Building Gardens and Capacity with the Community Gardening Movement in New Brunswick
A Report of the Summer 2013 Service-Learning Internship

Gardening the Garden State Team
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Introduction

Aligned with national trends, interest in community gardening in New Brunswick has expanded in recent years. Individuals and communities establish community gardens for interwoven social, economic, and environmental goals, and once established must continue to attend to the garden’s functionality and its community capacity. Garden sustainability requires ongoing efforts to sustain participation, community outreach, healthy site conditions, and access to necessary support structures and resources. The opportunity to link public interest and activism with student learning and academic scholarship led to the Gardening the Garden State project. Based in the Department of Landscape Architecture at Rutgers University, GGS seeks to provide technical assistance and support to local and state efforts in community gardening and urban agriculture while also creating new opportunities for students and faculty to engage in action research and service learning.

In 2013, a Rutgers Community-University Research Partnership grant provided support for a summer internship aimed at fostering collaborative design and improvements to community gardens in New Brunswick. The project, “Building Gardens and Capacity with the Community Gardening Movement in New Brunswick,” builds on existing relationships between the Department of Landscape Architecture and community partners - Elijah’s Promise and the New Brunswick Community Garden Coalition. In addition to student interns and construction materials, the grant also supported a research component to assess attitudes regarding civic engagement, gardening knowledge, and the impacts of the service-learning internship on students and community members.

Flexibility to adapt to community needs was a priority from the beginning due to the collaborative and participatory nature of the research and design project. We began the project with two community garden sites as project locations—Shiloh Community Garden and Archibald Park Community Garden. Shiloh is an existing garden site that was established in 2010, but Archibald was to be a newly-established community garden and had not yet been built by the time the project began. Although the internship set out to help with the development of the Archibald site, delays associated with the city’s approval for use of Archibald Park led us to look for other opportunities for the summer internship. Through discussions with the New Brunswick Community Garden Coalition, we identified the Jardín de Esperanza, a community garden at the New Brunswick Community Farmers Market, as the second project site. Because GGS is an ongoing effort, we remain committed to assisting with the development of Archibald. The following pages document the research, design, and implementation efforts from May to August 2013 at Shiloh Community Garden and Jardín de Esperanza. The faculty from Rutgers leading this project are Laura Lawson and Luke Drake, and the student interns were Krissy Kopia (graduate), Hanife Vardi Topal (graduate), Deanna Lu (undergraduate), and Chantae Moore (undergraduate). Rutgers partners also included Mark Robson, Dean of Agricultural and Urban Programs, and Win Cowgill and Paul Helms from Rutgers Cooperative Extension. In the community, partners included representatives from the New Brunswick Community Garden Coalition, Elijah’s Promise; in particular Anthony Capece and Juan Rodriguez were instrumental in their work as garden coordinators in this project. Additionally, in an effort to coordinate among various urban agriculture projects facilitated by Rutgers, we worked with Kathe Newman and Maggie Dobbs from the Bloustein School of Planning and Public Policy, and Michele Bakacs from Rutgers Cooperative Extension, to share work objectives and information.
New Brunswick, with a population of 55,000, is a diverse city of striking contrasts. Currently the home of Johnson & Johnson’s world headquarters, and Rutgers, The State University of New Jersey, it is sometimes known as the “Healthcare City.” In addition to the vitality contributed by those working in the research, development, and healthcare fields, a rich diversity of residents makes New Brunswick a melting pot like much of the U.S. northeast. The city has long been comprised of Italian-American, Hungarian, and African-American groups; more recently, Latino residents, particularly coming from Oaxaca, Mexico, have added to its character. Food access has been a recurring issue, however, and recent studies have shown that nearly half of the city’s residents cannot get healthy food that they want to eat.¹ Whereas the median household income in Middlesex County is $78,622, it is $40,528 in New Brunswick.² As shown in the adjacent maps, the areas with the highest density of occupied housing correspond with the lower income areas. This context presents opportunities to build capacity of community gardening in the city, and is our entry point into the work with Shiloh Community Garden and the Jardín de Esperanza.

