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Community Gardening in New Hampshire from the Ground Up

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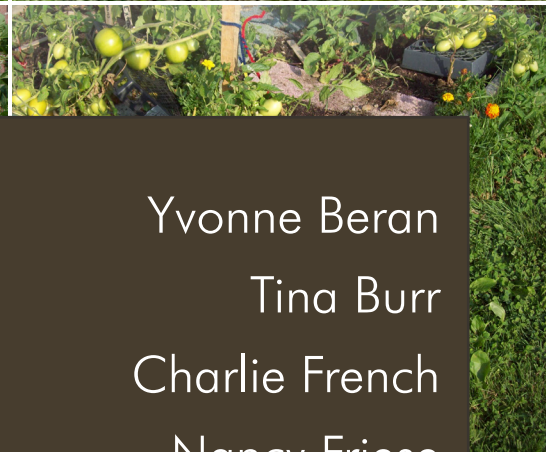
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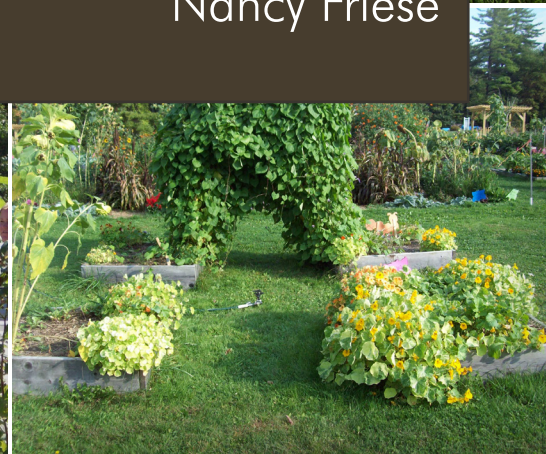
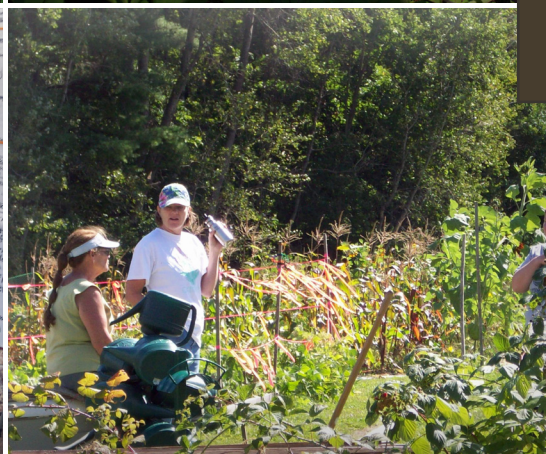
Community Gardening in New Hampshire

from the **Ground Up**

Foreword by: Lorraine Merrill



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COMMUNITY GARDENING IN NEW HAMPSHIRE FROM THE GROUND UP

BY YVONNE BERAN, TINA BURR,
CHARLIE FRENCH, AND NANCY FRIESE

FOREWORD BY LORRAINE MERRILL



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Foreword

Gardening is hard work that satisfies hungers of body and soul. Surely, the more people who can grow food to feed themselves, their families, neighbors and friends, the healthier our communities will be. Community and other civic gardening projects bring people together across generations to cultivate plants, food, beauty, knowledge and relationships. Creating opportunities for children and young people to connect with and learn from elder generations builds true community. Children and young people who experience growing plants for food and beauty gain valuable life skills, and hands-on knowledge of science and nature. Everybody who gets involved in gardening enjoys fresh air, exercise and the rewards of producing and sharing healthy, fresh and delicious food.

The resurgence of interest in local foods and agriculture has sparked greater appreciation for home and community gardening of all sorts. New Hampshire residents are finding more and different ways to grow their own food or to grow fresh fruits and vegetables to share with others. Public and private schools and child care centers from pre-school through college levels are putting in gardens where students work with teachers or community volunteers to grow foods for their meals.

Some schools and new farmer training programs that serve refugee and new immigrant populations have secured funding for high-tunnel greenhouses from the U.S. Department of Agriculture Natural Resources Conservation Service. Also known as hoop-houses, these low-tech plastic-covered greenhouses can be used to extend the growing season through fall and winter, or to get an early start on spring crops. In 2012 staff and volunteers from the New Hampshire Food Bank expanded the Food Bank garden at the Sununu Youth Development Center in Manchester to a full acre of raised bed vegetable production.

Lots of community organizations have had a hand in the community gardens sprouting up across the Granite State. A number of local agricultural commissions have made establishing community gardens one of their first priorities. Volunteers from the University of New Hampshire Cooperative Extension Master Gardeners program are playing key roles in a wide variety of local civic gardening efforts.



Lorraine Stuart Merrill of Stratham was sworn in as Commissioner of Agriculture, Markets & Food on December 6, 2007 for a five year term.

Merrill is co-owner with her husband John, son Nathan and daughter-in-law Judy of Stuart Farm, a 270-acre dairy enterprise with 240 milking cows and nearly 200 head of young cattle situated at the edge of the Great Bay Estuary.

She has been active in the day-to-day operation of Stuart Farm in addition to her work as a writer for agricultural and general interest publications and involvement in many civic and professional activities at the local, state and national levels. Photo courtesy of Susan Lirakis.

The New Hampshire 4-H Common Ground Garden Project maintains its 4-H Children's Teaching Garden at New Hampshire Audubon's Massabesic Center. The project is an organic and permaculture-based garden supporting gardening and nutrition science programs for youth, families and the NH Food Bank. Busloads of inner-city Manchester and Nashua teens have discovered the joys and rewards of gardening through this project and the guidance of 4-H staff and volunteers. It's worth a visit to see how these young people design and nurture garden plots that express their individual interests, personalities and creativity.

New research is proving what our grandparents knew all along—that time spent outdoors connecting with the natural environment is good for us mentally as well as physically. It boosts creativity, cognitive skills, and happiness. Just as sure as there will be weeds to pull, people and organizations will have challenges in working together to create and cultivate a community garden. This guide addresses most of the issues and question that are likely to arise. *Community Gardening in New Hampshire: From the Ground Up* is sure to become an inspiring and indispensable guide to people who aspire to share the labors and the fruits of gardening together.

Lorraine Merrill, New Hampshire Commissioner
of Agriculture, Markets & Food

CHAPTER 1

THE GUIDE FOR NEW HAMPSHIRE

“. . . [Our] best protection from the uncertainties of global crisis will be to develop our agricultural capacity here at home.” *Lougee, Sustaining Agriculture in the Granite State, Durham, NH, 2009, p. 4.*

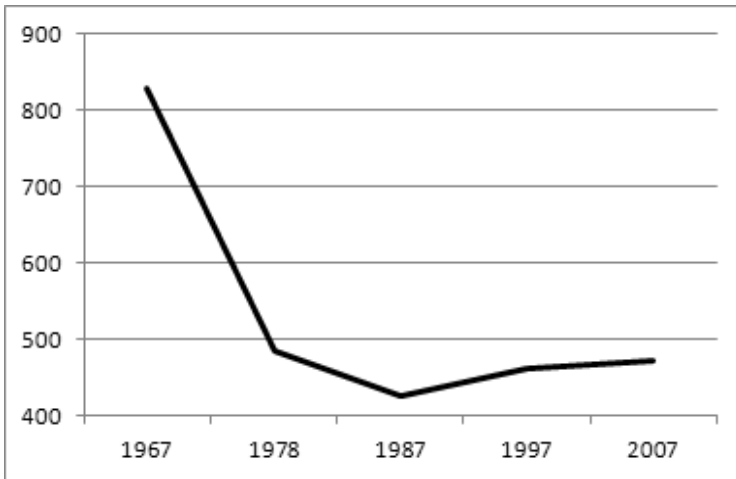
The face of agriculture on New Hampshire’s landscape has constantly changed over the past three hundred years, having gone through numerous cycles of growth and decline. Settlement of Northern New England began in the 1600s with land grants from the King of England. By the 1700s there were many self sufficient farms. However, during the fifty years from 1820 to 1870, the focus shifted from multi-purpose agriculture operations to mainly raising sheep for wool. The wool market declined with the advent of cotton from the southern United States and the shifting of sheep farming overseas. Agriculture production moved to more fertile lands in the Midwest and South and the industrial revolution slowly changed the face of New England as weaving, shoe and fire-arm manufacturing created factory towns along the rivers .

At present, New Hampshire produces approximately 5% of its food, including dairy products, livestock, vegetables, small fruits, apples, honey, and maple syrup (USDA, 2007). Like residents of other states, we in New Hampshire have become disconnected from our agricultural roots given our busy lifestyles, the convenience of supermarkets, and the rise of the global food marketplace. As New Hampshire has increased in population over the past 40 years, it has lost a significant amount of land in agricultural



Photo courtesy of Malin Clyde.

Figure x



New Hampshire Acreage in Farmland, 1967-2007 (Source: U.S. Department of Agriculture).

production (Figure x). In 2007, 472,000 acres of land were in production, or 7% of New Hampshire's land area. This is down from 830,000 acres in 1967 (USDA, 2007). The amount of land in production has increased slightly since 1997, most likely reflecting an uptick in the number of hobby-farmers and part-time farmers.

Due to the rapid decline in agricultural acreage, a multi-stakeholder committee formed in 1978 to study consumer needs and agricultural production in a document entitled "Recommendations for a New Hampshire Food Policy," which stated that land capable of growing food should be saved from development to secure a base for future food production.

As our population continues to increase, with more land consumed for residential and commercial growth, lack of access to safe, healthy, local food has become a concern.

In recent years, we've seen a resurgence of interest in backyard and community food gardening. Though we don't measure their contributions, these non-commercial gardens can supplement the state's overall food-production capacity.

A large, well-organized garden can meet a household's needs for fruits and vegetables during the harvest months; with knowledge and willingness, a few more tools and enough storage space, many households could produce a year's supply.

Bringing food in from outside the region also depends on a continued supply of affordable oil and natural gas. The growing interest in gardening and local food represents a positive step toward self-reliance. The New Hampshire values of hard work, thrift, and independence provide a strong foundation for action to increase the supply of safe, wholesome, and nutritious food for our residents.

Community Gardens: Benefits Beyond the Harvests

Gardening satisfies deeply ingrained needs such as a sense of individual empowerment and self-reliance. It helps explain why people turn to gardening in times of stress. Gardens deliver a tangible sense of order and purpose and keep us focused on what we can do to improve our living situation. As individuals we can't prevent wars, change climate conditions, or solve the nation's economic problems, but we can work in our gardens to receive the rewards of our own labor and contribute to our own food security.

Because of the benefits that gardening provides to individuals and communities—including control over one's actions, sense of accomplishment, and self and community empowerment—the phenomenon of community gardening has taken root in New Hampshire and around the country.

A *community garden* is a piece of land gardened collectively by a group of people. As more and more Granite Staters wish to eat more locally-produced food, community gardens have sprung up all over New Hampshire, a non-market counterpart to the parallel trends of community-supported agricultural operations and farmers' markets.

Why We Need a Community Garden Guide

To start a community garden successfully requires information on a wide variety of topics. The authors' intention was to gather that information into a single resource.

Community gardening offers many benefits to participants and their communities beyond the garden's bounty of vegetables, fruit, fresh herbs, and flowers. For example, a community garden can:

- Brighten a neighborhood, bring neighbors closer together, build community pride, and unite residents towards a common goal.
- Add value to a piece of land and to neighboring properties.
- Reduce crime in urban areas.
- Maintain or create green space, increase biodiversity, and conserve wildlife habitat.
- Improve family nutrition by increasing consumption of fresh vegetables and fruits.
- Provide outdoor exercise opportunities for people of all ages.
- Foster both formal and informal learning/teaching about planting, harvesting, preserving, and cooking techniques, including diverse cultural approaches to growing plants.
- Build intergenerational relationships where kids work alongside knowledgeable, caring community elders and pick up horticultural skills, healthy eating habits, and an understanding of shared community responsibility among neighbors.
- Strengthen a community's connection between its dinner tables and its soil.
- Expand people's understanding of other cultures, food systems, and ways of preparing and preserving foods.
- Forge alliances and better understanding among diverse community groups and civic organizations.
- Increase local recreational opportunities for all ages; a couple of hours of gardening allows for gardeners to stretch and work their muscles, breathe fresh air, and socialize in an open-space work community.
- Allow local businesses to contribute services, in-kind donations and land, as a way to give back to the community.
- Unify horticulture with art by inviting local artists to help decorate the community garden.
- Help preserve New Hampshire's rural character and classic New England way of life.
- Partner with Cooperative Extension field staff and local Master Gardeners to learn the best practices for growing, harvesting, putting up (preserving your crops), and food preparation.
- Provide entrepreneurship opportunities, as gardeners gain horticultural skill and perhaps market some produce to farmers' markets.



The Approach

EVERY PARCEL OF land in New Hampshire is unique. Just as you must re-learn your own backyard when you move to a new home, so too must you learn the variances of soil, precipitation, sunshine, wind, and other aspects of the environment for your new community garden.

WE RECOMMEND YOU spend some time studying, then developing, a written profile of your site. These things may change from year to year, but it's a good idea to begin your first year of community gardening with this information under your belt. In addition, we encourage you to develop a set of best practices for your community garden.

PROVIDING YOU WITH step-by-step instructions for gardening throughout the year isn't the intent of this guide, but there is some benefit in exploring some general best practices for northern New England gardens. Toward that end, we've summarized some of them in Chapter 3, The Practices pp. 29-32.

OF COURSE, MANY topics are covered in great detail at our UNH Cooperative Extension website and in other print and online resources listed at the end of this guide.

CHAPTER 2

COMMUNITY GARDENS: AN OVERVIEW

Community gardening programs can advance community development, empower local leadership and nurture families, strengthen economic development and improve overall quality of life.

Karen Payne and Deborah Fryman, Cultivating Community



Brookside Community Garden, Manchester, New Hampshire.

The National Gardening Association’s 2009 survey revealed an explosion of interest in home food gardening, predicting that “5 million households will seek space in a community garden...” (extension.unh.edu/news/landscaping/).

So imagine that you are one of these interested parties, you have a group of interested people, and together you want to start a local gardening project. Below are some factors you will need to consider.

The first step is to find a piece of land. The next is to determine who owns the land. Depending on who owns it (private or public), rules will vary as to whether or not there can be a garden on the land. To find out if you can obtain permission to access public land, go to or call, the local town office/city hall and speak to a permit specialist or local planning officer. You should obtain written permission to access and garden on the site. It may be a good idea to draw up a contract, or a lease on the land, so everyone is clear about what is to be done at the site, and by whom.

The Asset-Based Community Development Model

Vital communities—those that maintain a healthy environment, economy, and civic life—have one thing in common: they all have the ability to take advantage of the diversity of human assets in the community to achieve their desired future.

We've based this handbook on an asset-based model for community development. Members of every community bring a wealth of assets—skills, knowledge, interests, financial resources, and other gifts to the table. By identifying and tapping into these assets, communities generate the capacity to develop and implement strategies to bring about their shared goals. A successful community garden is no different from other communities in the sense that every gardener adds value to the community and contributes to a shared vision for the future.

A fundamental principle of the asset-based approach is shared decision-making. Every community garden, whether it's just forming or whether it's fighting to stave off the threat of encroaching development, faces crossroads where important decisions have to be made: decisions over adopting or amending garden rules, setting annual garden fees, electing garden coordinators, distributing garden plots, etc. If input on such decisions doesn't come from the garden community members, then the gardeners won't be vested in shaping the garden's future.

Shared decision-making means the community arrives at common goals, builds consensus on priorities, agrees on a set of policies and rules, develops a shared plan, and most importantly, sets a course of collective action.

The Community Decision-Making Process

When an individual or group has the idea of launching a community garden, the idea tends to be rooted in a set of assumptions, ideas, hopes, and values, preconceived notions of what a community garden should look like. No matter the genesis of the community-garden idea, people tend to promote concepts that represent their deep beliefs.

This can lead to early challenges when groups of neighbors or even strangers come together to begin a community garden. In many of the cases we researched, would-be community gardeners started off with radically different mindsets and ideas about which gardening methods to use or tolerate.

One group worried about the size of the raised beds. Would they be too large for single people to garden or for working people to maintain? They came up with a three-tiered approach that included family-sized planting beds, smaller-sized beds, and a “set of stairs” that would accommodate pots for herbs or a single tomato plant. This is an example of how the community garden managers transformed a set of diverse expectations into a workable situation, accommodating the largest variety of needs.

We recommend that community gardeners first seek shared values—common ground among a diverse set of people with different expectations. We call this the community decision-making process.

