, Providence is at the low end for urban agriculture. For instance, there are 30,000 gardens on public land in London and 40% of families grow food in Canadian cities.

Reasons for the limited amount of agriculture in Providence compared to other places include: Providence is one of the most densely populated cities in the US with only New York, San Francisco, Chicago, and Philadelphia being significantly more densely populated. Besides all of the land at one time given over to industry, 10,000 people per square mile with all the streets and cars does not leave much room for agriculture. In addition, the City's small lots often have large trees and toxic soils. But even so, there is plenty of land to double the number of gardens in Providence.

Home gardeners and community gardeners in Providence who spoke with our researchers all reported that they like to garden, and find the food produced makes a real difference in the quality of their families' diets. There is every reason based on the research reported here that if more good opportunities for gardening were available in Providence, more people would garden.

This report focuses on three main areas of related concern:

- I. Our Food Garden Survey: methodology and findings**
- II. A discussion of how agriculture in Providence compares to agriculture in other cities.**
- III. The Economic Value of growing food in cities.**

I. The Food Garden Survey

Prior to the conducting of the survey reported here no one seemed to know how many gardens there are in Providence. Nowhere did anyone ever see a number. We decided to count and see what was growing.

I. a. *Methodology:* Surveys of gardens were conducted in August 2005.

As originally proposed in the grant application to The Jesse B. Cox Charitable Trust, our study of food gardening was to be a survey of gardens in a section of each of 5 neighborhoods in metro Providence. It was planned that a survey team would walk a grid in the neighborhoods being studied. The idea was to map gardens, figure out what was growing in them, and to talk to gardeners, and by covering a similar amount of territory in each neighborhood we might be able to do some very preliminary comparisons of neighborhoods

It happens that the street patterns in nearly all of the neighborhoods surveyed do not really lend themselves to a grid based study, so in response the survey turned into walks through each neighborhood for approximately the same amount of time (90 minutes) rather than covering the same number of blocks. A walk of approximately one and half hours in each of 5 neighborhoods seemed a reasonable way to get a sample of what gardening was happening in each neighborhood, allow us to do some generalizing about gardening, and discuss some of the policy implications.

Originally the mapping surveys were supposed to cover the Woodlawn neighborhood of Pawtucket, a neighborhood near the Red Bridge in East Providence, and the Smith Hill, Elmwood, and Olneyville neighborhoods of Providence.

It was intended that the surveys would be conducted with youth green teams associated with Community Development Corporations (CDCs) in each neighborhood. It happened that for the most part the CDCs and the researchers were unable to come together on surveys in the neighborhoods. The youth teams had only a very limited window of opportunity in August due to other projects that needed their attention. In response to changing conditions, the Olneyville survey was replaced by a survey of the Summit neighborhood of Providence, and participation by the CDCs was deemed optional. Eventually one survey, the survey of the Elmwood neighborhood, was done with the Youth Gardening program of the Elmwood Foundation, while the rest of the surveys were conducted by Greg Gerritt, either alone, or with one companion from SCLT.

The methodology included mapping all of the gardens seen while walking in the various neighborhoods. The mapping was done on a map printed off from a mapquest request for a map centered in the neighborhood being surveyed. On the map the location of each garden was noted with an X and the address of each garden was noted in the margin of the map with a line drawn

from the X to the address. Maps have not been digitized. The survey teams also carried a small form to fill out for each garden noted. On this sheet the address of the garden was noted (so it could be matched to the maps), the types of food plants seen were noted, and there were places for comments and notes if the gardener was interviewed. After the first survey it was thought that whether the house associated with the garden was a one, two, or three family house should be recorded and the survey form was modified and that information was recorded in surveys 2 through 5. A small number of pictures were taken in each neighborhood .

It should be noted that the counts reported here of gardens in each neighborhood walked are undercounts. The methodology was looking for gardens as the survey team walked by. No one went into back yards without an invitation. Unless the researcher(s) could see some food plants growing as they walked by, nothing was recorded. If a home had food plants hidden behind a fence, in a part of the backyard that could not be seen from the street, or just a very few food plants hidden amongst the flowers that were much more abundant than food plants through out the community, then no garden was recorded. It is likely that some homes had herbs and no other food plants, something, that had not been thought of, and was discovered by talking to a gardener from a house that had originally been recorded as having no food plants. So clearly all the numbers reported here are an undercount.