### Population Trends over Time

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Source: U.S. Census

### Race and Ethnicity, 2010

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Source: U.S. Census
Above: Median household income in New Brunswick.

Below: Population density per square mile

Median Household Income by Census Tract
- Less than $33,000
- $33,000 - $38,000
- $38,000 - $46,000
- $46,000 - $56,000
- $56,000 - $71,000

Population Density per Square Mile by Census Tract
- 2,300 - 5,200
- 5,200 - 11,000
- 11,000 - 22,000
- 22,000 - 27,000
- 27,000 - 30,000

Shiloh Community Garden
Jardín de Esperanza/New Brunswick Community Farmers Market
Shiloh Community Garden

Shiloh Community Garden is located on Tabernacle Way between Neilson Ave. and George St., New Brunswick, and serves neighborhood residents, local youth groups, children and young adults. The garden was established in May 2010 as a collaborative project between the City of New Brunswick, Elijah’s Promise, and the United Methodist Church of New Brunswick (the landowner). In subsequent seasons additional garden beds, a shed, and compost bins have been added. The garden coordinator is Anthony Capece.

Gardeners have begun to landscape the overall site and grow vegetables outside of the existing raised beds, revealing a need for a revised site design that unifies the site. The grant supported an effort already underway to install an orchard adjacent to the site in a Wall of Fruit style vertical orchard. The goal of the summer project was to work with gardeners and the garden coordinator to assess current site conditions, develop a comprehensive design for the site, and implement a series of improvements to add to the longterm sustainability and beauty of the garden.

Design Process

On a sunny Saturday in May, internship faculty and students joined the Shiloh gardeners for a clean-up day. The interns met the garden’s coordinator, Anthony Capece, and members to discuss and observe plant selection and garden activities. At this time, the interns rented a garden plot at the coordinators’ invitation. By becoming community gardeners themselves, the interns situated themselves within the social and horticultural dynamics of the site. The remainder of the day was spent gardening and talking over design ideas.

The GGS interns balanced time in the garden with time in their Blake Hall. In order to contextualize the garden within the neighborhood and understand dynamics at the garden site, they gathered historical data for New Brunswick, produced as-built drawings of the garden, and developed behavior-maps based on regular observations. In keeping with the collaborative nature of the project, the interns met formally with the garden coordinator and also participated informally with gardeners while they cultivated plants in their own raised bed. Based on discussions with gardeners as well as a literature review of community gardening in general, the team identified three concepts to address—food production, social space, and natural habitat. The interns developed three distinct initial designs, each prioritizing one of the concepts over the others. The resulting designs were then presented to gardeners and neighbors as a way to garner further discussion about the merits and challenges within each concept. The ultimate goal was to merge aspects of the three designs into a final design. Through several iterative design presentations and feedback, gardeners selected aspects of each design; the intern team then compiled these suggestions into a single plan. The final design was presented to gardeners on July 12, 2013.
New Brunswick is an old city and the site upon which Shiloh Community Garden sits has been occupied by various uses in the past. The site is also situated in a community context that has changed over time. In order to contextualize the site, the team had to look at both historic evolution of the area and its past and current land uses.

Sanborn Insurance Maps provide glimpses to the urban change over time. Maps from 1886, 1894, 1904, and 1945 show an area that was already occupied with homes and businesses, densifying over time. The 1886 map revealed development coming up from the waterfront, shifting the perspective away from George Street to the Raritan River. The team was very interested to note that the site had been a graveyard, leading to discussions about both site conditions underground and the ethics of reusing burial sites. While the 1886 map showed an adjacent industrial complex, the 1894 map listed lime sheds and kilns, leading to discussions of New Brunswick’s industrial past. Comparisons of the older maps to a current map reveal the impact of urban renewal and expansion of Route 18 on the area’s connection to the river.
Land Use

Shiloh Community Garden is located in a part of New Brunswick that has experienced rapid transition in recent years. Less than a block from George Street, the main thoroughfare connecting downtown to the Rutgers Cook/Douglass campus, this area features the juxtaposition of residential, commercial, and institutional land uses. The garden itself is located on land that is owned by a nearby church but managed and zoned as a city park. Historically, this neighborhood has been residential, and for decades has had public housing development. In particular, residents of a senior housing facility have been active gardeners at the site and contribute to its vibrance. Three churches are within one block of the garden site, one of whose day care program has also become involved in the community garden. Gardeners also live outside this immediate neighborhood, however. From condos in the busy downtown district to people living in the nearby towns of Somerset and Highland Park, this community garden brings together people from diverse backgrounds.

