Community Gardening

A Resilient Communities Project–GreenStep Cities Guide
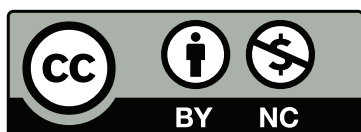
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Resilient Communities Project
University of Minnesota
330 HHHSPA
301—19th Avenue South
Minneapolis, Minnesota 55455
Phone: (612) 625-7501
E-mail: rcp@umn.edu
Website: http://rcp.umn.edu
  @RCPumn
  RCPumn
  Resilient Communities

Minnesota GreenStep Cities
Minnesota Pollution Control Agency—
Assistance Division
520 Lafayette Rd. N
St. Paul, MN 55155
Phone: (651) 757-2594
Website: http://www.MnGreenStep.org
  @GreenStepCities
  @mngreenstep

Acknowledgements

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INTRODUCTION

Community gardening can be a partial solution to food access issues. Access to fresh produce grown in a community garden has the potential to improve nutrition and decrease obesity-related health problems. In addition to the physical health benefits, community gardens provide a communal gathering space which can help to strengthen ties among residents. Strong community ties are important for fostering healthy, resilient communities.

This guide is organized into three phases of planning for a community garden: (1) Planning for a community garden, (2) Managing a community garden, and (3) Food distribution and consumption.

Planning for a Community Garden

Before beginning a gardening program in your community, it is important to address certain questions and develop a plan. The plan should be developed in partnership with residents in the community and centered on their needs and vision for a gardening program.

BEST PRACTICE 1

Involve intended consumers in decision making and planning

Community gardens provide a neighborhood resource that can create a space for collaboration, learning, and access to healthy foods. However, it is important to engage residents in nearby neighborhoods in planning for and contributing to the goals for community garden sites. Local residents and other stakeholders can help with selecting locations, informing schedules, and identifying produce that would be of greatest interest to the neighborhood. This last item is especially important if the intent is to sell the produce to local residents.

BEST PRACTICE 2

Conduct asset-based community development to identify key partnerships

Communities and their residents have a wealth of resources that can contribute to creating a successful

urban garden. Conducting an inventory of current strengths and partnerships can create smoother processes for finding which actors will best fill specific roles. Individuals within a community may be particularly skilled in technical capacities, or be integral to creating community leadership and assembly. Identifying these contributions can assist in building upon the existing talents in the community. Each individual has specific contributions to make, and while certain actors may have more in-depth knowledge concerning gardening practices, others may have specific knowledge concerning management or financial practices that they may contribute. Similarly, they may have relationships with other stakeholders that could be partners or contributors to the garden.

BEST PRACTICE 3

Assess potential site locations and engage residents in the process

Selecting a location for an urban garden traditionally involves assessing the land for soil quality, potential access to water, and availability of sunlight. However, it should also be examined for areas that have potential to become a neighborhood gathering space and can be accessed by walking, biking, or transit. Effective site selection practices can ensure the site meets the needs for agricultural productivity while also serving as an accessible community amenity. Engaging residents and other stakeholders in exploring potential garden locations can help build support for garden development and identify potential users. Site selection for community gardens can be challenging in urban areas, as soils in these places are frequently compacted, lacking in organic matter,

or contaminated with toxic substances. Physical or chemical reconditioning may be needed to improve urban soils to the point where they can be used for food production; if this is not possible, methods such as raised bed and vertical gardening should be used.[1] To determine whether such improvements are necessary, it is helpful to be aware of the land use history of the site and to conduct comprehensive soil tests. Additionally, the potential for a garden to impact the surrounding ecosystem should be considered. During rainfall and watering events, compost, soil, and fertilizer can wash into nearby waterways, causing nutrient loading problems. Public entities, such as cities, tend to be in a better position than private landowners to assess site suitability for gardening and can be valuable partners to community members who are attempting to find an appropriate location for food-oriented gardening. Vacant lots are often an option for community garden sites. It is important, however, that these lots remain dedicated to the purpose of the garden. Zoning or a lease agreement with the community can ensure the garden space is protected.

BEST PRACTICE 4

Create an urban agriculture plan

Cities often use the term "urban agriculture" to encompass a wide range of activities, including community gardens. Urban agriculture is often defined as agricultural practices conducted within an urban area, such as the growing, processing, and distribution of locally grown food within the city. One type of food production operating under the umbrella of urban

agriculture is urban farming. Urban farming is commercial-use gardens on private land that exchange goods for monetary value. These are smaller scale farms that grow food and contribute the food to the local food system, such as selling to Community Supported Agriculture (CSA) programs, farmer's markets, and local restaurants. Because this kind of garden is viewed as a commercial enterprise and community gardens as more recreational, many communities separate the locations of these two types of operations. An urban agriculture approach might require the adoption of new zoning codes that establish community gardens for commercial purposes as a permitted use in appropriate locations.