Originally it was planned that there would be a fair number of interviews of gardeners in each neighborhood. Because the timing of the surveys turned out to be early in the day, rather than in the evenings, a much smaller sample of gardeners were conversed with, and the interviews were conducted much more informally. Gardeners found outside were asked if they were willing to be asked a few questions about their gardens, no doors were knocked on. One thing this did was skew the sample of gardeners interviewed in that mostly elderly men were interviewed. When a gardener was found outside, we talked to them, asked them how long they have been gardening, where they learned to garden, what they were growing. Most interviewed gardeners were happy to show off their gardens, though in one case a man showed off a garden that was mostly tended by his wife. Further restricting the number of interviews were that a number of the gardeners we ran into were more fluent in languages other than English. During the Elmwood survey a fluent speaker of Spanish was along, the program coordinator for the youth garden team, Robyn Long, and she was able to interview one Spanish speaking gardener, but in other neighborhoods the monolingualism of the primary researcher prevented interviews with non English speakers.

With the simple methodology, essentially the same amount of time was spent in each neighborhood looking for gardens, the results are comparable from neighborhood to neighborhood even if we would not recommend subjecting them to rigorous statistical analysis.

In addition we chose neighborhoods to survey with some criteria in mind. It was not a random sample. Neighborhoods in Providence were originally chosen to make sure we covered lower income neighborhoods, as a key component of our advocacy and work is to make sure that lower income families and individuals have access to a healthy diet. This also allowed us to potentially pair up with Community Development Corporations in the various neighborhoods. With the limited access to CDC programs noted earlier, the Olneyville neighborhood was dropped from the survey and the Summit neighborhood, a more affluent neighborhood, was added to give us an opportunity to see how low and high income neighborhoods compare in the city. The non Providence neighborhoods were chosen because they were immediately adjacent to the city.

In designing the survey the issue of race/ethnicity was intentionally left out of the mix. We knew we would be unable to get a representative sample to statistically look at which ethnic groups were gardening, and that for most gardens the researchers would never know anything about the identity of the gardener. Race/ethnicity is an issue one can not ignore when looking at economics, but it would have taken a much more involved research project rather than a very preliminary survey, to be able to factor race into the calculations of who is gardening in urban Rhode Island. Anecdotally we can report that members of every race and ethnicity garden, and that other factors, available land, knowledge of gardening, and the amount of sunlight a yard gets, seem to determine who gardens much more than race.

I. b. *Results:*

East Providence--The neighborhood with the most gardens is the Red Bridge area of East Providence. The Red Bridge area is within a mile of City Hall and a part of the Central City zip code 02915. The survey covered Sutton and Mowry Sts from the Seekonk River to Goldsmith St. The river is fronted by train tracks and then an industrial zone and large apartment complexes along Massasoit Ave. But once into the side streets it is a residential neighborhood with single family, two family and 3 family buildings, except for store fronts on North Broadway

Demographically 02915 has a poverty rate of 6.3% and a median family income of \$50033, compared to citywide averages of a poverty rate of 7.4% and a median income of \$48903. 02915 is marginally more affluent than the rest of East Providence and more affluent than the Woodlawn, Smith Hill and Elmwood neighborhoods.

During the walking survey in East Providence we recorded 50 gardens in just over an hour, and then ran out of forms for recording them. We then found another 10 gardens in the one block we walked back to the car. The most obvious food plants growing in the neighborhood are grape vines. Anecdotal evidence suggests that the Portuguese speaking population, mostly from the Azores, is very big on grape vines, and this was verified by the gardeners we talked to. Other common food plants were tomatoes (probably the most common actual garden plant) brassicas (broccoli, cabbage etc) and vine crops (cucumbers and squash). Corn, beans, eggplant, and peppers were also regularly seen, though less frequently. It was too late in the season for crops like lettuce and spinach, so we did not see any of those. Fruit trees (apples, peaches, pears) were also occasionally present.

The gardens we counted ranged from two tomato plants in containers to large fenced gardens. Fruit trees were usually found singly, but there were two fairly extensive orchards. Grapevines often covered driveways, and while often accompanied by other gardening, were not necessarily. One-family houses had the best yards for gardening and more gardens, but two and three family houses also had gardens.

