Bluebird Gardens

Bringing People Together Through the Awareness and Education of Local Agriculture
Bringing People Together Through the Awareness and Education of Local Agriculture

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A Design Thesis Submitted to the Department of Architecture and Landscape Architecture of North Dakota State University

by

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Abstract

This project examines the social connection between community/public involvement and agriculture. Landscape architecture plays an important role in the social world by designing the places where social interactions occur. Landscape architecture also plays a significant role in educating the public about the natural world around us—including agriculture. The outcome of this research, through programming and design, encourages more people to participate in activities on Community Supported Agriculture (CSA) farm sites in order to form more meaningful social relationships. A survey will be done of CSA stockholders and case studies will be compared to find relevant program elements for future CSA community participation designs. The end design should include the list of program elements that promotes public participation and awareness of CSAs.

Statement of Intent

Community Supported Agriculture is a relatively new idea in the United States and is gaining popularity. They are very important resources to many communities across the country because they provide fresh, local, healthy food options. They have the potential to become active social environments that promote creating social relationships and bring communities together. That is, they have the potential to provide the medium between people interacting with other people for the purpose of education, connections, and friendships. I hope to show how it could be improved through surveys and case study analysis. The goal is to design a social and educational component to a CSA farm that allows farmers to educate their stockholders about the health benefits of eating fresh local produce, show the work involved in local agriculture practices, design multi-purpose spaces for activities that encourage social interactions and community participation, and provide ideas for additional profit to the CSA owner.
Project Typology

Community Supported Agriculture
Community Supported Agriculture Education
Public Involvement in Community Supported Agriculture
Event Center
Educational Center
Outdoor Classrooms
Landscape architecture practitioners have a responsibility to connect people to the landscape all around them. Agriculture is a dominate feature in the landscape in much of the United States. In order to construct the basis for community agriculture, some journal articles were reviewed on related subjects.

Cheryl Brown is an Associate Professor at West Virginia University. She has a Ph.D. and M.S. degrees in Agricultural and Resource Economics from the University of California, Berkeley. She also has a B.S. in Agricultural and Resource Economics from the University of Massachusetts. Stacy Miller has a background in economics. In their article, “The Impacts of Local Markets: A Review of Research on Farmers Markets and Community Supported Agriculture (CSA)”, the authors examine how farmers markets and community supported agriculture effect communities, farmers, consumers, and the economy. In recent years consumers have preferred locally grown produce and are willing to pay more for it. Since 2000 the number of farmers markets has increased by over 50% and the numbers CSAs in the United States has increased by over 3800% since 1990. Farmers markets and CSAs have gained popularity. The authors say this within the article, “Along with weekly deliveries of fresh produce, group involvement has led to social and nutritional benefits for CSA customers... shareholders in Minnesota and Wisconsin said that their CSA participation led to eating more, fresher, and a greater variety of vegetables, shopping less, and changing to healthier eating habits” (Brown, 1298). It also says that the economic and social interactions that take place because of the agricultural practices make them valued community establishments. Community Supported Agriculture, when utilized by the consumer, can lead to healthier lifestyles.

The article shows it takes a lot of work for a farmer to succeed at starting and operating a CSA and many people do not have the stamina to continue on with it long term. This is important to the initial research because many CSA owners can not financially keep up with the ongoing costs of the business long term. It takes many years for a CSA to become profitable because most of the money they make goes into upgrading equipment, additional marketing, and personnel costs. Most CSAs do not even make enough to cover all of these costs. Most farmers do not even break even in this business and have to persevere many
years before becoming economically successful. However, this article states that most CSA owners are feel very fulfilled doing this work. In other words, most farmers do not feel that they make enough money to compensate for the work put in. This article shows that consumers have many more benefits than do the farmers. Some of the benefits include better health, social, economic, and educational aspects.

The information coming from this article relates to this research and is being included here because it shows that it is difficult for farmers to financially keep up with a CSA, and adding the educational aspects could increase revenue for the farmer in the long run. The additional elements added to the site would bring more consumers onto the site, in turn providing another income source. This is a good article because it shows the effects of different types of small, local agriculture on communities, consumers, and farmers. It however, does not include any information on how a CSA could provide education to customers.