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BEST PRACTICE (5)

Regulate community gardens in zoning code

By including community gardens in city zoning ordinance, the city can provide legitimacy to the practice. The city's zoning ordinance should use language stating that community gardens are an approved land use in appropriate zoning districts. Doing so allows residents to develop community gardens without obtaining a permit or variance and provides clarification of rules surrounding the use of community gardens.

BEST PRACTICE (6)

Designate city-owned land for community garden use

One way a city can support community gardening is by designating a portion of city-owned property to be used to grow fruits, vegetables, flowers, herbs, and ornamental plants for non-commercial purposes, i.e. where there is no exchange of goods for monetary value. The city owned land could include public park space, vacant lots not designated for development, or other public areas suitable for a garden space. This designation of public land can show a city's support for increasing public access to healthy foods, bolster public education and strengthen public-private relationships. City support for community gardening on public land has the potential to cause controversy over designation of public land for a private community garden. Because of this, it is important that the process of assigning plots is transparent and equitable. Excess food should be distributed throughout the community, providing a community-wide, public benefit from the garden.

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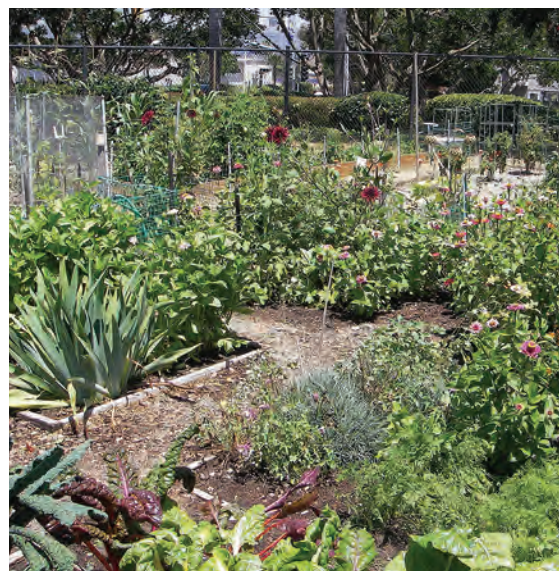
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BEST PRACTICE 7

Provide city funding for community gardens

One source of financial support for a community garden can come from creating a funding program within a city's community and economic development department. Financial support can promote a partnership between the city and the community, creating a valuable relationship. It also allows community members to obtain land and funding for a community garden that would have been otherwise unavailable. With the city's help, a funding program can strengthen the community's alternative food systems and can later go towards supporting food pantries and food banks.

BEST PRACTICE 8

Create rules for community garden participants

Creating a set of agreed upon rules and steps for facilitating a community garden is key in the first stages of the process. The garden rules inform members of the expectations of participating in the community garden as well as help new gardeners understand the reasons for the rules and why they should be abided. The rules for the community garden can be in the form of a written and signed agreement given to all new participants. Not all rules will be relevant to every garden, so the document should highlight rules that are applicable to the city. These may include safety issues, ordinances, lease requirements, maintenance responsibilities, and penalties if the rules are not followed.

BEST PRACTICE 9

Create an informational website for community gardens in the city

A public website sponsored by a city helps promote awareness of community gardens, explains the different options residents have, and serves as a public forum for questions and resources. An informational website provides an opportunity for people to learn about rules and regulations related to starting a garden and what areas of the city are available for gardening.

Managing a Community Garden

Once a community garden plan has been developed and a site selected, the city should continue to provide support for the ongoing management of a community garden program. Continued involvement will primarily be educational initiatives on efficient and sustainable gardening practices. An additional component of management will be to ensure any city land dedicated to plot sites is not in danger of being sold or that zoning regulations continue to protect community gardening sites.

BEST PRACTICE 10

Establish maintenance practices for common areas and individual plots

While most gardeners are motivated to take care of their own space to harvest a bountiful crop at the end of the growing season, common areas of gardens can become neglected and overgrown. It is important for community gardens to establish ground rules for the maintenance of individual plots as well as require garden users to assist in taking care of common areas. Overgrown and weedy paths can harbor insect pests and organisms that cause plant disease, as well as produce a yearly supply of weed seeds that invade garden plots. Additionally, unkempt gardens can become eyesores and may generate complaints from nearby property owners. It is in the interest of

all community garden participants to help with the upkeep of the garden space as a whole.

BEST PRACTICE 11

Promote conservative water use and equitable access

Access to a reliable water supply can be difficult for community gardens due to their location on vacant lots that may not be connected to the municipal water supply. While requiring garden participants to bring in their own supply of water can be less complicated for cities initially, problems can arise as vehicles used to transport large amounts of water increase traffic in the area, especially in hot summer months. This method also raises equity concerns as elderly or disabled people may not be able to move heavy containers of water, limiting their ability to use the garden. Providing a connection to the municipal water system on-site will eliminate both traffic and equity concerns. A payment system must be set up and conservation-oriented water use should be required to prevent unequal and unsustainable practices.