In terms of secure land access, its location on church-owned property suggests that it is not at risk of property development. Furthermore, the site is a long-abandoned cemetery, and the garden organizers trust that this combination of factors should allow the site to remain open to gardening for years to come.

As shown in the map below, though, the garden is also located within the city’s designated redevelopment area. Just as the residential mix in the immediate and nearby areas has played a role in the garden’s growth and activities, so might the future of the city’s own redevelopment trajectory. Indeed, the high-rise senior public housing facility is now next door to a new high-rise luxury condo building; recently-built Rutgers student housing has also been accompanied by commercial establishments catering to that community. In sum, the context of the garden’s location in this transitional area has implications for not just the site itself, but the character of the garden participants.

Three Design Proposals

Based on the gardeners’ interest in food production, habitat and social activities in the garden, the GGS interns developed designs that emphasized each of these facets individually. Existing beds were maintained as a given. One student was assigned to each topic. The students spent a couple weeks researching the relevant planting and design features and developing a design. These were then presented to gardeners and neighbors during an event at the site as well as through PDFs sent directly to gardeners. On the following pages, these proposals are shown in more detail.

Krissy Kopia: Food Production

Hanife Vardi-Topal: Social Space

Chantae Moore: Habitat and Pollination
The maximum production design took into consideration the gardeners’ requests for blueberry bushes as well as creating more plots for fruit-bearing plants. More planting beds are added to accommodate had to be constructed. Along with blueberries, this proposal adds planting areas for annual fruit-bearing plants – such as raspberries – to lessen the work for gardeners; they would not have to continue to replant every year if there was already something there.
Social Interaction Design Concept
Hanife Vardi-Topal

The social spaces design involved adding areas for gardeners to rest and socialize. Previously, the only shade within the garden was by a tree in the southeast corner. This design aimed to add benches and shade structures so that the visitors within the garden could have a space to socialize in and escape the mid-summer heat. Interviews with gardeners, along with site observation, revealed that many people come to the garden from the east, but the only entrance is on the west side of the site. This proposal thus includes a second entrance to improve access from that side of the neighborhood. Additionally, additional rows of fruit trees are included in the plan to frame a walkway heading toward this new entrance.
The pollinator/ecological habitat design aimed to create spaces for pollinator-attracting plants. Shiloh currently has a wide variety of fruits and vegetables in raised beds, as well as two rows of apple trees outside the fence. Many of the gardeners also expressed interest in adding blueberry bushes. The plants that attract these pollinators will encourage current and future fruit-bearing plants to produce more via pollinators such as bees, butterflies, and hummingbirds. The design proposes to expand the planted area of the garden toward the west. On land currently covered in turf and a few trees, this alternative proposes creating habitat areas. In addition to the graphic design component, this proposal includes a planting guide with suggested herb, vegetable, and perennial flowers. This guide provides detailed information on planting time, bloom time, and care. The list of possible pollinator plants includes (and is not limited to) Butterfly Bush (*Buddleia davidii*), Butterflyweed (*Asclepias tuberosa*), Trumpet vine (*Campsis radicans*), Black-Eyed Susan (*Rudbeckia hirta*), Virginia Creeper (*Parthenocissus quinquefolia*), and Winter Jasmine (*Jasminum nudiflorum*).
The interns received feedback from gardeners, neighbors, and from the garden coordinator, Anthony Capece. Feedback revealed that gardeners did not want any existing beds disrupted but they did want to add some social spaces, noting the preference for a site near the shed and one under the existing tree. They liked the idea of some community beds being planted outside the garden, and the potential use of the periphery area - inside and outside the garden - for plants that attract pollinators.