Managing expectations up front is a lot easier than having to resolve disputes when each person already has a lot invested in the garden. If you wait too long, people's expectations can become hardened and entrenched; from that point there is a good chance feelings will get hurt and neighbors disappointed. So start early and be clear about the community decision-making process we have outlined in this guide.



Kids Can Grow, Strafford County, New Hampshire.

Building a thriving community garden really involves starting a community. Inherent in this process are many human relationship dynamics, different approaches to gardening, and varied expectations as to the outcomes of the garden. In most cases, community gardens that failed did so because of the breakdown of communication, unclear expectations, and the lack of respect for others. Rarely was failure based on mechanical problems, lack of money, or issues concerning soil, property, or irrigation.

When we start communities, we take a risk. But the right approaches up front can minimize the risks of community organizing and leave plenty of energy to focus on the risks that naturally come with gardening, such as pests and plant diseases, water problems, and Mother Nature.

Community Relations, Volunteers, Collaborations, Partnerships, and Contractors

We recommend you always inform your neighbors of major changes or events at the garden and major changes in the “look” of the garden, that you update your community and civic leaders, that you build good relationships with your local garden club and/or agricultural commission, and that you initially meet with your local police department to talk with them about hours of operation, theft, vandalism, and general security. These are all parts of a positive community relationship-building process.

Volunteers often provide the backbone of local community efforts, but sometimes the work load calls for going outside the group for help: hiring a part-time staff person, contracting with someone who will get paid for the work, or seeking a volunteer labor commitment from a local business, civic organization, or the neighborhood.

We don't prescribe how you should go about building these alliances, partnerships, collaborations, or synergies. But we do offer some helpful advice on how to forge external relationships that work.

Before you launch into a community decision-making process, it's helpful to write down what you need to accomplish, when the tasks need to be done, what expertise or skill is required, what is prompting you to build these external relationships, and why these tasks can't be accomplished by your community garden volunteer team.

This gives you a formal outline of the actions you need to take, why the work needs to be completed, and deadlines for completion. This is the time to employ a community decision-making process.

Some things to consider:

- Identifying common ground provides the glue that holds grassroots efforts together.
- Going outside the core volunteer group to get more volunteers involved can result in a resurgence of volunteer effort. But it requires groundwork to engage new individuals. In any case, it's always helpful to have a community-garden volunteer supervise, orient, monitor, support, and manage the new volunteers.



Hillsborough County, Master Gardener, Jean Stefanik.

- Appointing or electing a single “go-to person” to be in charge of outreach, community relations, and community communications will create a unified voice for the garden project. Everybody goes through this conduit when building community relationships, responding to a crisis, seeking funding, etc.
- Financial considerations such as hiring a part time staff person or a contractor require a bit more planning. Do you have the money? If you need a tractor to plow the field, does that person have liability insurance that covers the work? Who will contract and manage the person? What are the benefits of and drawbacks to hiring someone? Can you get the same job done by asking someone to volunteer his/her time and effort?
- Working with a local business that provides its employees as volunteers opens up great opportunities for community gardens to work with corporations. But it sometimes comes with the responsibility of tracking volunteer hours. Is this something valued and welcomed by the community gardeners? What are the short-term and long-term benefits to the community garden?
- Be careful if your community garden uses an organic approach. Third party volunteers, visitors, and contractors aren't always up-to-speed on organic principles. Sometimes a little up front education is required.
- Old-fashioned community relations are essential, especially if local neighbors put up with extra parking, foot traffic, noise, etc. Maintaining a strong relationship with immediate garden neighbors is vital and should be considered when and if you invite others to help with the garden.
- Building a partnership with a local school can be beneficial. Kids can have a hands-on experience with the community garden, can help pull weeds and water plants, and can create neat artwork for the garden. Is this something the community and the gardeners will value and welcome?
- An educational component is often part of collaborating with a school group. Intergenerational involvement is a positive aspect of this process as well. Do you have volunteers with the necessary experience to accomplish this? Will you require screening and background checks for all volunteers who will work with children or be in the garden when children are present? If so, how will you manage and fund that process? For more information about background checks, go to: nh.gov/safety/divisions/nhsp/ssb/crimrecords/faq.html.

WHAT TYPE OF COMMUNITY GARDEN

DO YOU WANT?

What should you grow?

What is best suited for the new garden?

Will you cultivate food, herbs, flowers, or a variety of things?

That will depend mainly on the community group's collective preferences and the size and aspect of the plot to be gardened, as well as on the community's longer-term goals.

Vegetables are most commonly grown, as they form the basis for food gardens. Growing food on a reasonable scale tends to be the mainstream community-gardening goal. When this is the way the group wishes to go, consider the following:

What vegetables can you grow, given the soils and size of the garden and the amount of daily sunshine? In the early phase of the project encourage gardeners to consider vegetables that are easy to grow such as carrots, beans, tomatoes, lettuce, and peas and plan the types and the amounts of seed to buy and plant. If growing vegetables that need vertical support and training, include these in planning.

To increase productivity over the growing season, consider succession planting (early vegetables harvested first, then replaced by another crop) and intercropping, the practice of growing two or more crops with complementary growth habits in the same space or closely inter-planted.

If the group wants to grow fruit, consider the type of fruit: ground cover (e.g., strawberries), shrubs/vines (e.g. blueberries, blackberries, raspberries, currants, grapes), or fruit trees.

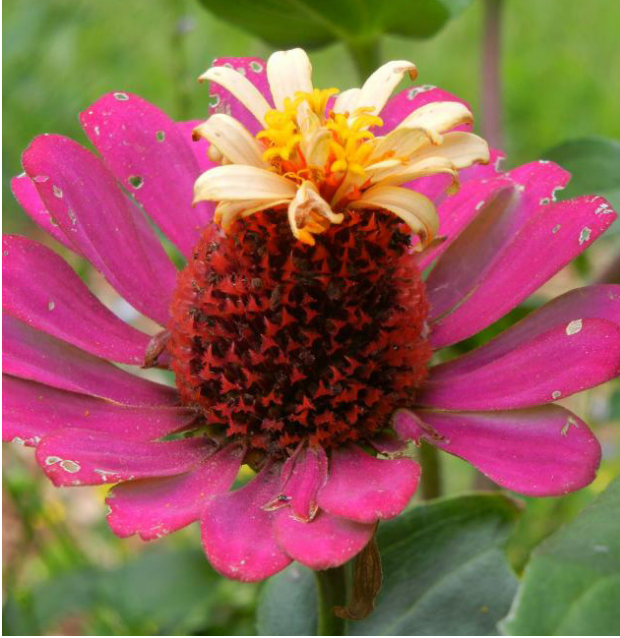


Image courtesy of Rockingham County Master Gardener, Lorrie O'Connor.

Since they won't bear fruit for several years after planting, fruit trees represent a long-term commitment. They require more space, more attention and more work (attention to pollination, fertilization, pruning, and pest control) than small fruits. If space is limited, consider dwarf fruit tree varieties. Another possibility is growing berries in containers in very small gardens.

Herbs may be desirable for culinary, educational, or healing purposes. They are often beautiful plants, and don't require a great deal of space. Many produce flowers that make good bee forage. Herbs can be annual or perennial, herbaceous or shrubby, and they will inspire a range of activities year round. They can be sold for fundraising, too, potted, fresh, or in dried plant arrangements.

Ornamentals, Perennials and Cutting Gardens

Consider native perennials if an ornamental or cutting garden is the group's goal. Natives tend to have greater wildlife value, be less subject to disease and easier to care for than exotic non-native species.

A lot of what applies to herb gardens also is true here, in terms of plant selection, care, and how plants can be harvested for fundraising. A degree of gardening experience is needed to develop successful ornamental gardens, but many localities have a garden club with experienced growers who may be willing to offer advice.

Specialty Gardens

Rain gardens, meditation gardens, memorial gardens, rock gardens, children's gardens and art gardens are all specialty gardens that tend to occupy small spaces or secluded spots in a larger park or garden. They are created to deliver a sense of place where people can connect, reflect, observe, learn, and admire their special features. The gardens can serve as outdoor classrooms and community learning centers.

Businesses and municipalities increasingly use rain gardens as a way to reduce surface runoff. Rain gardens capture water that would otherwise flow over paved areas and cause pollution and flooding in heavy downpours. They conserve water and enhance the environment. This makes rain gardens desirable wherever they can be included.

Plants that grow in rain gardens need to be adapted to a high degree of moisture and nutrient variation. Many rain garden designs are possible, but they must be located where they will capture water before it flows off into culverts or storm drains.

Community gardens are carefully designed, and their designs generally evolve over time as needs and goals change. Some gardens may contain several garden types. There is no reason, for instance, why a vegetable garden can't also serve as a meditation garden or a children's garden. Simply by adding colorful garden furniture or seasonal decorations, a garden can provide a multitude of pleasures."

INVASIVE PLANTS

INVASIVE PLANTS ARE SPECIES THAT AREN'T NATIVE TO A REGION AND HAVE CERTAIN CHARACTERISTICS THAT ALLOW THEM TO OUTCOMPETE AND SUPPRESS NATIVE PLANT SPECIES. THEY CAN DAMAGE WATER QUALITY, NEGATIVELY AFFECT ENDANGERED SPECIES, REDUCE SPECIES DIVERSITY, AND REDUCE WILDLIFE HABITAT.

BY NEW HAMPSHIRE STATE STATUTE, YOU MUST AVOID BRINGING THE FOLLOWING PLANTS INTO YOUR COMMUNITY GARDEN:

- **JAPANESE BARBERRY**
- **ORIENTAL BITTERSWEET**
- **COMMON BUCKTHORN**
- **BURNING BUSH**
- **JAPANESE HONEYSUCKLE**
- **MORROW'S HONEYSUCKLE**
- **SHOWY-BUSH HONEYSUCKLE**
- **GIANT HOGWEED**
- **JAPANESE KNOTWEED**
- **PURPLE LOOSESTRIFE**
- **NORWAY MAPLE**
- **AUTUMN OLIVE**
- **MULTIFLORA ROSE**

FOR MORE INFORMATION, SEE THE GUIDE TO INVASIVE UPLAND PLANT SPECIES IN NEW HAMPSHIRE. EXTENSION.UNH.EDU/FORESTRY/DOCS/INVASIVE.PDF

MANAGEMENT DECISIONS

Here again, we aren't prescribing specific how-to's, but rather offering concise overviews of the major areas of decision-making for community garden leaders.

Horticultural Management

How will you fertilize, irrigate, sow, manage pests, harvest, deal with garden debris at the end of the season, compost, and prepare the soil for another growing season?

If you build a garden that requires the use of a small tractor, perhaps borrowed from a local farmer, then you must allow sufficient access to the plots or rows. Do you want to employ an active composting and mulch-making system? How about using worms in a vermiculture composting system? You'll need indoor space for vermicomposting; outdoor worm composting isn't really feasible this far north. Will you need a secure garden shed to store your equipment, fertilizers, and extra seeds?

Irrigation is often a challenge for a community garden. Access to fresh sources of water is important, even in New Hampshire with our relatively abundant rainfall. Consider how you will bring water from the water sources to all parts of the garden and how you can design the garden so irrigation is easy and convenient for all gardeners.

Agree in advance on the techniques you will use to manage the garden plots. Perhaps your group will choose to use a strict organic approach, meaning gardeners use only certified organic seeds and seedlings (if available), and permit no synthetic? The group could also allow each gardener to manage his or her own plot however they wish (within legal limits, of course). Most community gardeners generally encourage good soil and environmental stewardship, which may include mulching, composting, green-manuring (cover cropping), crop rotation, and companion planting.

A Note about Pesticides

State law (Pes 101.21, a, b gencourt.state.nh.us/rules/state_agencies/pes100.html) regulates all agents used to control plant diseases, insect pests and other pests as pesticides, regardless of their status as "organic" or "synthetic."

The New Hampshire Department of Agriculture, Markets, and Food currently has the topic of pesticide use in community gardens under review. If your group wants to allow use of pesticides (including "organic") in the garden, please contact the State Division of Pesticide Control at 603-271-3550 for guidance.

Wildlife Pests, Domestic Pets

In addition to insect pests, deer, birds, rodents (especially woodchucks and voles), raccoons, and domestic cats and dogs may invade and damage New Hampshire gardens.



Kids Can Grow, Strafford County, New Hampshire.



Image courtesy of Marcy Stanton.

insects.about.com/od/insectpests/tp/top10beneficialinsects.htm.

Other Considerations

Many folks don't wish to grow their own produce, but nevertheless love spending time in a garden. Will you grow ornamentals? Will you have benches for people to sit and enjoy quiet solitude in the garden? Will you have a section dedicated to a memorial garden? Is there a local school or art studio that will help populate the garden with beautiful local art? Are water gardens and rock gardens included in your plan? How about bird or bat houses?

Do you know what protective devices will deter these potential garden predators? Will you use fences to keep some of these animals away? Will the fencing be adequate to prevent the intended pest animals from invading? Is it legal to erect permanent fencing on the site? Will existing stone walls become a safe haven for pesky rodents?

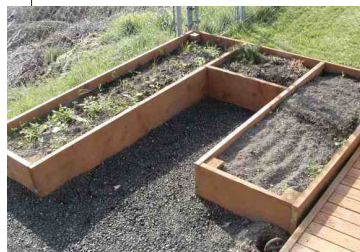
Attracting Beneficials

On the flip side, how will you set up your garden to attract bees and other natural pollinators? Many fruiting crops (including vegetables such as squash and many cucumbers) require insect pollination. And don't forget there are many insects, toads, birds and bats that provide useful functions. So, learn to recognize which critters are helpful and which are harmful before you do away with them. You can learn more about beneficial critters at:

Garden Layout

How will you divide up the available space? You have choices, and in some cases, you may have room for more than one planting format. The classic picture is of neatly and uniformly planted rows. This is an option if you have plenty of land and if your community-garden members wish to raise large amounts of produce. You may require up front and periodic mechanical tillage, so if you select this option you will need to plan ahead of time and ensure you have the resources.

You may also elect to use raised beds, which can be mounded soil or wood-sided boxes. Raised beds offer clean separation of planting spaces and may use less water. Additionally,



hard-sided raised beds make it relatively easy to assign spots, provide different sized plots, and allow for each member to effectively manage his or her own mini-garden. Raised beds are also easier for people who find it challenging to bend over or spend lots of time kneeling.

CHAPTER 3

ORGANIZING A COMMUNITY GARDEN IN NEW HAMPSHIRE

THE PREMISE

Begin at the beginning, as the old saying goes. Why do you and your neighbors wish to start a community gardening project? These are guiding elements to help you define your project.

It may seem a bit academic to draft Community Garden Mission and Vision Statements, but our research shows if community gardening leaders begin by drafting a concise statement of purpose, then it becomes easier to recruit others to join the project, raise funds, secure resources, and stay focused on the goals of the community garden.

Keep it simple. Ask and answer these two questions: Why are we doing this? How do we wish to positively affect our community?

By first crafting a mission and vision of the local community garden, you start with a simple structure that becomes the foundation for your project and allows for growth. You don't have to over-think this process, but you will be better served in the long run by taking some time to ponder and craft a mission for your project. Make it as broad or as narrow as you see fit. You will soon realize the limits and possibilities of your initial vision and mission, so you can easily adapt and change as necessary.



Starting seeds in a cold frame.



THE PROPERTY

Land (location, location, location)

Once you've formed a core group of individuals to lead the process of establishing a community garden, you might start by looking around your neighborhood for potential spaces—spaces that have good soil, good drainage, flat topography, access to water, and at least six hours of sun per day.