BEST PRACTICE 12

Establish standards for on-site composting

Composting plant material from garden plots is an excellent way to both dispose of plant debris at the end of the growing season and to create a free source of organic matter to incorporate into garden beds. Composting that is done incorrectly can, however, be

a nuisance to garden neighbors and those working in nearby plots.

COMPOSTING BIN RECOMMENDATIONS:

- Individual compost bins should be at least 3' by 3' by 3' to create enough heat to effectively break down plant material, kill weed seeds, and reduce the smell given off by rotting organic matter. Completely enclosed plastic bins generate more heat and do not need to be this large.

- Diseased plant material should not be incorporated into these bins, as the heat generated will not be enough to kill most organisms that cause plant diseases.

Therefore, while it is important to allow individuals to create and maintain compost bins within the confines of their own plots, it is also necessary to provide space for gardeners to deposit excess and diseased plant material that will be properly disposed of by the municipality that owns the property.

BEST PRACTICE 13

Application of and education about approved fertilizers, pesticides, and herbicides

In Minnesota, there are a wide range of pests and diseases that negatively affect fruit and vegetable production, and any plant growing in a garden plot that is not serving a purpose can be considered a weed. In densely cultivated areas like community gardens, it is best to restrict the use of chemicals to those that are the least likely to harm others, such as those listed by the Organic Materials Review Institute (OMRI 2014). Additionally, education is the best method to help garden users find ways to manage their garden plots using organically approved methods. Contact Master Gardener groups and university extension professionals to conduct regular workshops on Integrated Pest Management practices, which are defined as "preventing or suppressing

damaging populations of insect pests by application of the comprehensive and coordinated integration of multiple control tactics".[2]

BEST PRACTICE 14

Mitigate against negative externalities of new structures

The construction of raised beds can eliminate issues created by poor soil quality and water drainage problems. Benches and picnic tables can be both useful and pleasing to the eye. The construction and maintenance of these structures can, however, have negative environmental impacts as well as affect other gardeners and nearby residents. City zoning codes and future land use plans can influence whether or not a permanent structure is appropriate in a specific community garden. Given that different garden sites in a single locality may be diverse in terms of neighborhood attributes, zoning, and site development plans, it is good practice to assess permanent structures on a case-by-case basis.

BEST PRACTICE 15

Create educational activities for youth

By creating fun and educational opportunities for youth, the city can increase participation in community gardens. Youth who are involved in the community garden program will bring a wealth of enthusiasm, which may help their families and neighbors see the value of the program.

BEST PRACTICE 17

Sell produce from community gardens at a local farmer's market

Create a farmer's market that features vendors from the community. Make an effort to showcase smaller vendors and allow local artisans to participate in the market. Highlight the market as a community destination in branding efforts to increase traffic.

Food Distribution and Consumption

Depending on the harvesting rules for the garden, there will likely be excess food grown. The city can require that some food be set aside for community-wide uses to provide a more general public benefit from the garden. This is a possible mitigation strategy for any controversy around private community gardens on public land, if the community garden is sited on public land.

BEST PRACTICE 16

Donate food to local food shelves through a produce donation program

Once a community garden is established, a next step in continuing community involvement can be to partner with local food shelves to maintain support for food production and distribution. Creating and establishing a donation program "is an ideal way for community gardeners to share produce with those in their neighborhood with limited access to fresh food".[3] Such a program can be facilitated through a produce donation program and can further integrate the community garden into the surrounding neighborhood.

BEST PRACTICE 18

Sell food to local restaurants

The city can help community members market their produce by forging partnerships with local restaurants. Local restaurants will agree to use produce from community gardens when possible in exchange for positive publicity and the opportunity to provide fresh, healthy produce to their clients.

BEST PRACTICE 19

Create a community commercial kitchen

Making a commercial kitchen accessible to community members can help residents find a legal way to market value-added products from community gardens. This kitchen can be commercially licensed, giving residents the opportunity to rent time in order to process foods. The products produced can then be sold in grocery stores, farmer's markets, roadside stands, and through Farm to School programs.