Jack P. Cooley got his master of science in nutrition from the University of Massachusetts. Daniel A. Lass is an associate professor in the Department of Resource Economics at the University of Massachusetts. In this article called, “Consumer Benefits from Community Supported Agriculture Membership”, the authors talk about the benefits of being a part of a CSA to the consumer. It states this, “...members receive fresh produce and products sustainably grown, and second, member support enables the farmer to focus on land stewardship... The community reaps benefits from retaining a working landscape and a local supply of food....CSA represents an important new alternative relationship between farmers and consumers in today’s industrialized food system” (Cooley, 228). It also states, “Education is another benefit for members who work closely with the farmer in planning for the growing season” (Cooley, 228). Some of the benefits pertaining to becoming a member of the CSA in addition to the fresh produce are the benefits to the local community economically, a face to the farm that the consumer can trust, and the education of sustainable farming practices such as growing cover crops--which helps preserve the top soil in the off-seasons. These members and their children get firsthand experience of food production--a process that is becoming increasingly unknown to people in the United States. They are also educated in the importance of buying locally and its relationship to the environment through agriculture.

Cooley and Lass did some research for this journal article. They compared the prices of a share from three CSAs to the same amount of produce from three different types of markets. They found that consumers save money per pound of produce compared to buying the same amount of produce at the supermarket. (Cooley, 223)
however is not always true, depending on the operations of the CSA, sometimes the produce is more expensive per pound. If the CSA gives a predetermined amount of vegetables with each box, much of that produce is wasted or unknown to the stockholder—therefore not used—and not necessarily added into this calculations that Cooley and Lass calculated within this article.

This article is useful in the fact that it shows the economic benefit of buying local produce, or even growing your own produce. It, however, is only a study over one year and the sample size is only three farms so it is hard to say how reliable the results are. While the economic benefits should be of educational value in regards to CSAs, it is not really the hands on educational activity I had in mind.

A few years back the Brandywine Valley Association (BVA), was given a grant in order to better educate the children of communities within the watershed. Jane Kenny, Heidi Price Militana, and Mary Horrocks Donohue evaluated this program in an article entitled “Helping Teachers to Use Their School’s Backyard as an Outdoor Classroom: A Report on the Watershed Learning Program”. The watershed Learning Program, as it was called, enabled school systems within the watershed to add outdoor learning projects to their curriculum. The classes provided during the years the program was being evaluated were taught by “BVA environmental instructors”, but the school teachers were being trained to teach the curriculum. The students themselves loved the program. The researchers were able to give the students a pretest and a post test to see if the program was an effective learning tool, and the results show that every student had a better knowledge about the outdoor environment after participating in this program. Not only did students have a better knowledge of their outdoor environment, but the students also started taking care of it. Teachers noticed more children picking up trash, and less picking the flowers that make habitat for the butterflies. Teachers also noticed that the children who struggled with the traditional learning style in classrooms blossomed and flourished within the outdoor learning program that was being provided to these students. The teachers also reported that these students who participated in the Watershed Learning Program were able to apply that knowledge to their other studies in their in-classroom studies. This program is an overwhelming success in all aspects involving the learning of children.

This article provides an alternative option to learning that CSAs have the potential to accommodate. Over the last century agriculture has become less and less of a family business and more of a large corporation. Because of this, many more children growing up now do not know much about agricultural practices. In the technological
world today, children often do not spend time outside, walk to school, or even play in the park as much as children of the past. This new generation is losing touch with the outdoor environment. This article shows a wonderful example of what is missing from most traditional learning environments. I believe that CSAs provide the basis of educational environments that if utilized properly could provide a similar experience as the Watershed Learning Program. As the article shows, an educational outdoor experience is good for the children who have the opportunities available to them. It could allow children who may feel like traditional learning is difficult, to learn in a way that they better understand.