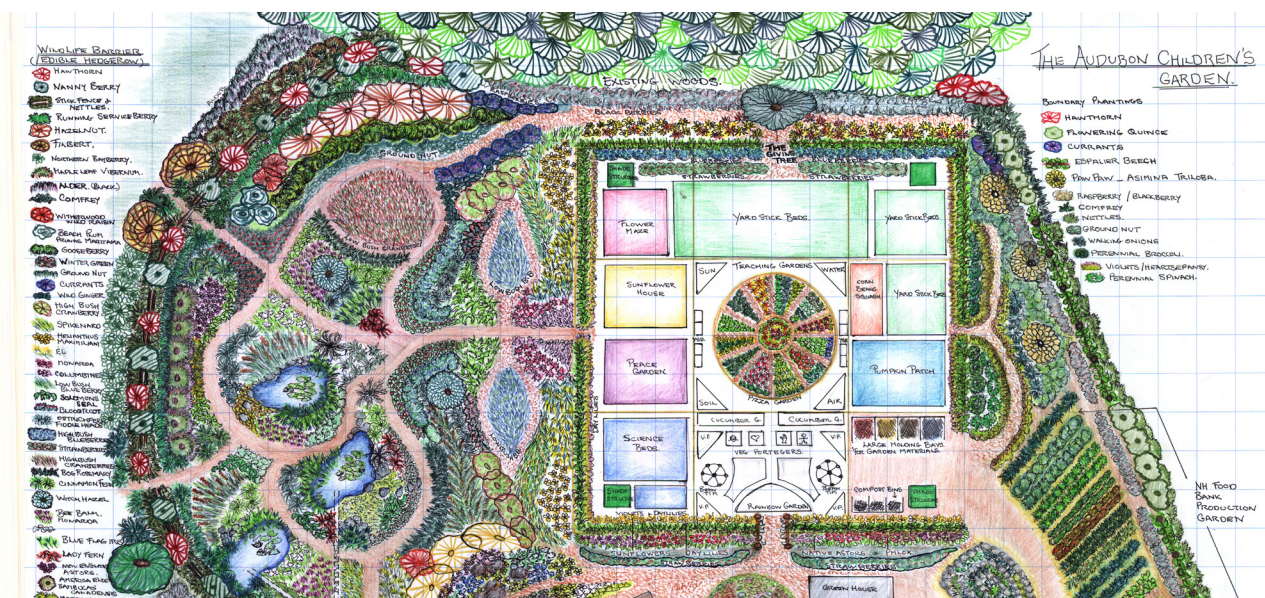
If you don't know a potential site well, you might want to begin by researching a site's history of use, since testing for residual toxins (other than the heavy metals included in a readily available soil test) isn't practical.

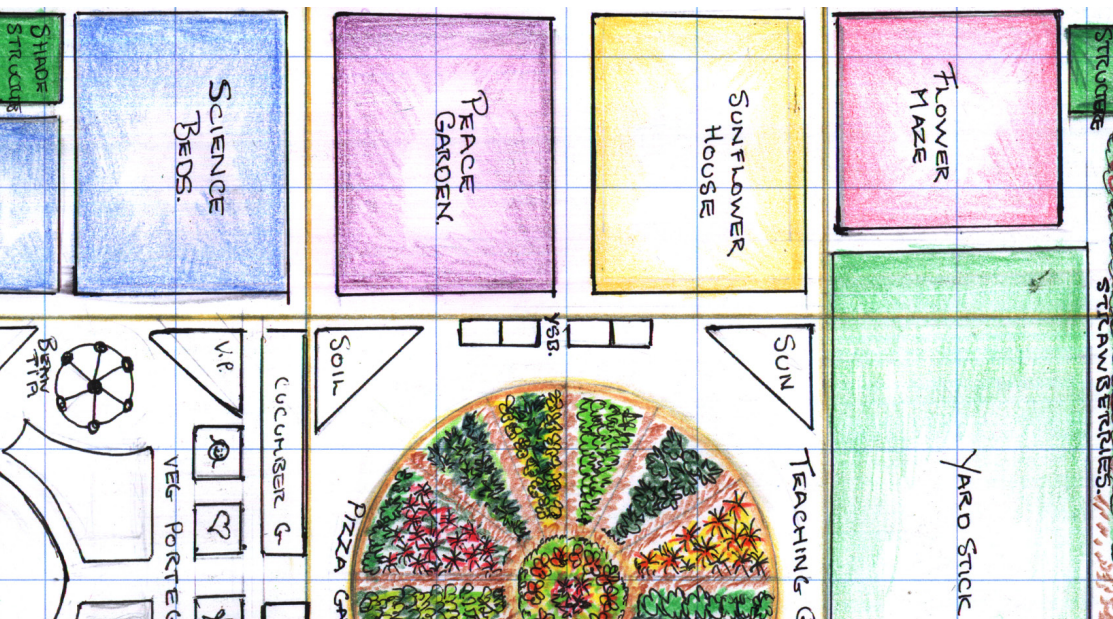
The land should have enough space for at least 10 plots of 50 to 100 square feet. This allows for future growth in the community garden's membership. The plot should also be free of building debris, contaminated soils, or other hazards. Ideally it should be free of underlying hardpans (although raised beds can solve that problem) and well-established perennial weeds.

Just as each soil is different, so too are the sun and shade variances on the property where your community garden is located. Trees, buildings, and mountains have much to do with the amount of sunshine and shade that occurs on your site. In addition, the solar arc changes with the season, providing you with fewer moments of sunshine as the season matures.

Knowing the arc of the sun as it moves across your garden each day throughout the growing season may influence your layout, plot assignments (who gets the shadier spots?), and whether and where your community garden uses cold frames or erects hoop houses to extend the growing season. No matter what your decision, understanding your site's patterns of light and shadow is important.

New Hampshire has three USDA hardiness zones: 3, 4, and 5. If you can easily identify your community garden location on the USDA map, then you are ahead of the game, although these maps aren't





perfect. Speaking to neighbors, local nursery staff, or town garden club members are good ways to get a better handle on the zone and microclimates within your site.

Calling your county UNH Cooperative Extension office is also a great idea. With temperature swings as great as 50 degrees at one location in a single day, hardiness is an important factor to understand before you head out and begin purchasing plants or seeds.

Perhaps most important, the garden should be near where people live. Ideally it should be within walking distance of most of the potential gardeners. At the very least, it should be within a short drive or close to a public-transit stop.

Think of all the places you drive by every day that are vacant and the perfect size for a community garden plot. Many landowners may be willing to lease a plot of land for people to use for gardening.

Once you've identified potential sites, start by identifying the owner of each property. If there are no obvious reasons why an owner wouldn't want to have a community garden, approach him/her and explain your desire to establish a garden. Emphasize the benefit to the entire community, the neighborhood, and the landowner.

One of the first things most landowners will want to know is what their liability will be, particularly if someone gets hurt in the garden. Assure him/her you will draw up a contract that clearly states the needs of both parties, including responsibility for the liability issues. Perhaps an attorney in the community would volunteer to help the group develop the contract.

If the owner—an individual, organization, town, or institution—agrees to lease or provide free access to the land, try to develop a written agreement that provides at least three years of guaranteed use of the land (much longer if you hope to establish fruit trees and other long-lived perennial plants). Community gardens take large amounts of resources to establish, you'll want to make sure you don't lose your investment in the location after a year or two.

Besides gaining permission to use the land for a community garden, you will need to check with the municipality's planning and zoning boards, and the conservation commission to determine if there are any restrictions or covenants on the land that would limit or prevent its use for cultivation. Although conservation easements commonly allow agricultural uses, many easements don't permit constructing a tool shed, a water system, or fencing around the garden.

NEED ASSISTANCE?

CALL YOUR COUNTY UNH COOPERATIVE EXTENSION OFFICE OR ITS TOLL FREE INFO LINE: 1-877-398-4769.



Risk Management

Starting a community garden involves some risk. People can and do get injured. Even in close-knit communities of trusted collaborators, incidents of harassment and even violence can arise.

It's important to minimize risk by drawing up a list of common-sense rules. Safety rules might include not leaving tools lying about after dark and forbidding use of all pesticides in the garden. Other rules might specify a dispute-resolution process, prohibit smoking in the garden area, and emphasize the need for respectful, law-abiding behavior.

Even though groups can actively reduce risks by implementing common-sense practices, accidents do happen and there is a possibility of being held financially liable. While federal and state statutes do help protect volunteers and community-based organizations from liability, such laws don't cover acts of gross negligence—the intentional and voluntary disregard for taking reasonable precautions against injury or accident.

Board members and landowners should protect themselves from financial liability in case someone does get injured by purchasing property liability insurance. The catch: insurance can be expensive.

It's generally more cost-effective to have the owner add a rider (a separate document that has special provisions not included in the main policy) to their insurance policy to cover liability on the garden property, particularly if the property owner is a municipality, organization, or business.

While some entities may offer to cover the rider, the community garden organization may need to pay the additional cost of the rider. Otherwise, the community garden organization will have to purchase a policy independent of the property owner's policy—a potentially expensive endeavor. Furthermore, purchasing an independent policy generally requires that the garden attain legal status, such as by forming a 501(c)(3), or become part of another legal entity.

In addition to landowner insurance riders that cover community-gardening activities, it's also common to have individual community gardeners sign a waiver as part of their terms of contract, which releases the landowner from liability for injuries or accidents that occur on the property.

State laws require anyone who digs to notify utility companies before starting. Digging can be dangerous and costly without knowing the locations of underground facilities. To learn more, visit Dig Safe: <http://www.digsafe.com/>.

Also, even though it will add to the cost, you should include heavy-metals testing in your first soil test. Soils on more urban sites may have high concentrations of lead, cadmium, mercury, or zinc—residues from demolished structures or past industrial activities.

Irrigation

All community gardens need access to a reliable water source. Rain is simply not sufficient to sustain most garden plants in



Circular Garden, Rockingham County, New Hampshire.

New Hampshire. Many landowners may be amenable to providing a water spigot to a garden, though the garden may have to pay the water bill.

If tapping into a public water line isn't an option, there are other options:

- Collect rainwater from nearby structures using a gutter system and rain barrels. You will need a roof with sufficient square footage to sustain your garden. A 20 ' x 25 ' roof (500 sq. ft.) can produce 3000 gallon of water over the season with 10 inches of total rainfall that season.
- Dig a shallow well that is below the water table from which water can be drawn. Note that the well may run dry in the heat of summer.
- Pump water from a nearby water source. Always check with your community's conservation commission and with the state's environmental agency prior to drawing water, as certain restrictions may apply to withdrawal.

In many cases we've studied, water sources are shared with businesses, town recreation areas, or private property owners. In such cases, be ready to share expenses as well, as water sourcing can be expensive. We urge you to enter into irrigation agreements using a written contract so you have a secure, healthy source of water. Most community gardens that share water sources spread the costs for the season evenly among the members, with an expectation that each member will pay careful attention to the amount of water used on the garden.

Outbuildings

Most gardens need a secure structure where garden tools can be stored, along with other materials and supplies. Without such a building, gardeners have to carry their tools and supplies to the garden. This can get tedious and ultimately lead to gardeners choosing an easier arrangement, such as gardening in their own yard or space around where they live.

Getting a garden shed doesn't have to be expensive, particularly if your fellow gardeners have building skills. A small shed can cost as little as \$250, if the gardeners contribute their labor. Or gardens may choose to purchase a ready-built shed, which can cost up to several thousand dollars. A cheaper alternative may be a garden lock box, a plastic mini-shed where tools can be held and locked up when gardeners aren't on site.



Tools Tent, Photo courtesy of Hillsborough County Master Gardener, Yvonne Beran.

Access

The number of people likely to participate in a community garden drops off by more than 50 percent if it isn't readily accessible on foot (i.e., if it isn't within a five-minute walk). For those coming by car, five minutes is about as far as most people are willing to drive out of their way to get to a community garden. Remember, a garden requires regular tending, and the more inconvenient it is, the less likely it is to be maintained.

Make sure individuals with limited mobility can enter the garden and move around. That may mean creating a wide, smooth path into the garden. Create places for people to sit and rest in the garden. Some gardens include a raised-bed garden accessible to those who are wheelchair-bound or have limited mobility. And if you have children involved in your garden, consider a garden scale they can interact with.

Fencing and Security

While urban community gardens often use fences to keep vandals out, community gardens in suburban and more rural areas often need a fence to keep critters out. Deer and woodchucks tend to be the biggest problem critters in New Hampshire.

To keep deer out, consider surrounding the garden with a fence at least eight feet high and slanted outward. If you use netting, make it visible so deer don't get caught. For more information, go to: extension.unh.edu/resources/files/Resource000006_Rep6.pdf.

Keeping woodchucks out can be a bit more challenging, since they can burrow a foot beneath or climb over the fence. Options are to run an electric fence around the garden, or dig your fence a foot or more into the ground, using wire mesh that they can't get through. For more information,

go to: extension.unh.edu/resources/files/Resource000562_Rep584.pdf.

If you built a fence to keep people out, remember if someone wants to get into your garden, he/she will find a way. Some research suggests the best strategy for preventing vandalism may be to make the garden accessible to the public, at least some of the time. After all, a community garden should be part of the community. Keeping the community out can often result in resentment and subsequent problems.

THE PLAN

Although this community garden resource isn't about the mechanics of the actual garden—that is, how to build a raised bed, create fertile soil, design an irrigation system, make compost, sow seeds, and control pests—drafting a plan that includes those elements is important. Make decisions about the mechanics of the garden and secure the human and financial resources to perform necessary tasks.

We recommend you start with a simple plan. You may approach the plan a number of different ways. You could assign different pieces to committees or do everything together as a group. You may complete the framework of the plan first and let the more nuanced elements take form as you move along, or you may decide to build a grand plan from the start.

In their book *Creating Community: 5 Keys to Building a Small Group Structure*, authors Andy Stanley and Bill Willits suggest committing your plan to writing so expectations are clear and understood by all. Willits and Stanley counsel local groups to keep it simple and visible. "Simple systems are easier to understand, easier to communicate, and easier to implement.

PLAN ELEMENTS

Whichever way you choose, we recommend you start by building a basic plan that includes the following five elements:

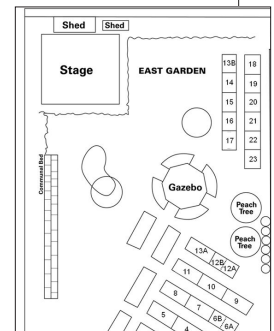
THE HORTICULTURAL APPROACH:
e.g. strictly organic throughout the entire garden, a "hybrid" approach, or simply allowing each gardener to choose his/her preferred horticultural practices.

THE GARDEN STRUCTURES:
raised beds, rows, planters, fences, storage shed, special areas (meditation area, bee forage, children's garden, etc.).

THE BUDGET:
initial costs, fund-raising, fees, cost-sharing, insurance, water costs, etc.

THE CALENDAR:
Soil preparation, planting, growing, harvesting, second-cropping, end-of-season clean up, over-wintering strategy, etc.

THE RULES:
When any group of people comes together in a joint venture, there is a need for basic rules.





Learning gardening skills.

Just as one would develop a plan for a business, a community garden organization should have a plan that maps out how it intends to get from where it is to where it wants to be in the future. A plan is essentially a roadmap that helps the organization establish a vision, develop goals and objectives, and map out actions and policies to help the community garden to achieve that vision.

The best plan is one that engages a broad base of stakeholders in developing it. In the case of a community garden, it's important to make an effort to engage the “community” in planning the garden. Plan components include:

- **Vision**—or the dream—describes what organizers and participants want the community garden, and the garden organization, to be like in the future.
- **Mission**—describes what the community garden would like to achieve, why that is important, and how it plans to do it.
- **Goals**—describe, in a general sense, what you would like to achieve, and objectives describe, in more detail, “what” will be accomplished by “when” and by “whom.”
- **Strategy**—refers to a general approach for reaching an objective.
- **Action**—describes how the strategy will be implemented and the specifics of who will do what, when.

PLAN COMPONENTS

VISION

MISSION

GOALS

STRATEGY

ACTION

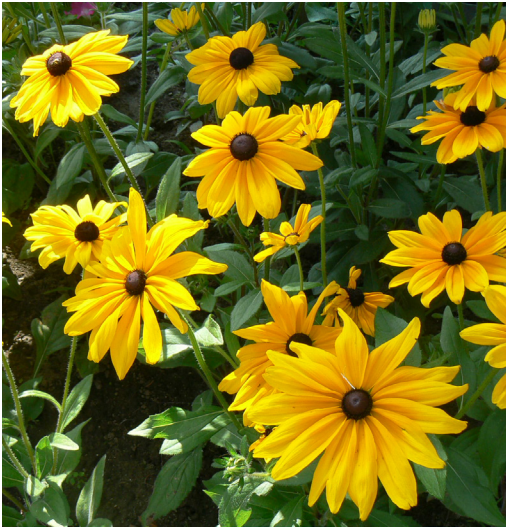


Image courtesy of Faye Cragin.

Questions to Ask

WHAT kind of garden should it be: vegetable, flower, tree, or a combination?

WHOM should the garden serve?

WHERE should the garden be located (and how will the land be secured for use?)

WHO should coordinate the garden?