> **ADDITIONAL COMMUNITY KITCHEN RESOURCES:**
>
> - City of Minneapolis Shared-License Commercial Kitchen: http://www.minneapolismn.gov/sustainability/homegrown/WCMS1P-129858
> - Our Community Kitchen, Stillwater: http://www.ourcommunitykitchen.org
> - Harmony Co-Op Community Kitchen, Bemidji: http://www.harmonycoop.com/#!community-kitchen/ce0d
> - GIA Kitchen, St. Paul: http://www.giakitchen.com
> - George Street Kitchen, St. Paul: https://sites.google.com/site/stpaulcommercialkitchen/about

BEST PRACTICE 20

Market produce through the Farm to School program

The Farm to School Program is operated by the United States Department of Agriculture's Department of Food and Nutrition Service. The goal of the program is to provide support to school districts that wish to incorporate local foods into the school lunch program. The support offered by the program includes research, training, technical assistance, and grants. By increasing their participation in the Farm to School Program, schools will be able to provide children with healthy, locally-sourced produce. Teachers can tie participation in the program with field trips to the community garden to help children learn more about nutrition, ecology, and where their food comes from.

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Evaluation of Community Gardening Practices

Evaluation of community garden practices will help the city make changes to improve community gardening. The following evaluation matrix outlines possible evaluation techniques, methods, and limitations of each method:

SURVEY OF PROGRAM PARTICIPANTS

Indicator	Assumptions & Conditions	Limitations
• Program participants' perceptions of fair plot distribution • Program participants' desired plot size(s) • Program participants' definitions of "success" for their gardens • Program participants' suggestions for desired supplementary services • Price participants are willing to pay for different sizes of plots • Demographic distributions among participants (age, income, ethnicity, gender, etc.) • Participants reported uses for what is grown in their gardens • Types of plants grown on plots • Times per week that participants eat food grown in their gardens • Number of garden visits per week • People on the waiting lists' perceptions of fair plot	• There is a comprehensive contact list for each population of interest • It is possible to survey a representative sample of people, so that results can be generalized to the entire population • If conducted online, that the selected sample have Internet capabilities to access and complete the survey • The survey is designed well and piloted to reduce measurement error • There is not systematic nonresponse bias that could cause error	• Sampling error will always exist when conducting a survey • Can be time consuming to design and pilot • Analysis can be time consuming, especially with open-ended questions • With close-ended answer choices there is less opportunity to construct meaning

FOCUS GROUP OF PROGRAM PARTICIPANTS

Indicator	Assumptions & Conditions	Limitations
• Program participants' perceptions of fair plot distribution • Program participants' desired plot size(s) • Program participants' definitions of "success" for their gardens • Program participants' suggestions for desired supplementary services • Participants reported uses for what is grown in their gardens • Types of plants grown on plots	• Enough people will be available to conduct the recommended number of focus groups • Enough people from each park will be available and willing, so that focus groups can be diverse • Focus groups will be led by a highly capable facilitator • Questions and format will be well designed to reduce potential bias	• Time consuming to develop protocols, to schedule and conduct (scheduling more difficult than interviews), and to analyze the results • Danger of participants influencing each others' responses • Doesn't address questions of the broader community's needs • Inability to get a program's costs • Analysis can be difficult

INTERVIEWS WITH CITY STAFF

Indicator	Assumptions & Conditions	Limitations
• Cost of the program per plot • Barriers to budgeting for community gardening projects • List of the ways that other communities award garden plots • Range of costs per plot of other communities' garden programs • List of the types of supplementary services provided by other communities' garden programs	• The interview subjects can be contacted and are willing to participate • Interview questions are well designed to reduce potential bias or measurement error • The interviewer is highly capable • Interviews replicated with different people are conducted in the same way	• Time consuming to develop protocols, to schedule and conduct, and to analyze the results • Requires a well-trained interviewer • Analysis can be difficult

DOCUMENT REVIEW

Indicator	Assumptions & Conditions	Limitations
• Cost of the program per plot	• Documents are available and will be given to the evaluation team • Documents accurately reflect the costs of the program (there are no hidden costs)	• Data can be missing, wrong, or just not what the evaluator needs to answer questions • Can be issues with gaining information from organizations if there are worries about confidentiality • The data is open to interpretation by the evaluator, so the evaluator must work hard to explain logic

OBSERVE GARDEN PLOTS

Indicator	Assumptions & Conditions	Limitations
• Types of plants grown on plots	• Observation of plants types would be direct and simple • Observation forms can be created in advance to ensure that different observers collect the same information • Digital device may required (camera, tablet)	• Digital device may be costly if it needs to be purchased • Observers need to be trained on how to keep records in a consistent way • Observations of plants growing will depend on seasonality

References

1. Gardening Matters (2009). Twin Cities Community Garden Start-up Guide http://www.gardeningmatters.org/sites/default/files/startupguide.pdf

2. Radcliffe, E.B, Hutchison, W.D. & Cancelado, R.E. [eds.]. 2011 "IPM Defined". Radcliffe's IPM World Textbook. http://ipmworld.umn.edu, University of Minnesota, St. Paul, MN.

3. Denver Urban Garden Donation Website https://www.givingfirst.org/DUG/overview

Center for Urban and Regional Affairs (CURA)

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330 HHHSPA, 301 19th Avenue South, Minneapolis, MN 55455 | 612-625-1551