The final design includes features from all three concept designs. It includes a second entrance, as proposed in the social and habitat designs. This increases accessibility and increases the potential of possible expansion to the west. with an arbour, a shade structure with benches underneath, more planting beds for pollinators (Butterfly bush, etc.), a bench for under the currently existing tree, and display beds for outside the fence.
Perspectives

Shade Structure
- Next to shed
- Benches underneath
- Material: wooden pallets
- On canopy: grape vine or outdoor fabric

Display Beds
- Along south fence
- Separated raised beds
- Mulch between beds for mowing ease
- Material: wooden pallets and bamboo
- In beds: Butterfly Bushes, etc

Arbor & Second Entrance
- East corner of fence
- Gate within arbor
- Mulch path into garden
- Benches under tree
- Material: wood (arbor), wooden pallets (benches)
- Plants on structure: Trumpet Vine or Virginia Creeper
From Design to Construction and Installation

Even before the designs were being developed, cooperative extension specialists were ready to install an orchard. Timing the planting in early spring was crucial to a successful orchard. Gardeners, volunteers from Elijah’s Promise, and faculty and students from Rutgers joined together to plant 40 apple trees next to the garden site. These trees, once mature, will produce fruit that is available to the entire community, and it will be tended and maintained by the community gardeners.

The design team faced new design challenges as they thought about the materials and construction of key features: an arbor, raised planting beds, a shade structure with benches, and a series of benches. Based on research, the GGS Interns proposed using recycled and reclaimed materials for much of the construction. They studied models of garden furniture built out of wooden pallets and sought out donations from local businesses for the materials.

Two community raised beds were proposed for outside the fence. Chantae Moore took on the task of designing and building these beds. She scavenged old wood pallets and harvested bamboo from Rutgers Gardens to make the beds.

The students proposed building two types of benches - a low lounge chair with a back and two simple backless box benches. Hanife Vardi-Topal took on the job of building the benches.

The arbor shade structure is proposed to be located around the second entrance on the northeast side of the fence. While the interns developed construction drawings for the arbor, the level of skill to construct it exceeded their ability. The Department is looking into other alternatives for construction next spring, including the possibility of an advanced construction class to build the arbor.

Photos: Luke Drake (top, bottom); Chantae Moore (middle)
Construction Drawings of the bench and planting tables

Sheet no. 28 June 2013

Chante Moore
Kristine Kopia
Hanife Vardi Topal

No. Revision Date By

Shiloh Garden
New Brunswick, NJ

Client

Drawing: Hanife Vardi-Topal
Photos: Krissy Kopia (top right); Laura Lawson (all others)
Shiloh Construction Drawings - Hanife Vardi-Topal

Adirondack Chair and Planting Tables

Arbor

6 ft. 2 x 6 top cross brace

3/8-inch carriage bolts fastened with washers and nuts

4 ft. 2 x 6 support brace

4-ft. 2 x 4 stabilizer (use as a temporary brace for arbor; use as permanent brace if arbor is to support a swing)

Set two pressure-treated corner posts in 2 ft. of tightly packed sand over 6 in. gravel.

Front View

Side View
Shade Structure

1. Post
2. Roof Rails
3. Rafter T-Rails
4. Rafters
5. Post Pyramid Caps
6. Rafter Sharp Caps
7. Screws Pan Head 93mm
8. Screws Pan Head 106mm
9. Screws Pan Head 182mm
10. Snap Cap w/ Washer
11. Vinyl Glue
12. Ground Post Anchor

STEP 4: Arbor Footing Installation

Insert the two 4x4” Ground Post Anchors into the bottom of the arbor post and secure with screws through the predrilled holes. (Figure 4.1)

Tools Required for Assembly
- Cordless Drill
- Tape Measure
- Rubber Mallet
- Level
- Stool or Ladder
- Screw Driver

Move the arbor to its final location (2 people will be needed). Set the Arbor and mark the positions of the posts, then move the arbor aside and lay it carefully on its side. Dig 2 holes approximately 6” wide x 18” deep. (Figure 4.2b)