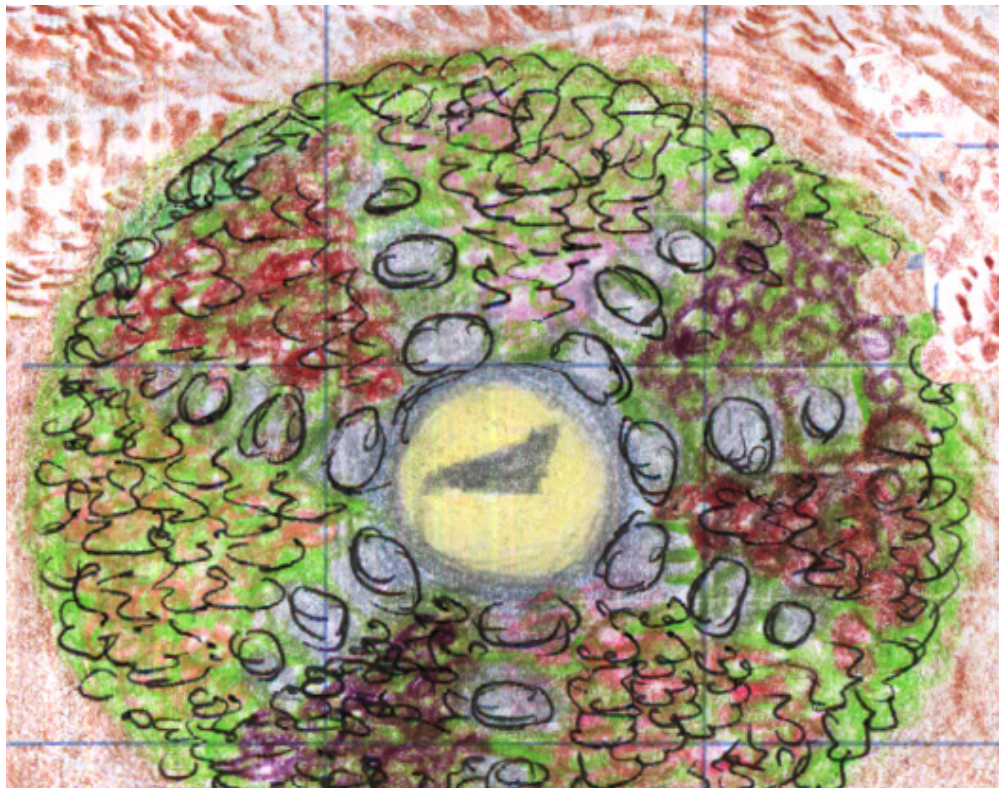
WHAT functions need to be fulfilled (fundraising, building infrastructure, managing membership, etc.) and how can these functions be best met (e.g., through sub-committee?)



To develop a plan, you'll need a group of committed individuals to form the planning committee. The first task of the planning committee is to determine if there is interest by the community in forming a community garden. If there is, the planning committee should seek input from diverse stakeholders: e.g., potential gardeners, garden abutters, local officials, community and organizational leaders.

The plan should also include the following appendices (note that some may not be completed until the garden is formally established and the organization receives legal status as a nonprofit or other entity):

- Draft of garden policies/rules (e.g. allowable or restricted techniques and materials, member expectations, etc.).
- Map/sketch of garden plots (aerial view).
- Timeline for implementing actions and policies.
- Budget. (At the very least, a spreadsheet showing expenses versus income.) Here is a social contract gardeners will be asked to sign to become a member/participant.
- Sample of a community garden budget: extension.missouri.edu/explorepdf/miscpubs/mp0906budget.pdf
- Legal documents (e.g., proof of liability insurance, board insurance, documents confirming use or ownership of the land on which the garden sits, any covenants or rules that apply to the land).





Above: Image courtesy of AnnMarie Rowlands French. Below: Image courtesy of Hillsborough County Master Gardener, Yvonne Beran.

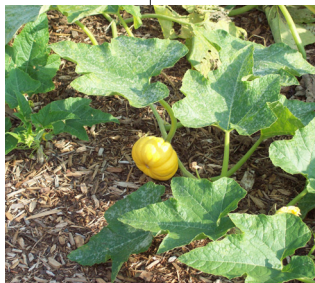
Community Decision Making

While a plan is critical in helping the community garden move forward, engaging the garden members and broader community in the process of creating that plan is equally important. Participation in the planning process not only helps ensure the vision for the garden is the community's vision and the community's needs are addressed, it also helps build accountability.

There is no better way to promote the community garden to the broader community than to engage the public in the planning process. By engaging community members, you motivate them to become vested in the creation of the garden itself. Participation by community members helps ensure that diverse perspectives are considered.

The community engagement process isn't only helpful for planning the garden, it can also help garden members address issues and concerns on an ongoing basis. For instance, garden members should engage in open discussion over garden policies, recurrent problems, and new opportunities as they arise.

An effective garden leader provides opportunities for open discussion among members and the broader community. The leadership may ultimately vote on garden decisions, but allowing public input makes the process more transparent and collaborative.



THE PEOPLE

Relationships and Human Interaction

Effective listening skills and an environment where all participants are encouraged to work as a team to find solutions together foster relationships important to the success of a community garden. The relationships among the people involved in the project are key to its success. Managing these relationships is complicated, and successful strategies vary among people, groups, organizations, and regions.

To actively engage community members, here are some tips for creating a collaborative plan:

- First, an organizing body for crafting the plan must form and commit itself to developing the plan in a collaborative fashion. This begins with establishing goals and objectives for the garden, followed by an inventory of local individuals and groups that might serve as partners in implementing the garden plan.
- Second, you'll need to engage community members in developing a vision for the garden. Such engagement may occur via focus groups, presentations to existing organizations, community meetings, or a public community garden visioning forum. Once the community engaged in the process of crafting the garden's vision, it will be much more likely to help implement that vision.
- Finally, the community-garden organizers and collaborators must decide to act to make the vision a reality.

Managing Interactions

Managing expectations is an ongoing responsibility of the people in leadership roles. What does the group want? What



Image courtesy of AnnMarie Rowlands French.

do individuals need? Leadership must be flexible, good-natured and willing to do what everyone else wants to for the good of the project.

For example, a group of three people wants to start a garden, with a goal of fostering strict organic-gardening practices.

However, the 10 additional people who sign up to garden in the plots provided feel neutral about the organic project and prefer to mix their gardening practices. Does the core reason for starting this garden change? Or can the leadership be flexible and look at the other things the garden can accomplish?

Roles, Responsibilities, and Written Contracts

While successful community gardens operate differently, they share some common characteristics, including social contracts that define clear leadership roles and the responsibilities of all involved.

Leadership's first responsibility is to define its own role, then communicate clear and attainable goals and responsibilities to those who will implement the things that need to be done.

Sounds simple, but it's very important for the leadership to be as clear as possible as to who needs to do what. Very often, the simple, everyday tasks that need to be completed aren't communicated to the people who would be willing, but just don't know what to do.

We all want to know what's expected of us. Written descriptions of responsibilities give volunteers the opportunity to keep checking to see if they are doing what's expected of them and to lay the foundation for the work expected.

Community Diversity

Just as maintaining a diversity of plants helps to strengthen a garden from the threat of disease and pests, maintaining a diversity of gardeners adds richness of experience to a community garden.

Diversity goes beyond cultural diversity, encompassing countless other dimensions, including age, gender, ethnicity, abilities and disabilities, socioeconomic strata, sexual orientation, religious beliefs, etc. While few gardens intentionally exclude certain people from participating, research suggests that maintaining a diversity of gardeners requires community-building and active recruitment.

Gardens that actively seek to engage diverse populations invariably benefit from the richness diverse individuals bring to the garden. For instance, gardeners may learn from other gardeners from a different cultural background how to grow and cook new vegetables. Younger gardeners may develop friendships with older gardeners who may become their mentors. And engaging people with different political, religious, and social beliefs can help build bridges between people with disparate views.

To actively engage a diversity of gardeners, here are some tips to consider:

- Assess whether the garden membership is reflective of the neighborhood with regard to race, culture, gender, age, belief, etc.
- Identify any under-represented groups within the community.
- Seek out the formal or informal leaders of under-represented populations and talk with them to determine if there are barriers to participation in the garden.
- Hold community meetings with various local groups and organizations to encourage them to reach out to their constituents who may want to participate in the garden.
- Allocate a certain number of plots for under-represented populations. To accommodate more gardeners, you may have to make the plots smaller, or restrict people from having two plots.
- Waive fees for potential gardeners who may not be able to afford the fees, or provide a work-for-payment option.
- Post flyers advertising available community garden space.



Kids Can Grow, Strafford County, New Hampshire.

- Make the garden accessible to neighborhood residents—i.e., make it a public space by encouraging visitors and opening the garden to events and celebrations.
- Set up a mentoring program so experienced gardeners can teach new gardeners about gardening or other aspects of community.

Garden Leadership and Volunteer Relations

The difference between a vital community garden and a weed-infested lot comes down to how well the garden leaders engage members in building and sustaining the garden.

A good leader inspires others to work together towards a collective vision. Naturally, most community gardeners envision their gardens with tidy plots, healthy soil, robust plants, and a peaceful place for people to gather and socialize.

For such a vision to come to fruition, there are countless tasks. They include fundraising, acquiring compost and other materials, training new gardeners, coordinating meetings and celebrations, weeding, tilling, collecting garden fees, maintaining common space, repairing infrastructure (gazebos, picnic tables, fences, etc.), and cleaning up after the garden season. You will most likely have to rely on the sweat equity of fellow gardeners.

To ensure that every gardener takes on a fair share of responsibilities within his/her ability, it's helpful

MANAGEMENT AND VOLUNTEER RELATIONS

Volunteers want to be part of a good working team. People want to volunteer, and they want to arrive at their position with an idea of what they should do, how long they are expected to work, what the work involves etc. Good organizational skills are essential. Volunteers don't want to waste their time.

Volunteers should feel valued. Valuing people's strengths and shortcomings (whether those may be physical, emotional or cognitive) is vital. Seeing and hearing what people need is probably the number one component in successful volunteer management. Honor the person, not the program or the mission. Too many volunteer leaders get caught up in the mission or the goal. They lose sight of the reason behind most successful grass-roots efforts: the people doing the work. If the people doing the work aren't happy or well supported, your community garden will fail.

Volunteer management is about people. Managing their differences and weaknesses means the success or failure of your program. If you are seen as a leader who values the more vulnerable people in your program, that carries down to the rest of your volunteer staff, and ultimately, your workforce will be more productive. People volunteer because they want to make a difference. Volunteers need to see value in what they are doing. Marketing to your volunteers is just as essential as to the general public. They need to know the mission, and why they are volunteering.

Successful volunteer placement is crucial. What job does your volunteer want to do? Instead of tailoring the volunteer for the job, tailor the job for the volunteer. Ask volunteers about their strengths and what they like to do. These are people giving their time, so they should be able to do what they enjoy, not dread the tasks they are given. If someone isn't doing well in their position, take the time to find out why, talk with them, and ask questions. You'll usually find they either don't like the task or haven't been trained and feel insecure about how they are handling it.

Flexibility is key when working with volunteers. Strict rules can be silly, but practical guidelines and common goals are important. Most people who volunteer are smart, capable, intelligent people who know how to do many things. Imposing unfair rules and regulations on volunteers only creates resentment, undermines your program, and will cause your volunteers to either lose interest or quit. Learn to laugh at the little things, and foster a sense of fun and good will.

Good business administrative practices help keep volunteers. Volunteers appreciate organized descriptions and guidance about what is expected of them. Little things such as reimbursements to volunteers who pay for something that is a group expense should be handled quickly and professionally. Return phone calls, emails, and letters. Listen carefully to people who have concerns. Motivating volunteers is as simple as acknowledging what they are doing well, putting them in positions where they can succeed and feel good about what they are doing, and thanking them.

to spell out the expectations in a garden contract each gardener signs to become a member. The garden contract outlines the garden rules, what each gardener is expected to contribute, and what the consequences are if the expectations or rules aren't followed. How detailed and formal the contract should be depends on the comfort level of the community garden leaders and members.

THE POTENTIAL

To achieve your garden's full potential, you will need some organizational structure. Helpful structural components include:



- An overall timeline (How will the project team know when and where to start? What are your overarching goals? How will everybody know what is expected?)
- A work plan (Who will do what? What are the assignments? What external resources will you be using? How certain are you that you can count on donated elements? Do you have a back-up plan?)
- A monitoring schedule (When do you modify the project? How is the project progressing against your timeline, your available resources, and your budget?)
- Resources list (What supplies do you need? What type of soil amendments and fertilizer will you require? Do you have enough shovels, seeds, rakes, hoes, etc.? Do you need heavy equipment like a tractor or grader? Are you fencing your site? Do you plan on having a sign erected?)
- A master contact list (roster with cell phone, home phone, and email addresses)
- A list of municipal regulations you have to follow (e.g., sign requirements, parking ordinances)
- A list of helpful community resources such as the farmer down the street who will come with his tractor to help till the land.

Image courtesy of Hillsborough County Master Gardener, Yvonne Beran.

Children's Gardens

If your community garden considers itself a family-oriented location, you may wish to consider the role children play in the life of the garden. Some gardens set aside a raised bed for the local elementary school as a learning tool, while other gardens use a spiral garden (a circular, spiraling garden that is often bordered by rocks) to attract kids, bringing them inside the center of the garden to smell, touch, and get their hands in the soil. Either way, it's wise to thoughtfully consider the role of children in our community gardens. Some community gardens link experienced elders with the children's program to foster strong intergenerational bonds.

Fostering Intergenerational Relationships

Appreciating nature and gardens tends to be a lifelong experience. With age comes greater experience and deeper knowledge, and this can be a valuable asset when shared with young gardeners. In turn, the senior gardener benefits from the social interaction.



Massebesic Community Garden.

The National Gardening Association (NGA) describes factors involved in intergenerational gardening, with tips to make things happen. The NGA provides statistics that show most gardeners in the United States are 45 years or older. Further resources can be found at nationalgardenmonth.org/index.php?page=200903 storyline and assoc.garden.org/press/press.php?q=show&id=3107&pr=pr_ngm.

An interesting example of intergenerational gardening is located in Lexington, VA, known as "Roots and Shoots." This elementary school garden brings children together with adult educators and community volunteers to garden and learn together. The project has been a very successful and creative educational program, providing important and lasting links between the young and old, and between school and community see: rootsnshoots.info/.

SOIL TESTING

GOOD SOIL is the first requirement for growing healthy plants. Learning as much as possible about the condition of your soil before you begin planting is an essential first step towards creating optimal conditions for your crops

DOWNLOAD THE SOIL-SAMPLE PAPERWORK extension.unh.edu/Agric/AGPDTS/SoilTest.htm and have your soil tested long before you begin assigning gardeners to their individual plots.

You might even consider testing the soil before you enter into an agreement with the landowner of your proposed site. If your site combines more than one distinct soil type or type of vegetation (e.g., one part was hayland, another section simply overgrown weeds), take a separate soil sample for each area.

WITHIN A FEW DAYS, you'll receive a set of recommendations based on your test results for fertilizing and amending the soil(s) on your garden site. The UNH Cooperative Extension fact sheet *Understanding Your Soil Test Results*: extension.unh.edu/resources/representation/Resource000496_Rep518.pdf will help you understand the recommendations.

If you have the opportunity, testing the soil in the fall will give you a head start on adding needed amendments in preparation for spring planting. We recommend testing the soil every two or three years.



THE PRACTICES

Irrigation

Water is a necessary resource for your garden. But beyond simply having a secure, safe, and reliable source of water, you may want to consider other factors that influence how much water you will use and when you will use it. These other factors include soil type (clay soils tend to hold onto water, whereas sandy soils are good sponges but will not keep water levels for very long), the location of your garden (on the side of a hill, in a valley, next to wetlands, in between buildings, next to a grove of trees), the types of plants you will be placing in your garden (some require more water than others), and your location's micro-climate (wind, rain, sun, shade). You may find some interesting weather patterns for your community garden that are bound to help you better approach your irrigation practices.

Most gardens use either overhead irrigation (watering cans, garden hose, fan nozzle or sprinklers), or drip/trickle irrigation (soaker hoses, drip emitters, spray stakes). For relative advantages and efficiency of these methods, see: pubs.ext.vt.edu/426/426-322/426-322.html, and: umaine.edu/publications/2160e/.

Seeds

Plants can be started from seeds, grown from corms or bulbs, or divided from other plants as cuttings. Most vegetable gardens use seeds or transplants. Saving seeds from open-pollinated ("standard") plants in the fall will work for some self-fertile crops (e.g., lettuce, cilantro, parsley [a biennial]) but many will cross-pollinate with nearby plants in the same genus (e.g., brassicas, corn, cucumbers, squash), so saving seed wouldn't be practical in most community gardens.

Some community gardens expect gardeners to provide their own seeds or seedlings. Others develop a master list of the crops and varieties each gardener wishes to grow during the next season; and then purchases bulk orders to save money. You can make bulk orders through seed companies like Fedco at: fedcoseeds.com/ogs/search.php.