Introduction

More than ever before, community supported agriculture has the potential to let consumers live healthier lifestyles, learn about sustainability and agriculture, and connect them to their communities. Being a part of a CSA community allows social interactions to occur that encourage education and healthy living lifestyles. Members can share recipes, work on the farm, and participate in social events that some CSAs provide.

In Cornelia Butler Flora and Jan L. Flora’s book “Rural Communities”, the authors break up communities into capitals that showcase the positive components. The community capitals that the authors of this book identify are natural capital, cultural capital, human capital, social capital, political capital, financial capital, and built capital. These capitals are referred to as the community capitals framework in the field of community development. The same framework was chosen to take inventory of a Community Supported Agriculture (CSA) farmstead.

Some of the aspects measured in natural capital are land use, water, biodiversity, and things that effect climate change. In relation to the CSA, some of the aspects related to natural capital are the land, water, crops, and possibly animals. These things are all very important to the everyday activities at any CSA.

Cultural capital measures the history, social class, family culture, and community legacy. Within a CSA site, some of the cultural aspects are farm and rural culture, and agricultural practices. The history of agricultural practices from the past and present will shape how CSAs
practice agriculture. It also may provide direction to crop rotation, vegetable preferences, or influence participation.

Human capital refers to the labor force, health and wellness, education attainment, skills, talents, or any assets an individual possesses. A CSA owner has to have many assets in order to proceed with everyday operations. They have to have a working knowledge of agriculture and horticulture. They may have to understand heavy equipment and may need some help from the labor force. CSAs also have the capacity to improve upon an individual’s health and wellness and knowledge of the world around them.

Social capital as defined in the book mentioned above is human interaction. (Flora, 118) Some of the aspects of social capital, as related to a CSA, could be any interactions between farmer and stockholder, between stockholders, or between stockholders and future stockholders. Things that could encourage these human and social interactions are events, programs, and educational aspects of the site. Improving things like this could cause more or improved interactions between each social group mentioned earlier in this paragraph.

While political capital could refer to government policies—which certainly exist—it could also be the power balance. “Political capital consists of organization, connections, voice, and power as citizens turn shared norms and values into standards that are codified into rules, regulations, and resource distributions at are enforced.” (Flora, 144) In this case, it seems to me that the stakeholder has more power. In talking to a CSA owner, it was mentioned many times how listening to the consumer was very important in order to keep them returning year after year. Organization, connections, voice and power are very important for the owner to keep the CSA changing to accommodate stakeholders while hopefully making a profit.

Financial capital is exactly what it sounds like—money! Money comes in and out of CSAs all of the time. Stockholders pay to receive produce, and owners pay for their equipment, staff, and seed. Finances are tricky for CSAs because it is difficult for CSAs to become profitable year after year. Many CSAs do not last because the owners just cannot afford to keep them running.

Built capital refers to all of the infrastructure in a community or on a site. The built capital on a CSA site might include barns, greenhouses, or high tunnels. It may also include parking spots, driving lanes, refrigerated storage facilities, etc.

In Mary Emery and Cornelia Flora’s article entitled “Spiraling-Up:
Mapping Community Transformation with Community Capitals Framework, the concept of spiraling-up is presented. The spiraling-up concept is achieved when gained assets increase the probability that more assets will be gained. Emery and Flora used this concept and applied the Community Capitals Framework to it. In doing this, they asserted that increasing one of the community capitals would in turn increase more of them. During the course of their research, Emery and Flora found that when one of the community capitals was strengthened other capitals were not only strengthened as well but it encouraged growth in ways that were not expected. “The changes in community capital that we measured qualitatively and quantitatively were systematically sorted into the appropriate community capital, and we found that each of the three projects contributed to the spiraling up of the community assets, and that the three projects not only stimulated the other projects, but also reinforced them as well.” (Emery, 2009) I believe that in applying this spiraling-up concept on a smaller community structure such as a Community Supported Agriculture farm will improve upon every aspect of the business. I am proposing to improve the built environment of a CSA in order to improve the social atmosphere on the site. I believe these improvements will also, in the long run, increase the business revenue—a spiraling-up effect.
### Research Hypothesis

Improving social and built capital within a CSA context and site, will in turn improve other aspects such as a CSA owners financial situation, and the consumers satisfaction with the site.