We spoke to 5 gardeners in this neighborhood, and all of them were originally from the Azores. All had grape vines and at least a few tomatoes. Some had more vegetables and all had an abundance of flowers and decorative shrubs. Some of the Azoreans had been here for years, others were more recent immigrants. One person with a beautifully landscaped yard, and a smallish vegetable garden talked to us of growing up on a farm in the Azores and not wanting to do any gardening when he was young man in this country. But as he got older he more and more wanted to grow things, and as an elderly man he was experimenting with shaping bushes and

growing all kinds of flowers. While we observed that the neighborhood contains an ethnically diverse population there were a great many Azoreans, and this first generation of immigrants still maintains a connection to the land even if just a small garden and a grape vine.

East Providence has a population density about 3733 per square mile less than 1/2 the density of Pawtucket and Providence, and this also has something to do with the abundance of gardens near the Red Bridge. More land per household means more room for gardens. It was also clear that this neighborhood, or at least parts of it, were in farm land until more recently than the land in either Pawtucket or Providence. An experienced eye can see that parts of the neighborhood looked like a subdivision made from what had once been a farm, and what might have been the center of the farm contained the largest lots and most extensive food gardens. Throughout the area house lots were larger than those in Providence and Pawtucket, shade trees were smaller, and some lots were really spacious. There were also a few old fruit trees, including one very large pear tree by the side of the road that seemed completely neglected, and yet was producing some very tasty fruit.

Woodlawn neighborhood, Pawtucket: This neighborhood is one of the less affluent neighborhoods in Pawtucket. The median family income is \$31,523 compared to a citywide average of \$41093. The poverty rate in Woodlawn is 25.6% compared to the city average of 16.8%.

During the hour and a half survey of Woodlawn, running from Pawtucket Ave to Main St, from Glenwood to Sayles, 28 gardens were noted. Gardens ranged from a grapevine in the driveway to a full array of vegetables. Our interviews were primarily with older Portuguese/Azorean men with gardens, but in this heavily Latino neighborhood we also heard Spanish being spoken at houses with gardens. The gardens I found most interesting were the corn mixed with vine plots in the front yards. Fruit trees were relatively common in Woodlawn, but not as abundant as in East Providence. Grape vines and Portuguese speakers were pretty common, the architecture of grape vines varying but often being a driveway arbor. The usual mix of garden plants, tomatoes, brassicas, vines, corn, and beans were seen. Gardens were associated with one, two and three family houses, with land availability and the amount of sunlight available seeming to be involved in the decision as to whether or not to garden.

One association of plants noted here and also in Providence was the association of corn and vines. We did not interview any of the gardeners who grew corn and vines together, but corn and squash are two of the trinity of native American agriculture and have been traditionally grown together by the people of the new world, as the vines shade the weeds that might overtake the corn plants. It would have been interesting to find out if those growing corn and vines together were doing so based on a meso American heritage.

Providence—Smithhill, Elmwood, and Summit neighborhoods: Providence is among the least affluent cities in Rhode Island with a median family income of \$32058 and 23.9% of the population living in poverty. Lot sizes are small, the population density is nearly 10,000 per square mile, and the soil is mostly toxic with a long legacy of lead paint blowing in the wind and infiltrating the soil. Houses are close together which restricts the amount of sunlight available for gardens and large old trees are found in many backyards. Gardens in all neighborhoods were found in association with single and multi family houses.

Despite these obstacles food gardens were found regularly in each of the three neighborhood surveys. Smith Hill has a population density over 9000 per square mile and a median family income of \$22014. 33.1% of families live in poverty. The neighborhood is ethnically diverse and gardens were found in association with residents of all races. Eighteen gardens were found in the survey of Smith Hill. Grape vines were less common than in Woodlawn and East Providence but the most commonly noted food plant and were most frequently found as driveway arbors. Tomatoes were the most common garden plant and the corn and vines association was found. Some houses with Asians living in them were noted as having gardens on Smith Hill and in Elmwood. No Asian home gardeners were interviewed.

The Smith Hill survey centered on Candace Street and was bounded by Park St. Orms St. Chalkstone Ave. and Douglas Ave. Gardens on Smith Hill tended to be small, though where more land was available, larger gardens were noted.

The Elmwood survey was done in conjunction with the youth gardening program of the Elmwood Foundation. The survey area was bounded by Elmwood Ave. and Broad St. with the northern boundary being Potters Ave. and the southern border being Ontario St. 15 gardens were found during the survey. Along Potters Ave where houses had double lots some fairly extensive gardens and orchards were found. Generally other gardens were small. Grapevines were only noted at a few houses. Gardeners seemed to be of all races. The one family of gardeners interviewed were Spanish speakers from Latin America interviewed by Robyn Long. Fruit trees were seen, tomatoes predominated in gardens, and the nicest gardens were the two tended by the youth gardeners on Laurel Ave. Median family income in Elmwood is \$24743 and 27.9% of the population lives in poverty.