With proper care, most leftover seeds will remain viable for planting the following year. Gardeners could set up a seed swap during a late-winter community gathering.

We also suggest that at the end of each season gardeners share their successes and failures with each type of crop and variety to foster communal learning about your community garden.

Raised Beds

If you are going with the raised-beds concept, you need to decide the size(s) of your beds and the type of joinery, which impacts the cost. Additionally, consider the elevation of the beds. Will they be accessible by those with physical challenges, who perhaps can't bend to the ground?

What type of material will you use? Pressure-treated wood can withstand the elements much better than untreated pine, for example, but has chemicals infused into the wood. High quality cedar will last many seasons but the up-front cost is expensive and may be cost-prohibitive. There are a number of other options. For example, some gardeners use logs cut from their property. We use rough, green native hemlock—cheap.

Tillage

Do you plan on tilling your garden? We bring up this topic because there are several schools of thought around the value and wisdom of tilling—all with merit. At least initially, when you first break ground, you may have to till the soil.

Laying down strips of heavy-duty recycled plastic secured with rocks (or another smothering mulch) for a season may also do the trick.

Thereafter, the decision is yours. Some believe tilling every year greatly disturbs the natural tilth and biological health of the soil, while others regularly till each spring to bury their late fall and winter cover crops—the so-called green manures. Either way, you must make a decision, so if you decide to till, you can find a service provider and plan an access route for the tractor or tilling machine.

Walkways, Weed Control, and Path Coverings

Unwanted plants—what we call weeds—grow along pathways despite our best efforts to crowd them out. Decisions about the size of pathways are important, since every square foot of path is a square foot you can't use for planting your main crops.

Will you allow wagons, carts, wheelbarrows, and machinery into the gardens? Do you have room? Will you use pea gravel, ground cloth, pine needles, or straw to cover your paths? Or, will you simply let the normal person-traffic and careful weed-plucking take care of the walkways?

Communal Shrubs and Small Trees

In New Hampshire, brambles (e.g., raspberries, blackberries), blueberries, strawberries, and small fruit trees, including dwarf varieties, grow nicely. But they often don't stay small or isolated. The strawberry plant will wander around the garden and send out runners wherever it can, causing some to think of it as invasive.

Brambles tend to spread into thickets, and their pronged thorns and prickly stems may not be suitable for young children. Ribes—gooseberries and currants—are heavily restricted in New Hampshire to prevent the spread of white pine blister rust. Although they grow well in our climate and soil, and make for a perfect community garden plant—you must first seek approval from the N.H. Department of Resources and Economic Development and purchase only approved varieties. And fruit trees planted and not properly pruned will soon shade other parts of the garden and may invite wildlife pests.

Crop Rotation

Gardeners should consider crop rotation within individual plots, to prevent a buildup of insect pests and disease organisms and to replenish nutrients and organic matter. Keeping maps from year to year allows you to show next year's gardener what was planted in that bed. Some community gardens use a circular routine where each year they move around a circle to the next bed, in a carefully planned and executed pattern.

Wildlife

There are many reasons why you should discuss the topic of wildlife. In New Hampshire, we cherish our diverse population of wild critters, yet the excitement of seeing a white tail deer may be tempered by the reality that she's eating your vegetable seedlings.

Consider carefully your garden's position on wildlife travel corridors, especially of deer and bear. Will you post a bird feeder to attract birds (and risk attracting bears?) Do you plan on hosting frogs with little frog sanctuaries? How will you handle woodchucks, moles, voles, and other rodents? Are there ample bees and other helpful pollinating insects in the area?

Sometimes wildlife can pose problems, and these can sometimes be dealt with successfully by using fences and other physical barriers, or making shiny mobiles out of tin cans, aluminum pie plates, or Mylar strips. Children can make these as part of their fun projects, as well as making scarecrows, which are great to stuff and decorate. Sometimes using smelly, but non-toxic substances can be an option, though these may be tougher on a tight budget. As a general rule, milder and gentler

methods, from an environmental impact point of view, may be a good initial option.

Signage and Communication Posts

Frequent communication is important for community gardeners. A couple of best practices include posting a weekly update by the garden manager on a communication board, providing a log-in list that each member signs, dates, times, and makes comments on. This is a helpful tool in terms of the knowledge-sharing it provides. Comments such as pending weather patterns, the appearance of a plant fungus or insect pest, extra crops to share, or alerting other members about the sighting of a pesky woodchuck are important things to share.

It's also helpful to note when a member is ill (so folks can rally around his/her garden and water, pull weeds, harvest crops, and feed the soil), when someone is on vacation, or when someone misplaced a garden tool.

Storage Sheds and Potting Benches

Not every community garden is fortunate enough to have an on-site storage shed and/or potting bench. Many gardens have a policy of bringing and using your own equipment, hauling on and off your bags of soil amendments, and removing your weeds from the garden. Other gardens have shared space where tools are stored, where community weed piles and compost bins are located, and where potting and transplanting takes place. If your garden doesn't have such amenities, you can work toward building them in the future years, but plan for space now, as once folks get used to using every square inch of productive soil, it's a challenge to revert that space back to community-use land.

Communicate Your Planting Plans

If you want to grow bell peppers, tomatoes, and basil in your raised bed and each gardener surrounding you is growing corn, which may block all the sunlight from your patch, your crops may be in the wrong place.

If you are brand new to this raised bed and last year's gardener grew the same crops you wish to grow this year, you may want to swap plots with

someone else so you stay one step ahead of the pests.

Yet another consideration is the planting of perennials and groundcovers. They grow every year and make for a fine garden show, so please consider carefully where you plant these, how far they will spread (and possibly invade), and how tall they will grow. Some perennials will grow so tall they begin to shade areas that were normally sunny, and most bushy perennials need some annual maintenance. We recommend you establish a best practice of communicating your plans before the growing season.

Know Your Fertilizers and Amendments

What you'll need to add to your soil to improve its fertility, pH, structure, drainage, and water-retention capacity will depend on the soil you have to work with and recommendations that come from the soil test results.

Once your community gardeners agree on an approach to soil-building, you can begin to craft a strategy for sourcing and distributing the necessary materials. Beyond the obvious benefits of purchasing fertilizers and amendments in bulk, you can



Disease Prevention

Disease prevention and pest management are better than cure (or outright war), and prudent upfront planning and continuous garden monitoring can prevent a lot of pest problems.

Some of the management methods to consider are as follows:

- Plant disease-resistant varieties.
- Plant varieties that mature before major pests of that crop typically appear.
- Time plantings to avoid emergence of key pests (e.g., cabbage root maggots).
- Keep weeds under control.
- Maintain soil pH and fertility at optimum levels to encourage strong, vigorous growth.
- Consider using vertical supports for climbing crops to protect them from fungal diseases and attacks by ground-dwelling pests such as slugs.
- When appropriate, use barriers to prevent insect attack (e.g., cut-worm collars, polyester row covers).
- Plant native species (ornamental shrubs and trees).
- Encourage biodiversity of plants.
- Use plant combinations that help protect one another from pest attack.
- Use succession planting and intercropping.
- Administer well planned watering and weeding, pruning and mulching activities.
- Monitor crop health by observation, and remove any diseased looking plants or plant parts at the first sign of trouble.

work together to build a good level of soil vitality and ensure that members don't over-fertilize by providing them with specific calculation to use when deciding on how much fertilizer or amendment to use for their individual plots.

You may also wish to consider the role of worms (vermiculture), the role of mulch (to reduce water use, keep down weeds, and extend your growing season), and the role of compost (increasing organic matter in your soil and enhancing tilth). There is much information on this in the resources section at the end of this guide, as well as online at our UNH Cooperative Extension website.

Encouraging gardeners to maintain garden journals that document the history of soil-amending practices and maps of crops planted during each growing season will guide soil-improvement strategies and crop rotation from one year to the next.

Healthy plants grown in healthy soils resist pests and diseases. But sometimes disease and insect pests strike despite doing everything right. When this happens, take samples and/or photos of the problem area, and get help as soon as possible. Knowing what the problem is allows for prompt treatment and eradication.

Information on these pests and options for controlling them are found on the UNH Cooperative Extension Home and Community Food Gardening Web pages extension.unh.edu/HCFG/Home_Com_Garden.htm. We recommend that you have a pre-agreed upon approach to common pest and disease control strategies for your community garden.

Compost and Organic Matter

These are easily and sustainably produced natural materials, produced in gardens via natural cycles and which, when added back, continue the processes of growing, harvesting and lying fallow in winter periods.

Composting is a wonderful way to maintain a healthy garden at very little cost and with minimal effort. This best-practice area is important no matter the gardening approach you employ. Locally produced "finished" compost not only provides the soil with microbes that deliver nutrients to plants when they die, but also helps build a soil's water-holding capacity.

In addition to providing benefit to the soil, the act of composting makes for easier garden clean up since you don't have to haul all the leftovers to the dump. Rather, simply load it in a wheelbarrow and roll it to a close-by compost bin, heap, or tumbler to continue its decomposition.

Composting works well on both ends of the garden cycle: on the front end, you remove old and dying plant matter that could cause disease in the garden; and on the back end, you have a free source of micronutrients and organic matter to add back into the soil. To read more about the benefits and techniques of composting, see the UNH Cooperative Extension web page: extension.unh.edu/HCFG/compost.htm.

For information on setting up a vermiculture system, we recommend you look at: extension.unh.edu/resources/representation/Resource001362_Rep1820.pdf.

THE POLICIES

Organizational Structure and Governance

There are many ways to form a community garden organization. Some organizations are bound by the land trust that owns the land or funders who support the garden, with a formal board of directors with a chair, vice-chair, treasurer and secretary. This structure is particularly important if the garden has nonprofit status.

Other gardens choose to have a somewhat less formal structure with a garden coordinator (or co-coordinators) to oversee the garden's operations. They may have subcommittees to coordinate specific activities, such as clean-up, mentoring new gardeners, managing funds, reviewing garden applications, etc. Still other gardens choose to have little, if any, formal leadership. Such gardens may make all decisions based on consensus and do the work collaboratively.

There's no one organizational structure that works for all gardens. Choosing the structure—and how tight or loose it is—should be a group decision that factors in the size of the garden, the number

of members, the requirements of funders, and the members' preferred style for making decisions.

A true community garden engages its membership in decision-making. Most community garden organizations hold periodic meetings throughout the year, whereby the members make key decisions. Some meetings use a consensus model, whereby the membership comes to shared agreements on decisions such as what rules to enforce. Of course, there is a fair amount of compromise when using a consensus model, and consensus is not always easy to reach. A good community garden leader can help to move the decision-making along.

Other community garden organizations simply ask for a vote by show of hands or by petition when key decisions come up. However your community garden engages members in decision-making, there will be many points in the community garden's lifespan when the potential for disagreements arises. Disagreements should be addressed in a fair and equitable way that allows people to share their views. Shared decisions are never easy, but they are more likely to get gardeners vested in the outcomes.



TYPICAL DECISION POINTS FOR COMMUNITY GARDENS:

ESTABLISHING COMMUNITY GARDEN rules.

ELECTING LEADERS.

DECIDING ON SOIL-AMENDING, fertilization, and pest-control practices.

DISTRIBUTING PLOTS.

ACCEPTING NEW MEMBERS.

COORDINATING EVENTS AND celebrations.

Contracts and Agreements

There are several key contracts or agreements community gardens may need to have in place before breaking ground. The first is an agreement with the landowner, whether it be a private property owner, municipality, church or organization, granting permission to use the land. The agreement should spell out any expectations by the landowner as to how the land can be used, what activities are acceptable, and other terms and conditions. Such an agreement not only helps protect landowners from unwanted activities on their property, it can also protect gardeners by letting them know up front what the owner's conditions of use are. The agreement ultimately helps prevent conflicts or potential accidents from happening due to inappropriate use of the land. You can find an example of a landowner agreement on the University of Missouri Extension's community garden toolkit site at: extension.missouri.edu/publications/DisplayPub.aspx?P=MP906-6.

Another agreement that needs to be in place is a memorandum

of understanding outlining the garden rules and expectations of each gardener. Rules might include keeping plots weed-free, restrictions on planting certain species (e.g. invasive plants), and restrictions on the use of pesticides or synthetic fertilizers. The rules need to be concise, clear, and agreed upon by the garden organization as a whole.

Expectations of gardeners might include mandatory participation in the yearly garden preparation and cleanup, helping to install garden infrastructure, and mentoring new gardeners. A sample agreement can be found on the Community Action Coalition for South-Central Wisconsin's website. [http://www.cacscw.org/downloads/Handbook for starting a garden 2008.pdf](http://www.cacscw.org/downloads/Handbook%20for%20starting%20a%20garden%202008.pdf). Finally, if your garden organization forms a nonprofit organization (or even if it doesn't), we recommend drafting a set of bylaws that will govern the internal affairs of the organization. The American Community Garden Association has samples of bylaws on their website: communitygarden.org/learn/starting-a-community-garden.php#new.

Workflow and Assignments

Smooth operation of a community garden requires a lot of different kinds of work, much of which is time-sensitive (e.g., raised beds must be constructed and the ground prepared and fertilized before planting can begin; scouting for signs of insect-pest infestations or disease outbreaks and notification of other gardeners).

We recommend strong, yet consensus-based leadership. The garden leaders, whether formal or informal, set the tone for the garden and ensure that what needs to happen does. They also need to be able to engage the gardeners in the decision-making process and delegate responsibility.

Also important are the workers in any community garden. The workers who may not want to take on a leadership role, may be happy to get tasks done such as building a raised bed, helping with garden cleanup, and raising funds.

Good communication between and among the garden leaders and the workers is essential. Without coordination, signals may get crossed, conflicts may arise, and the garden may not run smoothly. It's appropriate for the garden leaders to meet with the garden members periodically (particularly at the beginning and the end of the season) to engage members in decision-making and assignment of tasks to ensure that the garden runs smoothly.

Handling Violations

A community garden only functions when all the parts move in unison. If your garden has persistent rule-breakers—those who often violate the basic rules established for your garden—you need to enforce the rules, or the rule-breakers will continue their unacceptable behaviors.

Before enforcing the rule, however, it's a good idea to confront the rule-breakers to find out if some factor outside their control led them to break the rule such as being sick, changing shifts at work, having a family emergency, in which case you may need to make accommodations.

In terms of enforcing rules for clear violations, many garden organizations opt to give the individual an oral warning for the first violation. If he or she breaks the rule again, a written warning effectively puts the individual on notice.

If the individual continues to violate the rule—for instance, not participating in at least one of the mandatory garden cleanup sessions year after year—the garden leaders should enforce the policy, whether it is suspending the gardener's access to a plot for the remainder of the current growing season or suspending the gardener permanently.

The gardeners should set the policies by consensus or majority vote and enforce them consistently.



Funding Resources

A few small grant programs provide startup funding to community gardens. Below are a few funding sources that New Hampshire community garden groups have tapped:

NEW ENGLAND GRASSROOTS ENVIRONMENT FUND grassrootsfund.org/

PROJECT ORANGE THUMB COMMUNITY GARDEN GRANTS PROGRAM

2.fiskars.com/Activities/Project-Orange-Thumb/ Grant-and-Garden-Makeover-Application

GARDENBURGER™ COMMUNITY GARDEN GRANTS FOR 501(C)(3) NON PROFITS

gardenburger.com/Grants.aspx

SCHOOL/YOUTH GARDEN GRANTS kidsgardening.com/grants.asp

Finally, remember that municipalities often contribute startup funds, access to water, or even land to community gardens.

Ongoing Communications

A garden is much more than a group of individuals working their plots. It's a place where people come together to celebrate, network, and build friendships. Sending regular emails, posting flyers of garden events, and encouraging communication via word-of-mouth are all critical to keeping the "community" in the garden.

Make sure to update members regularly about issues facing the garden (such as maintenance needs or a pest problem), as well as invite their participation in community garden activities and functions such as neighborhood gatherings.

THE PAYMENT

One of the most significant hurdles for community garden organizations is securing financial (or the equivalent in-kind) resources to develop and maintain their gardens. In-kind resources include volunteer labor, legal support for filing nonprofit status and establishing by laws, and technical assistance with gardening.

Aside from these factors, every garden needs a few constants that require physical resources: access to land, water, and funding for the garden's infrastructure. While existing gardens can often sustain themselves through membership fees, which range from \$15 - \$75 per year for a typical plot, new gardens may need to secure resources to establish the garden and develop the infrastructure, (e.g., fencing, raised beds, irrigation equipment, compost, pathways, etc.).



Above: Low Tunnels-image courtesy of Rockingham County Master Gardener, Lorrie O'Connor.