### Research Goals

To create a list of program elements that promotes public participation and awareness of CSAs.

To suggest additional elements to CSAs that could offset operational costs.

### Research Questions

What design elements can improve public participation on a rural, agriculturally based site such as a CSA?

How can the educational experience for visitors on CSA properties be improved through design?

How can social, community, and educational interactions within CSA communities encourage healthy living lifestyles?

How do social and community interactions between the CSA farmers and stockholders provide educational experiences to stockholders?
Case Studies

The practice of Landscape Architecture could play a pivotal role in improving the design of CSA to encourage social interaction and educational practices. Improving these aspects could ultimately bring more customers to buy shares in CSAs and encourage active community bonding. The following case studies share some of the aspects that could improve the social interactions in rural farm sites such as CSAs.

Heikes Family Farm

The Heikes Family Farm, located in Vermillion, SD, is a flourishing CSA. The farmstead functions as a CSA and the land has been dedicated to preserving pollinator habitat.

“Heikes’ Family Farm LLC National award winning CSA has a commitment to the Vermillion, SD community to provide fresh local produce. We want to share with you the experience of maintaining a healthy farm by welcoming you to come visit us and pick up your seasonal fruits and veggies right here in town. We specialize in Community Supported Agriculture as well as having a Farm Market and Greenhouse that you can visit any time during business hours!” -- Heikes Family Farm website

The Heikes Family Farm shows some of the aspects of a successful CSA and could be useful in the design that promotes more social interactions on a rural farm site. Some of these elements include a central gathering space, a vegetable vendor stand, and a public invitation to come and explore the farm.
Heikes Family Farm
Maple View Agricultural Educational Center

The Maple View Agricultural Educational Center (MVAEC) is located in North Carolina near a dairy farm that makes and sells ice cream made from the milk that they produce. The education center provides classes to adults, students, and children about the land, growing plants, insects and dairy.

“Maple View Agricultural Educational Center is a nonprofit, educational facility, designed to encourage both children and adults to learn about agricultural life through hands on experience. MVAEC strives to educate visitors about the benefits of sustainable agriculture and farm life. Strong agricultural philosophies are the foundation for our educational programs. The 6,000 sq. ft. facility offers a gathering area capable of accommodating up to 120 individuals. MVAEC features four interactive learning labs, providing the perfect opportunity for students to use all of their senses through hands-on education.” --Quote from the MVAEC website

The Maple View Agricultural Educational Center imbues everything that I believe Community Supported Agriculture can teach people of all ages. The center educates children on the benefits of sustainable farming practices. The MVAEC shows children where produce and dairy come from, how insects improve soil conditions, and allows the children to explore these concepts with a hands on approach.
Maple View Agricultural Educational Center
Honalee Farm Event Center

The Honalee Farm Event Center attracts all kinds of people to an agricultural centered site. They host many different kinds of events for many different types of people. It has a modern but quaint feeling to it.

“Our Honalee Farm Event Center is a special place. The rural serenity and state of the art event center with a large pond and fountain, a flowing stream, spacious lawn, extensive landscaping and abundant parking is the perfect spot for your special event. Whether it’s a small intimate gathering or a larger celebration our indoor/outdoor event center option will leave you with lasting memories. The indoor event center with wrap-around decks is both air conditioned and heated and can be adapted so you have that outdoor feeling and still be cozy. The spacious lawn and beautiful landscaping accommodates families and group activities with room to play. The site has ample room for any type of event and promises an unforgettable, good time for both young and old.” -- Quote from the Honalee Event Center Website

The Honalee Farm Event Center is a good case study because it brings people to a farm setting. If a CSA had a center like this they could use it for their own events such as harvest events or CSA dinner; the CSA could also rent it out for weddings and other private events for additional profits.
Methods

In addition to the initial research about CSAs that led to the hypotheses, goals, and questions, there are two aspects to explore in order to better design a Community Supported Agriculture farm for the purposes of allowing more social interactions and public participation. The first is the analysis and comparison of similar successful projects, and the second is using a survey to determine user preference.