Now move the arbor back into position. Support and level the arbor roof using two pieces of 2x4”x8’ wood studs as temporary support. (Figure 4.2b)

Fill the holes with wet cement within 3” of your grade (2 bags of Pre-Mix Concrete-Sold Separately). The vinyl post bottoms should insert themselves approximately 4” into the concrete. (Figure 4.2b)
Future Plans

Due to the limited timeframe of the summer internship, the interns partially completed construction of the final design. During the academic year 2013-2014, Landscape Architecture faculty and students will engage the labor-intensive components of the arbor, shade structure, and additional gate. The gardeners will also carry out their own group-building exercises by painting the furniture and selecting and planting herbs, fruits, and vegetables for the display beds. The interns provided a planting plan for blueberry bushes and various pollinator shrubs (i.e. butterfly bush, etc) that are suitable for this site.

Photos: Laura Lawson (top); Krissy Kopia (middle); Luke Drake (bottom)
Introduction

Jardín de Esperanza is located at 178 Jones Avenue. The garden is an outgrowth of the New Brunswick Community Farmers’ Market, which began in 2009. The farmers’ market and garden are overseen by Paul Helms, market manager, as a Rutgers Cooperative Extension project. The garden coordinator is Juan Rodriguez.

The initial design for the garden was developed by a team of Landscape Architecture students in 2011 and constructed by the gardeners themselves. The design is based on a module of four 4x8 wood-framed beds around a smaller square bed in the middle; there are 6 such modules in the garden. The garden is surrounded by a chain-link fence, with a metal round arbor providing a distinct entrance into the garden. Since its inception, the garden has continued to expand. Outside the fence, there is now a hoop house and two large cultivation areas. The intention of this 2013 partnership was to develop one of these cultivation areas into a children’s garden, to develop social space for gardeners, and general site development aimed to link garden, farmers’ market, and street frontage more explicitly.

Design Process

The interns first met with the farmers’ market manager and community garden coordinators at Blake Hall in early May to discuss desired outcomes of the partnership. They met again at the garden on June 7 to refine goals and begin site analysis.

The intern team, in collaboration with community partners, focused their efforts on two design areas: a children’s garden that would serve both the farmers market and community garden, and planning a welcoming plaza and set of pathways to bridge the street, market pavilion, children's garden, and community garden.

In both cases, interns engaged the site as a work already in progress—the children's garden site was already selected and the coordinator had begun some design work.

Photos: Krissy Kopia
Site Context
Jardín de Esperanza is situated on property of Rutgers University, and it shared the same lot as the New Brunswick Community Farmers Market. This market site, which grew out of an initiative by Rutgers Cooperative Extension and Johnson and Johnson, was chosen because of its location on university property and proximity to the neighborhood of the market’s customer base. This site selection facilitated a relatively quick process to establish the market site. As a university-sponsored development, necessary permissions were acquired, and electricity and water access was provided, in collaboration with the university’s facilities office.

The immediate neighborhood is primarily medium density residential, but there is a collection of local commercial establishments along Georges Road and Sandford Street that skirts the market property. As shown in the map below, there is also a corridor classified as a redevelopment area. In contrast to the redevelopment area around Shiloh Community Garden, however, this area differs from the downtown redevelopment area in that the residents are mostly working- and middle-class; the economic activity of the area focuses more on neighborhood small businesses instead of the theaters, upscale restaurants, and large corporate presence downtown.

The proximity to Rutgers has provided ample educational resources that have assisted in the growth of the market site. The community garden is an outcome of, and is located on the same site as, the New Brunswick Community Farmers Market. The market emerged through a partnership between Rutgers University, Johnson and Johnson, the City of New Brunswick, and community leaders. As market clients expressed interest in a community garden, Rutgers faculty and students assisted with garden planning and design. As the farmers’ market continues to grow, its community-orientation directs long-term planning efforts while being supported by university resources.

Research on Children’s Gardens
Deanna Lu, Undergraduate

A children’s garden is a fun, educational space for kids to learn. Filled with different plants and interactive structures, this type of garden focuses on stimulating the physical, mental, and emotional state of a child as they experience the natural world on a first hand basis.