Funding for community gardens can come from a variety of different sources. Many of the state's gardens have started with very little funding and have relied upon volunteers doing the work needed. The main thing that will probably require money is liability insurance. All of the other components such as rototilling, water, a plot of land, etc., can probably be found through asking around the community. For more information about potential funding sources, go to: extension.unh.edu/HCFG/Start Garden.htm.

Your local hardware store or other local businesses is a good place to start looking for contributions. Many may be willing to donate tools, building materials, seeds, or other supplies. Also consider asking local organizations such as youth clubs, churches, garden clubs, and fraternal organizations to contribute to the cause. But remember there has to be something in it for these local sponsors such as recognition, marketing opportunities, or activities that involve them or their employees.

THE PRODUCE

Assuming things are growing well, the question arises of what to do with all the food the garden produces. Typically the produce goes to the people who have worked to grow it. In a situation with individual growing areas, this doesn't present a problem. If the growing space is collective, however, then allocation could be based on hours of effort: the more you work, the more you eat. Many community gardens end their growing year with a harvest supper.

What if everyone has enough food for their own needs, yet the garden yields a surplus? Certainly nothing should be wasted. Gardening requires too much dedication and effort for the results not to be used.

Many gardens intentionally grow extra food to give away. The Giving Gardens Network, givinggardensnetwork.org/, is a network of home gardeners, farmers and organizations working to encourage and support the donation of fresh, locally grown food, to New Hampshire food pantries and shelters.

With nearly 100,000 people in New Hampshire living below the poverty line, 10 percent of the population enrolled in the Supplemental Nutrition Assistance Program (SNAP, formerly the Food Stamp Program), this surplus harvest can provide an important nutrition boost to the meals served in soup kitchens and the bags distributed by food pantries. Emergency food distribution sites can accept surplus produce from home and community gardens and farms.

Storage space and refrigeration pose problems for some pantries; make arrangements in advance of delivery with the emergency food providers you'd like to receive your garden surplus.

New Hampshire Farm to School, a collaboration between the UNH Office of Sustainability, Share Our Strength, and the New Hampshire Coalition for Sustaining Agriculture, works with farmers, distributors, teachers, food service professionals and administrators to adopt farm to school practices, in turn supporting both local economies and agriculture in the state. As of 2010, over 300 schools were participating in the program.

The New Hampshire Food Bank receives food from Feeding America, grocery stores, wholesalers, farmers and individuals. Each year, close to 5 million pounds of donated and surplus food is distributed to nearly 350 pantries, soup kitchens, shelters, day care centers, senior citizen homes, and substance abuse treatment centers across the state. The New Hampshire Food Bank now operates a community garden.

THE PERPETUATION

We strongly recommend each community garden have a policy for “gleaning and cleaning” the entire plot at the end of the growing season. The following ideas have been shared as best end-of-season practices:

- Remove all edible produce and herbs (to share, donate, or sell). This is the art of gleaning. Fall vegetables that are in good shape and show no signs of rot can be given to local food pantries or neighbors. Clipping big twigs of herbs at the end of the season allows you to tie them, turn them upside down, and take them inside to dry. Use them for teas, dried herb mixes, and potpourri.
- Harvest leftover pods or seedheads that contain dried seeds. This is a good way to save seeds for use in the coming year. Seeds you can save reliably include peas, beans, lettuce, parsley (a biennial), cilantro, radish, and sunflowers.
- Remove plant matter and inedible produce with no signs of disease and add it to the compost pile. Don't compost diseased plant material; either bury it or bag and discard with the trash.
- Fill the depressions left after pulling spent plants with fresh compost.
- Based on fall soil test results, amend soil as recommended.
- Prepare beds for fall planting.
- Plant crops that will over-winter such as garlic (plant mid-October).
- Mulch strawberries in late fall with a couple inches of straw or pine needles.
- If it's in your gardening plan, add fall compost or mulch, such as a shredded mixture of grass clippings and leaf litter, to your beds.
- Plant a cover crop on bare, un-mulched soil. If you have a few weeks before the first killing frost, try a mixture of whole oats and whole soup peas. After mid-September, sow winter rye.
- Remove signs, art, wigwams, birdhouses, plant labels, and plant stakes.
- Reinforce and mend fencing (as it only gets worse over the winter).
- Clean, oil, and store common tools. Drain the gas and lubricate the blades of garden machines. Drain, coil, and store hoses indoors.
- Post a firm deadline for cleaning the garden. After you've cleared and prepared the garden for the winter season, begin planning for the next year.

CHAPTER 4

COMMUNITY GARDENS - A SPOTLIGHT

Sycamore Field Community Garden, Concord, New Hampshire



Above: Woman watering her vegetable plot.

Driving down College Road towards the campus of the New Hampshire Community Technical Institute (NHTI), you might not even think to look to your left, towards the oxbow pond now cut off from the mighty Merrimack River. If you did look, you might be surprised to see a field of plants abutting the pond that are being tended by gardeners, and not just any gardeners. Of the 120 plots in the community garden—the state’s largest—over 90 are dedicated to refugees from Bhutan, Iraq, Somalia, the Democratic Republic of Congo, and Burundi, among other countries. The remaining plots are for NHTI students and staff, as well as a few residents from the Concord community at large.

How did the community garden get started?

The garden was established in 2009 by the Concord Multicultural Coalition, NHTI, Catholic Charities, the Concord Monitor, and UNH Cooperative Extension. By all accounts, the program has been a resounding success. Not only has it grown in size, but it has also grown in its diverse participation. In fact, more than 30 new refugees signed up to participate in the garden in the year 2011 and non-refugees are beginning to participate as well.

What is the purpose of the community garden?

Cheryl Bourassa, the garden’s coordinator, explains that the mission of the Sycamore Garden is to provide refugees and limited-income families with an opportunity to grow food. But what grows out of the garden goes well beyond what comes out

of the ground. The garden has cultivated a wonderful cultural exchange. Gardeners not only share their sweat equity to sow and reap the bounty of the garden, but they share ideas, hopes, dreams, and a vision for the future of the community garden.

What are some of the challenges facing the garden?

“Like any community garden, the Sycamore Field Community Garden isn’t without its challenges,” noted Cheryl. “Foremost, it’s common for gardeners of different cultures to have minor misunderstandings and conflicts; conflicts over how many free seedlings each gardener should be able take from the give-away bin, complaints of gardeners picking vegetables from a neighbor’s plot, accusations that some gardeners aren’t tending their beds, and misunderstandings about the garden rules.”

Speaking with the gardeners, and with Cheryl, one quickly learns many of these conflicts arise out of different norms and values held by individual cultures. For instance, gardeners from Bhutan often tend their neighbor’s plots, and sometimes even pick their vegetables, since the concept of sharing with neighbors is ingrained into their culture. And some gardeners may take the lion’s share of free seedlings from the give-away bin to share with family members and neighbors.

How are the challenges addressed or resolved?

Cheryl stated, “what is important to remember is that the garden provides people of different cultures an opportunity to interact with and learn about people from a culture other than their own.

This interaction builds cultural bridges that reduce the stereotypes and biases that commonly emerge between cultures. And it helps to provide the refugee gardeners with a sense of community beyond their own ethno-cultural community.” This sense of community extends to the broader Concord community and to the NHTI community, as well. As one student noted, “I never knew we had a garden here. But I want to get involved so I can expand my own horizons and get to know people from other cultures.”

What benefits does the Sycamore Community Garden bring?

Aside from the value of cultural exchange and the growing of food for the table, the garden delivers other benefits. Cheryl points out many of the gardeners who live in noisy apartment complexes find peaceful refuge in the garden. “The garden not only helps them connect with nature, it also connects them with plants and gardening traditions important to their cultures.” In fact, it isn’t uncommon to see Kalimpong green chilies, Asian greens, bitter melon, and other crops associated with Bhutanese culture in the garden, or okra which is common to West and Central African culture.

What makes the garden unique?

“Perhaps the most striking characteristic of the Sycamore Field Community Garden is the intricate plant frames used to protect the plants and keep them off the ground,” noted Cheryl. As one Bhutanese gardener explained, “We start out by planting small seedlings in the beds. As the seedlings grow, we use sticks and boards to build a frame around them to accompany their growth.” By season’s end, the garden takes the form of a wooden-slat house enclosed on the top and the sides.

How can I get involved in the Sycamore Field Community Garden?

If you want to experience a unique garden, and learn about people from diverse cultures, visit the Sycamore Field Community Garden. A gardener just might give you a unique plant that you can take home and plant in your own garden. Or, you just could sign up to become a Sycamore Field Community Gardener. For more information, email Cheryl Bourassa at cbour59@yahoo.com.



Digging for worms.

Canillas Community Garden, Lebanon, New Hampshire

Pat McGovern, a well-known New Hampshire locavore and community garden visionary, introduced us to this beginning community garden, placed on donated land adjacent to Carter Community Building Association (CCBA), and next to the large pink apartment complex called Emerson Place.

This beautiful stretch of land lies beside a walking trail amidst mature trees that tie together a quiet part of town where neighbors exercise, walk their dogs, and root for their favorite softball team at adjacent Elridge Field, a town-owned sports field.

With plenty of parking and sunlight, this land was donated by the CCBA, thereby making the proverbial “land issue” not a problem for the Canillas Community gardeners. But what was a concern was the stuff that nobody saw.

Beyond the bucolic and well-proportioned garden plot was a certain toxicity in the soil that would normally scare anyone away. There is always the risk of unearthing something nasty in new community gardens and, in this case, the lead levels in the soil came back off the charts on the soil test. McGovern put it this way, “When we got the report back, it warned us not to plant leafy greens, to wash root vegetables with soap and water, and not to allow pregnant women or children under six years old exposure to the soil.

“We knew the soil looked darker than it should be, and we knew that the area was a former rubbish heap with lots of bottles, but we had no idea it would be so bad.” This didn’t stop the volunteers from moving forward with plan B: cover the ground with an impermeable layer of flexible matting, erect rigid sided raised beds, fill with new soil, and proceed with a strict organic approach.

The rest is history.

What was the primary motivator for your group to launch this community garden?



“We wanted to grow healthy, local food. We had this opportunity to grow something that we could call our own and we did. In the beginning, the focus was on food, but now it’s about community, growing organically in so many ways, you could say,” said Pat.

How would you describe the process that has led your group to this point?

Pat stated, “I can’t say it’s been easy, but it also hasn’t been difficult. We learned that mechanics are important and so often challenging to learn. But it’s not where we spent most of our time early on. It was a good thing that we did not know everything [that we would uncover] from the beginning, because it allowed us to involve more people. That’s how we involved so many people.”

What have been your biggest challenges?

“Besides the soil issue, which we got through with lots of positive thinking and good teamwork, I think the biggest issue has been that as soon as we solved one issue, another would come along. You need to focus on making the next step. You will never come to a single point in time with this garden where you won’t have another problem or challenge come along. But that is why we reached out and involved



more people. No one person had all the necessary skills.” Pat indicated that another challenge was that in the beginning they had one young college student who had this great idea in his own head. He had experience with a communal garden format and wanted to build this garden using that system. Pat noted, “we didn’t have a philosophical disagreement, but realistically, communal gardens are challenging. It’s human nature to let the other guy do all the work. We ended up working through it and he moved on.”

What were your biggest successes and why do you think you had them?

“The biggest success, I would say, is the added aspect of community. In the beginning, we didn’t think of this project in terms of how the community would fit into it. But it soon became apparent that with the awareness of our challenges, we saw the benefit of the generosity of people. There were people who wanted to help and this project allowed them a way to contribute.”

In terms of administration (bylaws, formal group structure, rules and protocols, etc.) have there been any real issues?

“At some point we’ll need to have some bylaws, but we don’t have any as of yet. At this point, there is no need,” said Pat. “We had other, more important, issues to deal with. Right now, we split up the chores and bring on other committee members as needed. It’s really quite informal.”

How would you describe the decision making process you went through?

“It was quite informal as well, although we knew in the back of our minds that we might be faced with making some tough decisions in the future. Take the idea of spraying something

toxic on the plants. We made a decision up front, and it was easy, to just make a rule that we cannot spray anything. You can spray nothing. Now, we’re not trying to be too categorical about [the rules], but rather solve the issues one at a time as they come up.”

In light of the process that has brought you to this point, what would you have done differently?

“I guess we wouldn’t have simply assumed that the soil was gardenable. We would have first done a soil test before deciding on the land. Even though we started out thinking that this would be a no-till garden, little did we know what that really meant,” noted Pat.

What is the financial system like?

“We charge \$20 per plot, and we have 20 beds (4’ x 2’ each) and we charge a \$20 refundable deposit that gets returned when the plot is cleaned up at the end of the season.”

GARDEN SPECIFICS

- Mixed growth of edibles, herbs, and ornamentals, with a children’s circular garden;
- Plenty of art work. One neighbor paints river stones with the names of the herbs, fruits, ornamentals, and vegetables on them as natural ways to label the produce. AVA Art Gallery & Studios, a neighbor, painted the back side of the garden sign and has been a great partner in making the garden aesthetic.
- Securing donations hasn’t been a problem or challenge. Volunteers simply ask.
- The garden secured a donation of an old flight of stairs and propped it up against the garden shed; it’s used for neighbors to place a pot of herbs or a single tomato plant, as an example, and play a role in the community garden.
- A team of five volunteers meets every two weeks during the season to talk out decisions and aim for a consensus.
- This garden is strictly organic.

4-H Children's Teaching Garden, Massabesic Audubon Center, Auburn, New Hampshire

This very successful community project has been made possible through the collaboration of New Hampshire Common Ground, UNH Cooperative Extension, and the Massabesic Audubon Center (MAC). The project has led to the establishment of a large teaching garden, based at the MAC, which answers the community's needs by providing the following:

- Food for families in need (via the New Hampshire Food Bank: in 2009 the Garden contributed 1,800 pounds of produce, and in 2010 this rose to over 3,400 pounds);
- Community connections;
- Education of youth through the experience and mentoring by older volunteers;
- Promotion and support of local and organic farming; and
- Promotion and support of sustainable living and agriculture.



Learning when to harvest.

Some programs/initiatives run through this site include:

4-H Green Thumb Team (inner city youth, ages 5-14);

Junior Master Gardener (JMG);

Shared Harvest (fresh produce donations to the New Hampshire Food Bank);

Manchester Housing;

Boys and Girls Club;

Families in Transition;

Camp Wildside;

Salvation Army Nashua.

One highlight of this project is the fact that kids learn how to plan, plant, and harvest their own yardstick plots, which they take care of throughout the summer growing season. They take home some of their own produce, to share with families and friends. The gardening skills they learn here may

well make a world of difference when they go home and think about what they could do with their own neighborhood yards. The project leader for the site was Julia Steed Mawson (UNH Cooperative Extension 4-H). Julia provided information and answers to the following questions:

What was the primary motivator for you (your group) to launch a community garden?

“Back in 1997, Goffstown had a children’s wetlands day camp program, but the program ran out of money and staff,” explained Julia. “The remaining group was still greatly motivated to reach inner city youth and address issues of rising ill-health/obesity, through camp-like experience in after school programs. By 1998, they partnered with the Allard Center YMCA of Goffstown, and initiated a gardening type of after school camp experience.”

How would you describe the process that has led your group to this point?

The process was primarily one of developing partnerships with key programs and agencies, to identify elements needed for the program, and to develop a sound program curriculum. Partnerships were formed with Master Gardeners, Master Educators, Hillsborough County committees (Greater Manchester and Goffstown), YMCA, nursing homes, kids and volunteers.

A key player was the Cooperative Extension Nutrition Connections program, which ultimately connected the group to relevant agencies and, with these agencies’ subsequent support, Julia and a Master Gardener developed a curriculum.

What have been your biggest challenges?

“That’s easy,” said Julia, “obtaining funding and engaging appropriate staff. Monies come mainly from grants, gifts, and donations.”

What have been your biggest successes and why do you believe you have had them?

The program has experienced very strong growth due mainly to significant and ongoing community interest and support. The program has been shown to be sustainable over the years, even in the face of adversity, as when the original plot of land in Goffstown was lost to the group, and the program moved to the Massabesic site (in June 2006). Strong partnerships were formed along the way with the Audubon, corporations, Americorp/SCA (Student Conservation Association), and the New Hampshire Food Bank.

In terms of “administration” (bylaws, formal group structure, rules and protocols, etc.), have there been any real issues? If so, which ones have posed concerns and why?

“No, not really,” Julia explains, “the UNH Extension 4-H guidelines, which incorporate risk management and personnel screening, ensure that staff and volunteers possess the necessary background and training.”

What was the decision-making process that you and your team went through?

“The decision making process is a well-established one run through the Extension 4-H action committee, which also carries out any necessary planning and steering.”