I will show the availability of other CSAs in the region. This will be done by showing where these farms are located and the area they serve. This information will be acquired through the public records of cities who keep lists of CSAs or on public websites of the CSAs themselves.

The analysis and comparison of similar successful projects will be helpful in order to create a list of program elements for a CSA with a future of increased successful public participation and involvement. This process of analyzing case studies will provide a list of important aspects to make the CSA function more effectively in social situations and during events.

Out of the results of these studies, a list of program elements will be compiled. They will be used in a final design thesis on the Bluebird Gardens site in Fergus Falls, MN.

This graphic shows the locations of CSAs that serve the Fargo-Moorhead area and the Red River valley. The black dots show Fargo, North Dakota and Fergus Falls, Minnesota. The red dots show CSA farms and the size of the dot indicated how many shares they sell each year.
A survey of stockholders was developed but unfortunatally was never conducted. Some of the questions are as follows:

1. How often do you visit your CSA?
   a. Never
   b. Once or Twice a Year
   c. Three or Four Times a Year
   d. 5 or More Times a Year

2. How often would you like to visit your CSA?
   a. Never
   b. Once or Twice a Year
   c. Three or Four Times a Year
   d. 5 or More Times a Year

3. I would visit my CSA more often if: (Select all that apply)
   a. It was closer to my home
   b. It offered more incentives
   c. I could volunteer
   d. I knew about more volunteer opportunities
   e. There were more educational opportunities for myself
   f. There were more educational opportunities for children
   g. The CSA provided a dinner with other CSA stockholders
   h. There was an opportunity to pick my own produce
   i. I had a chance to get to know the CSA owner better
   j. There were other items to purchase that did not come with my CSA membership
   k. There were more opportunities to meet people
   l. I had more time
   m. I do not want to visit my CSA more often
   n. Other______________________________

4. Where would you prefer to meet and interact with people?
   a. Large Group Setting
   b. Small Group Setting
   c. One-on-One Setting
   d. Other_____
5. If you have children, in what setting would you prefer them to learn? Select all that apply
   a. School
   b. School-trips
   c. Outdoors
   d. Indoors
   e. Alone
   f. With Groups Of Children
   g. Other__________

6. Where would you prefer your child/children to learn about the world around them? Please rank the following photographs by preference.
7. Which of the following do you think would improve your CSA? Check all that apply.
   a. Educational Activities or Classes
   b. Additional produce varieties
   c. Spring Programs
   d. Summer Programs
   e. Fall Programs
   f. Restrooms
   g. Educational Facilities
   h. Ala-Cart Vegetable Stand
   i. Party or Event Facility
   j. Other__________________

8. Which place would you feel more comfortable meeting or interacting with people? Please rank the following images in order of preference.
Site Introduction
--Bluebird Gardens--
Bluebird Gardens is the CSA that serves the highest number of stockholders in the region. For this reason, I believe, updating the site in order to become more accommodating toward social relationships and interactions.

After speaking to the owner of this CSA, I learned that he is planning on taking the CSA business to grocery stores within the cities that it serves. He told me that his customers wanted three things from his services: convenience, choice and to know the farmer. He has tried many things to keep up with the times and has decided to try bringing the local produce to grocery stores in order to accommodate all of the aspects of a CSA that consumers want. If this does not work out, the owner said that they would continue to sell shares and deliver produce to stakeholders just as they had this last year.

Despite what was considered a very successful year by the owner, they did not make quite enough money to cover the costs of operation.

The farm will continue to invite people to the farm for harvest events or to camp in the woods. The site will still function in much the same was as it did last year in regards to agricultural practices.
Results
In preparing for these results I analyzed 4 sites, all of which are farming or rural related places and businesses that attract people to them. It was difficult to choose all Community Supported Agriculture (CSA) sites for this analysis because there are a limited number in the world and virtually none that actively encourage public participation. Because of this, I chose sites that show different kinds of participation.