Kids are active listeners who learn best through experience. With a natural sense of curiosity, children tend to lose interest unless they can discover with their hands and bodies. Leading a child into a children’s garden can facilitate development on multiple levels. Through the act of touching and climbing, kids begin to hone their motor skills. By seeing a plant grow, they can learn the different parts of a vegetable and learn the cycles of life. Using sticks and mud to create a sculpture is a form of artistic and emotional expression, and meeting other children and learning to play with others can help kids develop socially.

Nine themes--discovery, water, loose elements, heights, movement, make believe, enclosure, plants, and wildlife--can be seen within a children’s garden. Children usually learn best when they are able to explore and find things, especially when it is something they find and discover themselves. Water is an interactive feature kids are drawn to because of their ability to manipulate this element. Loose elements, like sticks and dirt, are resources children can play with, much like water. In addition, different educational concepts can be taught, like the concept of force behind the snap of a twig and the idea that water and dirt creates clay. Heights provide varying levels for kids to escape under or experience above. The theme of movement is related to the child’s personality. Some children are more introverted and would prefer private spaces they can play by themselves. Others are more extroverted and can easily interact with other kids. Eventually, when a quieter child becomes more comfortable with him or herself and the others around them, they can move from one space to the other, moving from individual to group play. Make believe and creativity can be reinforced or facilitated by the different spaces and elements available. Enclosure is the idea that there are areas private enough for the child to escape from other children, but open enough to be seen and monitored by adults. Lastly, plants and wildlife stimulate the five senses. By planting different vegetation that invites wildlife, children will not only have the ability to learn about different insects, but experience them with their own eyes.
Initial Design Concepts: Children’s Garden and Plaza

Two GGS interns developed initial design concepts. They divided the project into two areas: the children's garden, and a plaza that would link the farmers’ market pavilion, children's garden, and community garden.

Children’s Garden Proposal
Deanna Lu
The first element is the children's garden, which was already starting to be developed when the interns began taking measurements. The key design concept that emerged was a garden made up of different experiential rooms connected by a living tunnel made from PVC pipes, string, and climbing vines. Green teepees, or wooden teepees, made from bamboo and lined with climbing vines, are scattered throughout the garden to create more private spaces. Rooms were then developed that provide for different sensory and physical experiences.

The visual room consists of different figures made from clay pots, aluminum cans, and other craft materials. Though not mobile, these structures are meant to stimulate a child's imagination and creativity.

In the heights room, children climb on tree stumps placed on different elevations to experience the garden on different levels.

Leaning against the wooden fence in the sound room is a board with recycled pots, pans, and other materials that generate sound once interacted with.

The taste room is the food production area of the garden where the children learn to grow and eat vegetables once it is mature.

The touch room is filled with textured plants and plants that emit a certain aroma once touched. This room also includes the worm compost bin which acts as an interactive spot for kids to play with the worms.

Lastly, the observation room provides a place for kids to plant their own seedlings. By growing plants in a clear jar or cup, children watch the roots mature before transplanting them into the garden.
Children’s Garden Perspectives
Deanna Lu

These perspectives created by Deanna Lu show the proposed entrance (top), visual room (middle), and heights room (bottom).
Plaza Proposal

The second element is a plaza-like seating area between the street and the pavilion. This seating area functions in two ways: it gives gardeners and visitors a place to sit, rest, eat, and socialize while acting as an entrance to the area. An entrance to the garden and pavilion area is crucial for this design and addresses the concern that there is no “official” entrance at the moment. A formal entrance may entice passersby to come into the area. The suggested materials for the paving are woodchips, concrete, gravel, and/or bluestone. Within the seating area are planted trees and benches for sitting. A table or two is optional for multiple seats with a surface for eating and other activities.

The interns met with Paul Helms and Juan Rodriguez to discuss the concepts. Aspects that they wanted to keep included an entrance, the worm compost bin, the living tunnel, the observation room, and the visual room. Enthusiasm over the children's garden led to discussions about what elements could be implemented immediately and included the taste room and sound room. There was some hesitancy about the heights room due to liability issues, but it was suggested that once the children's garden has a stronger presence in the future, having objects for kids to climb on might be added later.