Considering the process that got you to this point, what would you have done differently?

“Nothing significant has come to light thus far, since the program has been successful and sustainable.”

Does your group incorporate other elements into its garden? (artwork, beekeeping, herb garden, cutting garden, recreational space, etc.)

“All of the above; the main aspect of the garden is that it is a permaculture based on organic gardening methods,” said Julia. She explained that permaculture is defined as sustainable (permanent and stable) and use design, based on ecological and biological principles. This approach combines maximized yields with minimal effort, since it works in tandem with the natural order.





Are there over-arching themes that your group employs, or programs that you utilize?

Julia noted programs such as 4-H Green Thumb, Rooting For Families, Elders on the Grow, Shared Harvest (and NH Food Bank), Junior Master Gardeners.

What is the financial system like? (Costs, etc.)

“Funds are managed by UNH Cooperative Extension’s Action Committee,” explained Julia. This Committee is tied to 4-H and New Hampshire Common Ground Garden Project.

GARDEN SPECIFICS

- Type of growing approach (raised beds, crop rows, organic, conventional, etc.): organic methods, yardstick plots, theme gardens (Pizza Garden, Sunflower Houses, Veggie Soup and Salad Garden).
- Type of plot ownership (shares, single family plots, communal, etc.): communal activities on borrowed land (MAC).
- Organizational structure: UNHCE 4-H democratic, with 2-5 seasonal staff (including two seasonal Americorps staff).
- Size of space: one acre.
- Number of participants: around 300 per week, comprising youth, families, volunteers, after school providers, and staff.
- Age of participants: youth range: 5 to 18 years volunteers, staff, and afterschool providers/councilors (all ages).
- Volunteer sources: volunteers are recruited from retired individuals, teens, Master Gardener interns, students, and from Americorps.

Cassily Community Garden, Dover, New Hampshire



Children of Cassily Garden stewards learn insect identification.

The Dover Cassily Community Garden (DCCG) got its start because Eric Kelsey likes to ride the bus. Studying climate in graduate school at UNH, he commutes to campus from his home in Dover. Having conversations with his fellow passengers, Eric recruited the first stewards for the community garden he wanted to start in Dover.

What is the process the group has gone through?

The Dover Open Lands Committee purchased a 25-acre parcel off Sixth Street and placed it under a conservation easement in 2003. Most of the land is forest while a small part is wetlands. Approximately two acres is open field and this became the site of the garden, named for the family from whom the land was purchased.

New England Grassroots Environmental Fund, a nonprofit for funding small, local community efforts, awarded DCCG \$1,000 to help the garden get started. Eric also solicited local businesses for donations. Garen Heller of Back River Farm (now Garen's Greens) served as a consultant to the process. There were approximately half a dozen stewards the first year, with slow but steady growth to the current number of sixteen.

The central purpose of the garden is to foster community, a natural fit, since everyone needs food. It's a beautiful and inspiring setting, where wildlife is frequently seen. The garden practices permaculture concepts such as companion planting and uses organic methods.

Unlike some community gardens where each member has his or her own plot, DCCG is a shared space of one continuous garden. Stewards aren't required to live in Dover and there is no minimum participation. The garden is run on the honor system. There is a small suggested membership fee and no one will be denied participation due to financial constraints.

How would you describe decision-making?

Eric describes the decision-making process as a community-building tool. Does this decision help foster community in some way? Stewards share the risks and share the rewards and have to work as a team. The process begins in the early spring when the stewards look over the new seed catalogs and decide what to plant for the season. Everything in the garden is grown from seed.

What have been the biggest challenges?

As the garden is on conservation land, the natural setting can't be disturbed. Composting must be done totally above ground, and no permanent structures can be built. However, they did put up a shed in the parking lot in 2008 for equipment storage.

"Water is a concern as the garden depends on rainwater," explained Eric. "There is a collection system of two 40-gallon barrels. The soil is clay-like and retains water well even during drought, but it's difficult to open up new plots."

What would you have done differently?

"Some neighbors were upset when they heard of the plan for the garden," said Eric. Eric intimated that they should have met with the abutters first, as effective resolution of any conflict requires the parties to talk to each other and discover they have more in common than they have differences. The DCCG stewards met with their neighbors and were able to resolve misunderstandings and come to a mutual agreement.

What are your 'themes'?

There is a work day every other Saturday during the growing season with a rain date on Sunday and work days on every other Thursday from 5 p.m. to sunset. The garden hosts a Children's

Program which meets twice a month. Programs center on introduction to New England's growing cycles, fostering an affinity for raising, caring for, and eating locally grown organic food, and community interaction.

At harvest, the policy is "take what you think you have earned," said Eric. "There is enough produce to make a donation to the Dover Food Pantry and also to sell at Dover's Apple Harvest Day. This year's crops include tomatoes, cucumbers, squash, peas, beans, radishes, garlic, onions, rhubarb, herbs and pumpkins."

From the Articles of Agreement:

"The purpose of this organization is to build community connections with each other and with the land upon which we live. The DCCG will foster these connections by creating and supporting an agricultural and educational operation that strives to become a permanent model of ecological sustainability and community aspect. This grassroots project will promote awareness of the local ecosystem, encourage healthier living through gardening, and ultimately foster connections between citizens, food, and the environment."

Claremont Farmers Market & Community Garden, Claremont, New Hampshire



After finishing the Master Gardening program in the fall of 2006, Kit Hawkins wrote a proposal in 2007 to the Claremont Savings Bank for a community garden on bank-owned land on South and Broad Streets. This proposal outlined the possibilities for a Community Gardening space to be used there.

Then she pursued insurance coverage, granted finally from an independent Farmer's Insurance. She took a soil

sample to UNH, and then held two informational meetings at Fisk Free Library that attracted only one or two interested participants. She contacted the Claremont Middle School science teachers in hopes of involving their students in a gardening project, but nothing came of that. The Marion Phillips Retirement

home was another contact, but they already have some raised beds on site for their residents.

Kit had the land rototilled, spread some manure and set up a water tank. She contacted the Claremont Fire Department, and they willingly filled the tank when called. She had good success that first season with seven plots taken.

2008 was a successful year with five plots. In 2009 the Claremont Community Garden was contacted and informed that plans for a new Recreational Center were going to take the newly acquired gardening spot. This meant the Community Garden space had to be moved to an adjacent space.

Kit and her husband staked out the new garden but fortunately a couple of weeks later, they were told that they could continue to use the existing spot as the money for the Recreation Center could not be raised. Again, rototilling was done, manure spread, and eight plots were taken. In 2010, ten plots were successfully planted by June, and the Claremont Fire Department continued to deliver water when needed.

What was the primary motivator for you to launch a community garden?

Kit was selling at various farmers' markets in the area, and she met a lot of people who would say they wished they could garden, but they just didn't have the space to have a garden. She said, "it got me to thinking that there must be somewhere in Claremont where people can join together and create a community garden, so that someone wanting fresh produce or beautiful flowers can grow them themselves."

How would you describe the process that has led your group to this point?

"Insurance has been the biggest hurdle," noted Kit. The Community Gardeners each pay \$15 per plot, and this pays most of the insurance costs.

Also, they needed to get a soil sample through the UNH Cooperative Extension soil-testing service.

Rototilling was another task. "It was fairly easy to find someone to volunteer to come and roto-till each season," said Kit.

Finally, there was marketing. Getting the word out was perhaps the biggest hurdle.

What have been your biggest challenges?

"Having no water on site was a huge challenge," said Kit. The gardeners got together with a few of the plot owners, and brainstormed. Someone came up with the idea of asking the fire department, and that has turned out to be a great partnership. All they have to do is call, and the fire department delivers the water without hesitation.

"Pest control has been an issue, as well, because some people prefer to have organic plots," said Kit. "One person seems intent on spraying synthetic pest-control products," she explained. The only thing they have done about this is to move the sprayer to the plot furthest away from the rest of the garden. They still have not come up with a good way to resolve this issue. Obviously, this is a problem for community gardens wishing to avoid synthetic pesticides.

"Harvest and cleanup continues to be a challenge," noted Kit. "Not everyone has been good about picking their vegetables, harvesting, and picking up and clearing out plant and vegetable debris at the end of the season."

What have been your biggest successes and why do you believe you have had them?

"That is easy," said Kit, "community spirit and relationships." Everyone in the garden has met wonderful people involved in the garden, as well as people who just stop by interested in what's going on and how the gardens are doing. "It has been a great thing for Claremont, creating a living space with green grass, bright vegetables, and people who can appreciate each other's efforts in digging in the earth," beamed Kit.

In terms of administration have there been any real issues? If so, which ones have posed concerns and why?

Because Kit has managed this Community Garden primarily by herself, and people were fine with that management role, none of the typical things that might pose problems have happened.



Brookside Community Garden, Manchester, New Hampshire

CHAPTER 5

LOCAL RESOURCES: REACHING OUT

Cooperative Extension in New Hampshire



The University of New Hampshire Cooperative Extension provides New Hampshire citizens with research-based education and information, enhancing their ability to make informed decisions that strengthen youth, families and communities, sustain natural resources, and improve the economy.

Extension has a statewide network of staff that provide hands-on workshops, seminars, one-on-one technical assistance, guidebooks, fact sheets and written materials and a large website, in the areas of agriculture, horticulture, forestry and wildlife, youth, family and consumer resources, fisheries, water resources, and community development.

Cooperative Extension was created nearly a century ago by an act of Congress (Smith-Lever Act of 1914). The original intent of Extension was to address agricultural needs, agrarian home production, rural- development, and youth development (4-H), given that half of the U.S. population lived in rural areas and nearly one-third of the workforce was engaged in farming. As a result of Extension's work with farmers, agricultural production increased dramatically. (USDA-CSREES, 3/22/2010).

In the intervening decades, Extension has evolved to meet current community and statewide needs. The organization has expanded its work to include urban areas, including strengthening commercial fisheries, community economic development, sustaining natural resources, food-safety training, parenting, and more.

To learn more about UNH Cooperative Extension's programs, you can go to Extension's website at extension.unh.edu/. Check out their comprehensive Home and Community Food Gardening pages extension.unh.edu/HCFG/Home_Com_Garden.htm. If you have specific questions about home or community gardening that the web pages don't answer, call Extension's toll-free Info Line at 877-398-4769, Monday through Friday, from 9:00 a.m. to 2:00 p.m. or email anytime: answers@unh.edu.

One of Extension's key programs is the Master Gardener Program, started in 1993.

sound gardening practices. To date, around 500 Master Gardener volunteers have been trained in subject areas such as the creation and maintenance of vegetable, flower and herb gardens, shrub and perennials maintenance, lawn care, pest identification, and food storage. These trained volunteers have collectively provided thousands of hours of volunteer service to their communities through a variety of educational activities coordinated through their county Extension offices. Volunteers have become valuable educational resource to community projects. For more information check out the Master



Carroll County Master Gardener- Veggie Volunteer. Image courtesy of Holly Young.

The program trains volunteers to “extend Extension” by serving as community educators who provide science-based information and support to individuals and communities on horticulture and

Gardener web page at extension.unh.edu/Agric/AGMastGD.htm or contact the Master Gardener Coordinator, Marcy Stanton (marcy.stanton@unh.edu).

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A WEBSITE RICH with information and resources:
extension.unh.edu

A TOLL-FREE INFO line at our Education Center
in Goffstown: **1-877-398-4769**

WEEKDAYS 9:00 A.M. to 2:00 p.m.
or email: answers@unh.edu



Heading to Appledore Island. Image courtesy of Hillsborough County Master Gardener, Anne Pickard.

State of New Hampshire Department of Agriculture, Markets and Food · nh.gov/agric

New Hampshire's Department of Agriculture, Markets and Food's mission is to promote agriculture in the public interest and to serve farmers and consumers in the marketplace. The Department assures safe and healthy food supplies, provides accurate information on prices and availability of farm commodities and crops, and helps the state's farmers and agricultural processors develop markets for their products.

The Division of Pesticide Control regulates sale and use of pesticides in the state and offers an Integrated Pest Management grant program. The Division of Plant Industry regulates sales of plants and trees to prevent the spread of disease or insect pests, enforces the state's invasive plant species law, and offers a voluntary apiary program to assist beekeepers with maintaining healthy hives. The Division of Regulatory Services regulates sales of fertilizers, seed, and horticultural growing media, and is accredited by USDA to provide National Organic Program certification services.

Seacoast Community Gardening Network · seacoastcommunitygardennetwork.org

This is an online resource for all Seacoast gardeners with a mission to support the community garden movement. It is funded by the New England Grassroots Environment Fund, which provides small grants to local projects that create and maintain healthy, just, safe and environmentally sustainable communities.

This gardening network has many resources. It provides links to many other websites, including UNH Cooperative Extension and Seacoast Eat Local, offers free classifieds and a discussion forum and has a calendar listing of all farmers' markets, fairs, community garden events, classes and other special events such as dinners.

NOFA-NH · nofanh.org

Northeast Organic Farming Association of New Hampshire (NOFA-NH) is a non-profit organization serving the organic educational and advocacy needs for Granite Staters. NOFA-NH works collaboratively with Extension, the NH Department of Agriculture, Food & Markets, and the New Hampshire Farm Bureau, and others to promote agriculture in New Hampshire. NOFA-NH is an excellent source of information on organic gardening, homesteading, sustainable approaches to growing fruits, vegetables, and herbs, and bulk ordering of supplies, which may be helpful for your community garden.

Seacoast Eat Local · seacoasteatlocal.org

Seacoast Eat Local is an all-volunteer organization providing information about locally grown food through an email newsletter and website. For four years they have co-produced Seacoast Harvest, which is a guide to the farms, farmers' markets, CSA and farm stands of Strafford, Rockingham, and York Counties. Seacoast Harvest is also available in an online version. Additionally, they organize the winter farmers markets and sponsor workshops and events.

APPENDIX

EVOLUTION OF THE COMMUNITY GARDEN AND THE EMERGENCE OF CIVIC AGRICULTURE

The total harvest from victory gardens was tremendous. It made the difference between scarcity and abundance. The Department of Agriculture surveys show that 42 percent of the fresh vegetables consumed in 1943 came from victory gardens. This should clearly emphasize the far-reaching importance of the victory garden program. Because of the greatly increased demands in 1944, we will need all the food we can grow. Food still remains a first essential to winning the war. Victory gardens are of direct benefit in helping relieve manpower, transportation, and living costs as well as the food problem.

Franklin Roosevelt, April 1, 1944

The concept of the community garden dates back to England's 18th Century allotment gardens, where large landholders rented small parcels to landless peasants to cultivate food staples. Allotment gardening caught on in the United States during the industrial revolution when urban factories began renting small parcels of land to their workers to cultivate. As one keen observer noted, giving workers the means to feed themselves meant they were less likely to strike against poor wages (Warner 1987).

Detroit's Mayor Hazen Pingree is often credited with helping create the first true community gardens in 1893. The depression of the early 1890s forced thousands out of work. Instead of providing food assistance to individuals who lost their jobs, the city donated 500 acres of land to be farmed by nearly 1000 destitute families.

The gardens that emerged were referred to as the potato patch gardens, given the large number of potatoes planted. Soon, Boston, New York, and other cities followed suit with their own potato patches. However, in spite of their success at feeding the poor during the depression, none survived into the 20th century.

As Sam Bass Warner notes of Boston's potato patch, "...the commissioners of that day, then aggressively expanding their chain of public open lands, must have believed that vegetable gardening by poor people was not a suitable sport to add to their facilities for tennis, golf, [and] cricket..." (1987: 15).



It wasn't until World War I that the community garden movement was revived in American cities. By 1917, the National War Garden Committee had begun encouraging people all over the country to plant "Victory Gardens" to alleviate food shortage resulting from the war (Hynes 1996). The vegetables produced in these gardens not only provided food for families, but they also enabled producers to direct their shipments of vegetables overseas.

Thousands of Victory Gardens emerged from this effort engaging millions of people. Although all of the World War I-era Victory Gardens were converted back to their original uses after the war, they were re-instituted during the Second World War in dozens of U.S. cities. At that time, Victory Gardens contributed 44 percent of the nation's fresh vegetables.

In Boston, 49 urban plots were planted with vegetables, producing hundreds of tons of food. (Warner 1987). But, as happened after First World War, the Victory Garden movement faded after the war. Only two remain today: Boston's Robert Parker Memorial Victory Garden and the Dowling Community Garden in Minneapolis (Fenway Victory Gardens 2008). There were also many family gardens during the Great Depression of the 1930s.