The first case study I looked at was the Heikes Family Farm, which is a successful CSA in Vermillion, SD. The Heikes Family Farm is in close proximity to Vermillion, South Dakota. This is very rare for CSAs as they are usually on large plots of land in rural areas. The farm is close enough to town where it is easily feasible for people to go out to the farm and participate. The site has on it a structure that is used as a vendor space for produce grown on site. There are opportunities to volunteer on this farm. However, the people who volunteer are not always knowledgeable about farming practices and do not always help out with the work on site when present. There is an informal research capacity because a CSA is a business that is always changing, and also because Mr. Heikes former experience in agriculture related fields.

Another case study I used was the Maple View Agricultural Educational Center. This is a center to teach groups of children about soils, plants, livestock, seasons, and bugs. It is located in Hillsborough, North Carolina on a dairy farm. This experience is a hands-on field trip, beneficial for children to learn in out-of-classroom environments. The children have the opportunity to learn while getting their hands dirty and having fun.

After having spoken to the owner of the CSA I plan to place my final project on, I chose an agriculture research facility as a case study. The owner of Bluebird Gardens voiced that he would love to be associated with a research facility or research college, however, this was not on his list of things to accomplish as far as I could tell. The case study I chose for this was the Agriculture Research and Education Center at Tennessee State University. This site attracts professional researchers whom research many different crops and provides many educational experiences for college students throughout the seasons of a year.

The last case study I found was a rural event center that caters to private weddings, parties, etc. This is called the Honalee Farm Event Center and it is located in Eagle, ID. It provides gathering spaces of differing sizes,
activities throughout all seasons, and is beautifully designed to attract people to events held on this site.

During this process I made a chart showing some of the aspects that were shared between the sites and the differences which is shown here.

The case studies presented on this chart are paired with site elements that are included within each site. This chart shows and allows the comparison of these case studies.

While none of these case studies is the perfect representation of what I hope to accomplish, they all have aspects that are desirable to create the space I am envisioning for the improvement of community participation on CSA sites. Some of the program elements I hope to include in this site are:

Educational/Learning Center
Outdoor Classrooms
   Vegetable Plantings and Growth
   Soil “Lab”
   Insect Exploration
   Seasonal Practices
Vendor Areas
Picture-Perfect Event Center
Multipurpose Buildings
“Public” Restrooms
Tentatively-A Small Research Center
Site Inventory

Fergus Falls

Population: 13,138
21.4% of these people are under the age of 18
48.4% of the population is married
51.6% of the population has never been married, widowed, divorced, or are separated
Median Household Income: $41,920
Bluebird Gardens is about 6 miles north-east of Fergus Falls
Bluebird Gardens

Soil Type: Clay Loam

Topography of Bluebird Gardens and surrounding areas.
Bluebird Gardens

Topography of Bluebird Gardens Site
Bluebird Garden Expansion Design Location

One of the two red boxed in areas on this farm could very possibly be the site of some of the program elements listed in the results section. One of these sites seems ideal because of the location near the entrance road or sheltered by the current grove of trees and the distance from the work area of the site which is in the black circle.
Design Development

The drawing on the left outlines some of the site lines from County Highway 18 toward the farm. It also shows the pros and cons between the two prospective Bluebird Gardens Addition sites.

The drawing on the right shows that the northern site for the addition was chosen so that the progression of the whole site from north to south is public to private.
These images show some of the inspiration that helped shape many of the forms on the plan.

This plan shows some of the site elements early on in the design process. It also lists some of the uses of these elements.
The top two drawings show how the event center as an important site element relates to other parts of the site.

The bottom drawing illustrates some of the ideas related to the outdoor classroom.
Final Design Solution

Master/Context Plan
Event Center Patio, Outdoor Kitchen, and Apple Orchard Trail

Bluebird Garden Entry and Situational Entry Display Area
Site Plan
Event Center Gathering Area with Shelter Belt Backdrop

Bluebird Gardens Addition
Raised Beds, Greenhouse, and Outdoor Kitchen

Event Center Transitions to Surrounding Landscape
Bibliography


Community Development, 19-35.