There was positive feedback about the seating area/entrance. The designs addressed a need to provide shaded seating areas near the garden. However, rather than locating the seating area between the street and pavilion, they preferred it to be located between the children's garden and the raised beds (on the north side of the area). They requested a design that included paths lined with occasional flowerbeds and seats that would help direct people from the street to the children's garden and pavilion.

Based on this feedback, the GGS interns created a spatial diagram to show functional areas and the possible connections and adjacencies that the design could support.
Spatial Diagram of Market and Garden Site

The diagram below shows the arrangements of the various elements at the site, along with the interns’ preliminary ideas of changes. The original elements--market pavilion, children’s garden, community garden, and hoop house--will be joined in 2014 by a demonstration kitchen, which was already part of the market’s development plan.

Initial design work, which was proofed through meetings with the market manager (Paul Helms) and community garden coordinator (Juan Rodriguez), proposed several site changes. First, the area between the community garden and children’s garden, currently an empty lawn, would be made into a seating area to provide a social space between the three functional areas of market, children’s garden, and community garden. Second, the addition of paths would link the street on the left with these parts of the site. In particular, a curved line of trees would guide people coming from the street past the children’s garden and market pavilion, through to the seating area and community garden. A selection of shrubs, grasses, or boulders would also frame the site along the street.
Final Design

Our final site design consists of paths into and across the site, tree plantings, a seating area between the children’s garden and raised beds, and edging along the street. The paths provide connection from street to farmers’ market pavilion, as well as to the children’s garden, community garden, and parking area on the north side of the site. These connections enable people to come into the site from all directions. The trees are planted in an arc that compliments one of the paths from the sidewalk to the pavilion as a way to invite people into the site from the street. In order to keep views clear so that the garden can be seen from the street, the trees will be smaller, deciduous trees. To keep children from running into the street, the site includes low plantings, small shrubs, and boulders along the southwest side of the site.

Please see plantings list for tree, shrub, and low planting suggestions.

For the children’s garden, some elements have been chosen to be implemented right away such as the entrance, touch room, and living tunnel, while other elements will be implemented next year (worm compost, visual room, sound room). Gardeners will complete this work, and we expect that some changes will occur due to the participatory nature of the project. Design elements will likely change through the ideas and expertise of the gardeners, as well as through unforeseen opportunities during the construction process.

Interns discussing design proposals with market and community garden staff. Left - right: Juan Rodriguez, Paul Helms, Deanna Lu, Kristine Kopia, Chantae Moore. Photo: Luke Drake
Gardening the Garden State
Esperanza Children’s Garden: Design Suggestions
New Brunswick, New Jersey

1. Entrance
2. Visual Room
3. Green Teepee
4. Taste Room
5. Sound Room
6. Touch Room
7. Worm Compost
8. Living Tunnel

- Bamboo painted in a gradient creates a colorful border that can attract children.
- Explore the various sounds of the garden.
- Touch the worms and learn about compost.
- Travel through a tunnel that leads to various rooms. Climbing vines occupy the space during the growing season, but the colorful twine shines through during the winter time.

Front perspective of the visual room
Front perspective of the entrance

Department of Landscape Architecture - School of Environmental and Biological Sciences - Rutgers, The State University of New Jersey - Summer 2013
Proposed Changes to New Brunswick Farmers’ Market and Garden Site

1. Entrance to garden
2. Tree arc (see suggested plant list for small trees)
3. Edging (see suggested plant list for shrubs, grasses, and low plantings)
4. Children’s Garden
5. Seating area with picnic tables and umbrellas
6. Demonstration kitchen
7. Pavilion
8. Hoop house
9. Garden with raised beds

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Seating area with picnic tables and umbrellas
Demonstration kitchen
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Hoop house
Garden with raised beds
Future Plans
The final design was accepted as-is by the community partner at a meeting onsite on August 23. The site plans includes a planting guide with suggestions for trees, shrubs and grasses that are suitable for various locations along paths and garden areas. These plants are specially selected in order to form natural borders without impeding sight lines and views across the market site. The next stages of this project will be to procure trees, shrubs, and grasses followed by planting; structural additions the the children's garden will also follow. The market manager and garden coordinator, in coordination with the Department of Landscape Architecture, will continue to move forward with this phase of the project over the fall and winter of 2013. As spring 2014 nears, they will monitor community use of the site and evaluate how the design improvements have changed the spatial profile of the market and garden area.