Summit is one of the more affluent neighborhoods in Providence with a median family income of \$58683 and 4.9% of families living in poverty. 16 gardens were found in Summit in 90 minutes. The survey covered from 10th St to 4th St between Highland Ave and Hope St. The survey of Summit noted only one grape arbor over a driveway and several container gardens with tomatoes. Generally food gardens were small. Despite the affluence of the community, lot sizes are small, and lack of sunlight due to the preponderance of large trees is a limiting agricultural factor.

It was noted with some interest that all 3 Providence neighborhoods turned up very similar numbers of gardens in the tour. In fact the closeness of the results for each neighborhood piqued enough curiosity that a shorter survey of another neighborhood was added. 10 Gardens were counted in 30 minutes in Reservoir, east of Pontiac Ave. This was taken as confirmation that the data previously collected at least made sense, and casual observations elsewhere in the city confirm that gardens are everywhere.

II. Food Gardening in other cities.

The United Nations reports that 15% of the food eaten by city dwellers around the world is grown in the cities that it is eaten in. If Providence was an average city, 15% of the 540,000 pounds of food we eat a day would be grown here, something like 80,000 pounds a day.

Providence is not an average city for urban agriculture.

Cities have always been hot spots for agriculture. The earliest towns and cities in the Middle East were places of agricultural experimentation, with the domestication of plants and animals being critical to the densification of population and living in towns pushing the speed of evolution in food plants and animals.

Since that time cities have always had a large percentage of their residents gardening, and when war, unrest, and economic dislocations break out, gardens are what keep body and soul together for many families. Cities have always been the place where farmers pushed off the land end up. Shanty towns are full of gardens as they are full of former peasants who have brought their farming skills to town. Third World mega cities have millions of residents growing nearly all their own food as they live on the edge of the cash economy.

According to the City Farmer magazine, even modern cities like Vancouver, British Columbia and Toronto in our neighborhood to the north have about 40% of their populations gardening. 10% of London is in community gardens with 30,000 gardeners working that land.

III. The Economic Value of what is grown in cities.

Only a few studies of the value of food gardens in Western countries have been undertaken. A study of a 25-foot by 20-foot food garden in New Zealand produced about \$400 worth of produce in the course of a summer. Community gardening families in Kentucky, Wisconsin, and Philadelphia produced as much as \$1200 worth of food in the course of a growing season depending on plot size. SCLT estimates that a local family produces a minimum of \$80.00 worth of food on a 10-foot by 10-foot plot in the course of the growing season. This estimate fits with what the other studies in other cities have found.

II. A. Growing for Market: Beyond home and community gardens for family consumption, agriculture is being used as an integral part of economic and community development strategies in a variety of cities, including Providence. One commercial agriculture business in Providence, Red Planet, grows produce on a 5000 square foot city lot as well as a larger lot in the suburbs. In 2005 Red Planet had over \$13,000 worth of sales at local farmers markets and to local restaurants.

Southside Community Land Trust runs a demonstration market garden on one of their Providence garden lots, City Farm. Sales from the 1/8 acre market garden at City Farm brought in about \$14,000 (that's approximately \$100,000 per acre). A pre-season plant sale also brings in considerable revenue for City Farm, and taken together with farmers' market sales, City Farm produces about 2/3 of its operating revenue.

SCLT's City Farm is typical of non-profit agricultural projects at the core of economic and community development projects in other low-income American cities. These projects' goals are to use agriculture to generate jobs, create value in the community, teach youth new skills, prevent urban ills from reaching children, and improve the quality of the local environment.

Blending social services with entrepreneurial demonstrations, these projects generate from 10% to 87% of their operating revenues from produce sales, depending on how well focused the agricultural component is able to be. Agricultural projects run by non-profits include market gardens, value added processing such as dried herbs, and composting operations. SCLT has a

small-scale success with a group of teen-aged women bottling organic fertilizer and selling it to local gardeners. All of these non-profit ventures, including SCLT, rely also on grants, government funds, and other sources of income to make up the difference.

II. B. Community Gardens: Our research also looked into the effect of community gardens on neighborhood quality of life and property values. A study in St Louis, funded by the Whittemire family, compared property values, rents, and other information in areas next to community gardens with comparable areas without community gardens. The study used census tract data and compared information for 53 garden sites across the city. Overwhelmingly sites with gardens came out ahead with increases in rent, property values, and the income of residents being greater than those in comparable areas where there were no gardens.

In Providence we compared areas next to 4 SCLT gardens, Peace and Plenty, Potters Ave, Glenham St and Burnett St with areas 2 blocks away. The very small size of the sample and the very small areas looked at introduce all sorts of anomalies into the equation. The size of the study was so small that actions by one individual were able to dominate the data in particular study areas. In addition it was very clear that looking 2 blocks in any other direction from the community garden would have produced different results as well. In any case we could find no real pattern in the information we looked at including property values, reports of environmental infractions, and crime statistics, but are still willing to believe that community gardens have positive effects on communities.

Conclusions

Compared to other cities world-wide, Providence is on the low end of the scale of urban agriculture with somewhere under 2% of families gardening. Access is limited by a dense population, large shade trees, and toxic soils. Furthermore, development pressure is constricting the amount of vacant land in the city.

The flip side is that one of the important parts of the improvement in the quality of life for urban dwellers in cities like Providence is access to local foods, and despite the obstacles there is more than enough land available to double the amount of food being grown in the city.

Exploration into the effect of urban agriculture on cities like Providence clearly demonstrates that agriculture can be a useful tool in the redevelopment strategies of lower-income urban neighborhoods, providing youth involvement, job skills, employment, better food, environmental improvements, increases in property values, and a better quality of life. The data collected in Providence on the spin-off effects of agriculture for improving life in the community was too sparse to show any actual effects, but provides a lead-in for further research that we are quite sure would show urban agriculture improves life in the community and should be integrated into any redevelopment plans in our community.

Addendum: The Current Context of Providence's Development

Providence is taking on some of the characteristics of a boom town after years of decline and then a slow climb back. The yellow crane is ubiquitous in the skyline. Its economy and community still suffer from de-industrialization, and there is a continuous effort to morph from an old industrial port into a city of contemporary relevance in the global innovation electronic age.

Providence is a study in contrasts. We encourage our creative community. We have a rapidly growing immigrant community. There is a boom in luxury housing despite increasing homelessness and growing population of working people with less and less access to housing they can afford to live in. New projects continue to gentrify neighborhoods, poor people continue to resist gentrification. The service sector, tourism, banking, healthcare, arts and entertainment provide nearly all of the job growth. Agriculture and manufacturing decline amidst growing inequality exacerbated by tax cuts for the wealthy. Real estate is getting more and more expensive.

Providence is catching the "development for the rich" wave, focusing on developing its quality of life while at the same time the basic ecology that provides the foundation for all life and the economy is crashing. The water is cleaner, rivers that were dead and ran multi colored from pollution are now places of life in urban Rhode Island, but global warming, deforestation, sprawl, depleted oceans, peak oil, war, paved over farms, toxic chemicals, and soil depletion are just the tip of the melting iceberg. The faster we go the behinder we get. Hunger grows amidst the splendor, and Providence is no exception.

Historically, in hard times what keeps the people fed is that they grow food. We see the failing ecosystems and rising energy costs as making it even more important that the people of our community grow more food. Food is going to become more expensive and harder to get as the oil depletion/global warming crises rage together, and the more food we can grow here, the better life is going to be.

Addendum: Hidden Costs of Agriculture Estimated

Americans may have the cheapest food in the world, paying an average of only 11 percent of income to feed their families, but are they really paying the full price? "No," claim researchers Eric Tegtmeyer of the University of Minnesota and Michael Duffy of Iowa State University in their study, "External Costs of Agriculture Production in the United States," published in the March 2005 *International Journal of Agricultural Sustainability*.

The study conservatively estimates that the negative impacts of industrial agriculture cost U.S. society between \$5.7 billion and \$16.9 billion annually. External costs include damage to ecosystem biodiversity and wildlife, greenhouse gas emissions from livestock and cropland, and compromised human health from pesticide usage. Although the authors acknowledge that further research is needed on this topic and that placing a monetary value on the life of a bird or a human being is difficult, "A monetary metric provides a base for comparisons to aid in policy decisions."

For more details, see: <http://www.channelviewpublications.net/ijas/002/ijas0020001.htm>.