Photo: Luke Drake
Conclusions
Work began on the grant project, “Building Gardens and Capacity with the Community Garden Movement in New Brunswick,” in the summer of 2013 and will continue into the spring semester of 2014. Collaborative design entails drawing on the expertise of all parties involved in any given project as well as the knowledge that projects must be fluid to adapt to changing needs and contexts. We brought to this project a concern for community well-being, informed by our own research into community gardens, along with open minds about what might unfold. Initial meetings and ongoing consultations provided the basis for the project; early on, it was evident that food production, social space, and habitat were important to gardeners and garden coordinators. Through iterative rounds of design and revision, we have implemented concrete changes to the garden sites and put in place frameworks to guide future work. We expect that food production will increase, social atmosphere within the gardens to improve, and for connections between the garden sites and the broader neighborhoods strengthen.

Feedback and Personal Reflections by Interns and Community Members
To evaluate this internship and collaborative process, we asked interns and community partners to reflect on this experience. Below are a few of these comments, which we hope add a personal perspective to applying landscape design in a community context.

Intern voices -- Shiloh
“After preliminary feedback from a few of the gardeners at one of our on-site presentations we began to focus on creating a significant feature that would fit the personality of garden and be feasible for us to construct and install...Constructing the beds in small modular like pieces allowed for the beds to be easily transferred and assembled onsite.”

“Using pallets for sitting materials was an excellent experience to get the idea of how to process recycle materials.”

Community partners -- Shiloh
“The students were great to interact with and brought a lot of interesting ideas to the table. They also showed a willingness to interact with the community enthusiastically which was great.

“Site assessments are important. I think this should be one of the first steps going forward and should be knocked out of the way at the beginning of the grant to allow a design idea to grow and evolve organically over the course of the grant.”
I learned that community gardens were not just lots set aside for gardeners to grow food: they were places for education and hands-on learning, a meeting place for those with similar interests, and a source of energy for the participants of the community.... Throughout the internship I concentrated on the needs of the members of the community gardens we were involved with. In order to design a successful garden, I needed to know what the members wanted.

Creating an outdoor classroom filled with different plants and objects that would stimulate all your senses is exciting. However, it does not just become an educational space, but an enjoyable space people of all ages can come to experience, explore, and learn by themselves or with others.

Most importantly, the reward for designing children's gardens is not only the personal interactions or the various crafts you can create. You are paid with smiles and laughter, actions which have a monetary value so high it becomes priceless.

"[Before the interns,] I just planted everywhere. I had the labrynth in my mind, and the tunnel. That was cool that she was able to bring that into the design. What I was very impressed with was how she used the senses. I was like, 'how can you do that?' And when I saw her design, I was like 'holy crap.' You can actually have themes. It was pretty cool!"

Community partners -- Jardín de Esperanza

Closing Thoughts

Bringing together students and community in a service-learning projects raises a unique set of opportunities and challenges. Students get the chance to put their newly acquired skills to work in a “real world” context, and community partners receive the benefit of specialized techniques they might not otherwise be able to access. The project sites do not exist in a vacuum, however; they are dynamic amid ongoing processes of neighborhood change. As such, project goals and parameters change during the course of work. Students must respond to changes by community partners, the composition of these groups, and they changes they make to the physical sites. All the while, these dynamics affect how students must work within budgets, timeframes, and physical characteristics of the project sites. In short, students adapt their expertise to real world physical and social contexts, and these contexts continue to change throughout the project. It is thus a learning experience on many levels, one which builds their technical, communication, and critical thinking skills.
References