The next wave of community gardens came during the 1960s and 70s, when the automobile fueled a mass exodus from American cities to the suburbs. As middle-class Americans moved from the city, immigrants and minorities moved in to take their place. Yet, the pace of exchange wasn't sufficient to keep up with the growing number of vacancies. With falling tax revenues and rents, inner-city neighborhoods in Detroit, Chicago, Boston and other cities saw disinvestment and fell into decay (Medoff et. al. 1994).

To combat decay, a number of cities began tearing down old buildings to make room for new development. However, because there was a lack of investors to develop the land in the mid- to late-1960s, the land sat idle for many years. So began a decade of rubble-filled, vacant lots (Warner 1987). Many of these lots ultimately become home to dozens of community gardens, but it took a major catalyst to get them started.

In a dramatic action in 1967, the state of Massachusetts revealed plans for the construction of a southwest segment of Interstate 95 around Boston using federal transportation dollars. This proposed eight-lane spur through the heart of the city was to be built on the site of the elevated Orange Line (Northeastern 6/19/08). To make way for the highway, the City cleared an eight-mile strip of land of nearly 700 homes and 300 businesses from the North End all the way to Lower Roxbury (Warner 1987).

To the surprise of state officials, neighborhood coalitions formed all across the city in protest of the plan (Lupo et. al. 1971). With the help of Mayor Kevin White, these coalitions stymied the state's efforts to build the highway. To boot, they helped convince policymakers to rebuild the dismantled elevated Orange Line as an underground rail-line, thus creating new public space out of land once shadowed by the tracks.

A group of citizens, including a state senator and neighborhood activists, decided to preempt the city by drafting the "Massachusetts Gardening and Farm Act of 1974." The legislation passed, giving individuals the right to cultivate vacant, public land at no cost until a "higher" use was determined by the municipality. So began Mayor White's "Revival Garden Movement," which catalyzed more than a dozen gardens in Boston's South End, Lower Roxbury, and Jamaica Plain (Warner 1987).



Twins sisters planting in Amherst, New Hampshire.

Throughout the following decades, community gardens became contested spaces in countless American cities as development interests butted heads with the community greening movement. As examples, dozens of gardens in New York's Upper East Side and a long-standing community garden in South Central Los Angeles were plowed under to make way for new development (Salvidar-Tanaka and Krasny 2004).

As a result of such actions, which often affected poor, ethnic communities, community-based coalitions have sprouted across the country to protect greenspaces. Groups like the Green Gorillas and Boston Urban Gardeners have succeeded in advocating for resources and policies to support community gardens.

The first local food movement started prior to World War II, when growing food at home was cited. It provided a formal outline of the actions needed, and why the work needs to not only be a way to supplement the food supply, but a means to conserve gasoline and other strategic

materials for the war effort. The federal government had ended financial support for gardening programs in 1937 when it established food stamps.

Nevertheless the Victory Garden program was reinstated on December 19, 1941, 12 days after Pearl Harbor. This program established fruit and vegetable gardens to reduce dependence on the public food supply and make it easier to feed the troops. One slogan of this movement was "Food Fights for Freedom."

In the late 1960s and 70s, people became more concerned about environmental conditions and the negative impact of pesticides. One catalyst for this concern was the publication in 1962 of Rachel Carson's *Silent Spring*. This book documented the detrimental effects of pesticides on the environment, inspired widespread public concern, and helped to bring about the ban of DDT.

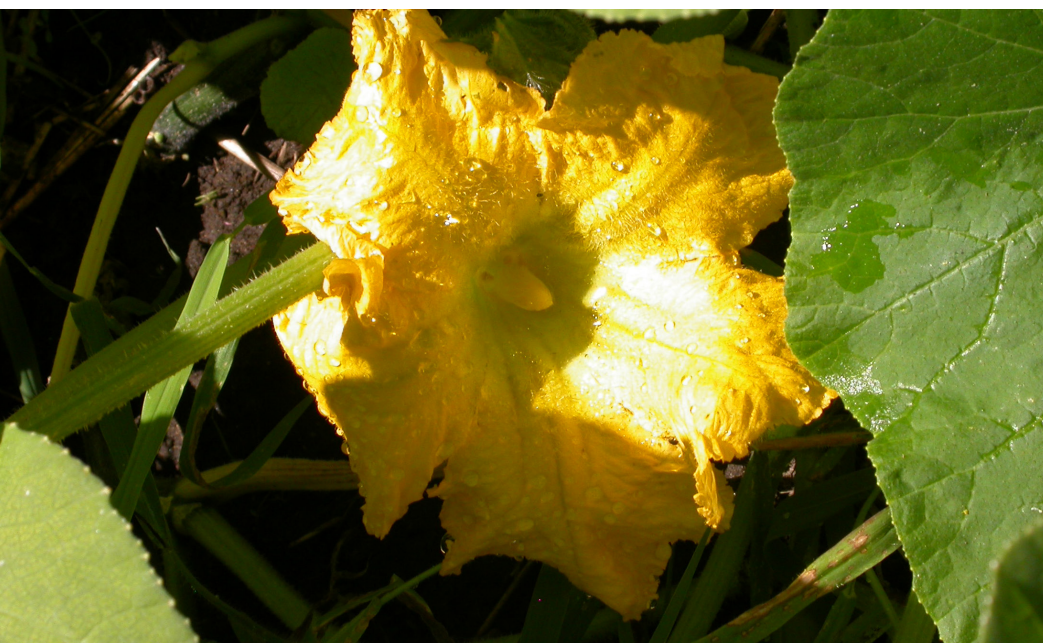
By the mid-1970s at the height of the Arab Oil Embargo, half the households in the nation tended a vegetable garden.

That number fell dramatically after energy prices plummeted during the Reagan years and many families no longer perceived the home garden as an economic advantage.

Profound demographic changes, including growing affluence and the rise of two-income households as more women entered the paid workforce, diminished the amount of time available for gardening and created a growing demand for convenience foods. In 1947, women comprised less than 30 percent of the workforce (Levitan & Johnson, 1983). By 1980 they represented 43 percent and almost 50 percent a decade later. At the peak in 2000, some 77 percent of women between 25 and 54 were in the workforce. That number has remained stable or even declined in the decade since (coe.uga.edu/workethic/hoc.html).

In the early 1970s, Americans spent about one-third of their food dollars on meals prepared outside the home. Today, it's about half.

The publication in 2007 of Barbara Kingsolver's *Animal, Vegetable, Miracle* details how one family spent a year eating only what they could grow and buy within an hour from home. They did this, in part, as a rejection of food that has traveled thousands of miles. This book once again focused attention on the issue of how much energy is used to move food around. Eating locally grown food makes sense on a number of levels, including decreasing reliance on fossil fuels.



While the community garden movement has hit many bumps in the road, the movement remains vital. In fact, there is evidence the community garden movement may be entering a new era. The downturn in the economy appears to have rekindled an interest in gardening. In New Hampshire, over a dozen new community gardens have emerged since 2007, putting the number of community gardens at well over 50.

Civic Agriculture: Reconnecting Food and Community

Food security, the disappearance of open space and the ecological services it provides, loss of wildlife habitat, a desire for neighborhood cohesion, and more opportunities for outdoor recreation are each factors in motivating people to launch a community garden. We refer to the coming together of these elements as “civic agriculture.”

The term “civic agriculture” was coined by Cornell University Professor Thomas A. Lyson. Lyson’s pivotal work on the subject brought together the activities of food production and consumption within a community, in the process enhancing local commerce, creating jobs, and feeding ourselves and our neighbors with locally-produced food.

Civic agriculture embraces innovative ways to produce, process, and distribute food, and it represents a sustainable alternative to large-scale agriculture.

That’s just what we’re doing when we plant community gardens. We’re participating in civic agriculture, as people have been doing for generations.

We are experiencing a trend toward re-localizing our food production, prompted by financial recession, a growing interest in energy efficiency, and the need to build local community strength and interdependence.

Whatever the cause, eating foods grown and raised on New Hampshire soil is nothing new. It fits the independent New Hampshire spirit, as evidenced in the recently published *Home Grown: The Economic Impact of Local Food Systems in New Hampshire*, http://www.nh.gov/agric/publications/documents/HomeGrownReport_final.pdf by Matt Magnusson and Professor Ross Gittell of the UNH Whittemore School of Business and Economics.

Family farming in New Hampshire has declined over the decades, and with it our communities have lost much of their farmland and rural way of life. Even though New Hampshire remains mostly forested, the amount of farmland in the Granite State has fallen over the years and has only recently begun to expand again. According to Magnusson and Gittell, between the 1960s and 1990s, farm acreage declined in the state from 830,000 acres in 1967 to 420,000 acres in 1995. By 2007 New Hampshire farms had risen to 472,000 acres, representing only seven percent of New Hampshire’s total land area.

Although backyard gardens and community garden land aren’t included in these figures, as food production activities continue to increase again in New Hampshire, these nonmarket growing spaces have emerged as an important contributors to the state’s overall food-production capacity, while helping to protect the rural character and foster the sense of community that makes New Hampshire such a desirable place to live, work, and visit.

Community gardening takes its place among a growing local food movement in New Hampshire, which includes farmers’ markets, farm-to-restaurant and farm-to-school connections, on-farm sales outlets, community-supported-agriculture programs (CSAs). Often, these separate areas work together to form a strong local agricultural bond. For instance, it isn’t uncommon to find community gardens selling excess harvest at farmers’ markets or providing surplus fresh vegetables to local food pantries.

There is also a strong and growing trend in the formation of active agricultural communities in the Granite State.

Community-supported agriculture (CSA)

CSAs are a good choice for people looking for a variety of produce and who want to make a close connection to a farm. Farms may offer both summer and winter CSAs, and many offer both whole and half shares. Consumers purchase a share and pay in advance. This provides the farmers with income to start the growing season, a guaranteed market for their produce, and a group of supporters for their efforts. Shareholders share the risks inherent in farming with the farmers but are rewarded with regular amounts of produce (usually weekly). The popularity of farm CSAs has led to the practice being adopted by New Hampshire fishermen as well.

Farmers' markets

New Hampshire currently has approximately 75 summer farmers' markets. These usually occur weekly during the growing season. Winter farmers' markets have popped up in the past couple of years, selling onions, winter squash, cabbage, potatoes, apples, greenhouse-grown salad greens, honey and other products. New Hampshire communities hosted about 30 winter markets during the winter of 2010-2011.

Agricultural commissions

Legislation passed in 2007 provided for the creation of local agricultural commissions "for the proper recognition, promotion, enhancement, encouragement, use, management, and protection of agriculture and agricultural resources." NH RSA 674:44-e.

These commissions serve as advocates for the farmers. They can inventory agricultural resources, assist town planning boards and other local agencies and boards on matters affecting agriculture, advise on policy issues, hold workshops, and otherwise heighten community awareness about agriculture. Agricultural commissions can also help to mediate disputes between farm and non-farm interests. About two dozen communities have created such commissions since the law went into effect.

Seven Kinds of Community Capital

A helpful construct for assessing whether your community garden is healthy is the Community Capitals framework developed by rural sociologist, Cornelia Flora. Communities that nurture a healthy ecosystem, social well-being, and a vital economy pay attention to seven types of "community capital." Investment in each of the following seven types of capital pays off by building a community's capacity to leverage other capitals, ultimately leading to a vital community.

1. **Natural capital:** Refers to the natural resources and amenities of the garden site. A community garden's natural capital includes its soils, plants, wildlife, insects, microbes, and natural beauty.
2. **Cultural capital:** Reflects the way people "know the world" and how to act within it. In a community garden, cultural capital can manifest itself as ethnic festivals, cultivation of culturally-associated plants, use of unique horticultural techniques and tools, and cultural diversity.

3. **Human capital:** Refers to the skills and abilities of people. As an example, good community garden leaders mobilize people into action and facilitate access to resources and information. Experienced gardener/teachers demonstrate effective growing techniques in his/her own plot and willingly share the hows and whys with other gardeners.
4. **Social capital:** Reflects the connections that form between people. Social capital in a community garden includes the bonds of trust that exist between and among fellow gardeners. It can also include connections to each gardener's individual network of friends, family, and information sources.
5. **Political capital:** Refers to the ability to influence rules and regulations and their enforcement (i.e. power). Good community garden leaders have political capital, which gives them the credibility to generate consensus around shared values.
6. **Financial capital:** Encompasses the resources available to invest in building community capacity, infrastructure, and human capital. Financial capital sustains the functions of a community garden, such as access to land (e.g., rent) and water (e.g., pump, irrigation tubing or hoses), contracted services (e.g., rototilling) fertilizers, compost, mulch, common tools, and materials (e.g., season-extending devices/materials).
7. **Built capital:** Refers to the infrastructure (sometimes called the "hardscape," to distinguish it from the natural features of the landscape such as soil and plants) that supports a community garden such as a new well, fencing, raised beds, cold frames or hoop-houses, a walkway, gazebo, or a tool shed.

OUR TEAM - Authors & Advisors

Tina Burr
Author and Editor
Barrington, New Hampshire (Strafford County)

Tina lived in cities for years. Her first career was as an educator, teaching preschool through junior college. She then became a legal assistant and also an editor. A lifelong gardener, she coaxed kitchen gardens and flowers from city soil. Eventually she moved to the country and found her true calling as a farm girl.

There is nothing she would rather eat than something that has started out as a seed in her hand. She grows heirloom fruits and vegetables for three reasons – continuity of tradition, preserving diversity, and taste, repeating her favorites, but also experimenting with different varieties.

Tina has been a volunteer for Seacoast Eat Local the past three years, working at markets and participating in the creation of Seacoast Harvest, the annual publication listing all farms, farm stands and farmers markets in Strafford, Rockingham, and York, Maine counties. Tina holds degrees from the University of Florida, Jacksonville University (Florida) and Harvard Graduate School of Education. She is a Master Gardener in Strafford County.

Nancy Friese
Author, Volunteer, Relationship Development,
and Organization
South Newbury, New Hampshire (Merrimack County)

Nancy lives in Newbury where she grows vegetables to supply her household and family. For the past 30 years, she has been raising and growing her own food. Growing up on a farm, she was able to spend extensive amounts of time experimenting with vegetable gardening and working with animals. Nancy is deeply involved with horse training and behavior both of which have been her passion for 40 years and is a board member of the New Hampshire Association of Senior Centers, and holds a year-end award from the NH Stock Horse show series. Nancy is also a UNH Cooperative Extension Master Gardener in Merrimack County and is the director of the COA Chapin Senior Center in New London. Nancy has two grown sons and lives in Newbury with her husband Russell, horses, dogs, and vegetables.

Yvonne Beran
Author, Children and Youth
Milford, New Hampshire (Hillsborough County)

Yvonne is both a UNH Cooperative Extension Master Gardener and Natural Resources Steward, a Milford Conservation Commission volunteer and aspiring youth educator in matters relating to local agriculture, resource conservation, nutrition and the reversal of the decline in the health of our environment, communities, soils, and individuals.

As a mother of a young child, Yvonne hopes this project will inspire New Hampshire youth, and, indeed, youth everywhere, to take more notice of the outdoors, get involved in community gardening, and learn how our food is produced. It is hoped that communities up and down the state will be helped with this publication gain more control over their own food production. Yvonne has a B. Sc. in Biochemistry, and an M. Sc. In Environmental Assessment and Management.

Charlie French, PhD
Author and Advisor, Civic Agriculture

Charlie serves as the community development specialist for UNH Cooperative Extension. A community-gardening researcher and author, he has a longtime interest in local food systems and community engagement in civic agriculture. He currently maps the state's community gardens. http://extension.unh.edu/HCFG/Map_CommGarden.htm

Charlie learned about the challenges and rewards of gardening while serving as a Peace Corps Volunteer in the early 1990s. While working with farmers in rural Panama, he discovered that agriculture is as much about building community as it is about growing food. When the crops were good, local farmers invariably celebrated and shared the bounty with their friends. And when a farmer's crop failed, the community banded together to carry the farmer through the season.

Coming back to the states, Charlie decided to pursue his interest in the intersection of agriculture and community. In Southern Illinois, he helped to establish a farmers market, which continues to thrive today. And in Newmarket, New Hampshire, he helped a group of passionate gardeners establish a community garden which continues to grow in participation each year.

Beyond getting his hands dirty, his interest in community gardening extends to his work at the University of New Hampshire. Having interviewed hundreds of community gardeners in Havana, Cuba, Boston, Massachusetts, and Manchester, New Hampshire for his research, the challenge seems clear: the demand for community garden space is quite simply outstripping the availability of garden plots. The question he seeks to answer is how can community gardens be made accessible to all those who wish to garden and not just those with means.

As a member of the Board of Sustainable Harvest International (SHI), Charlie's helps to coordinate the organization's extension and outreach to rural farmers in Central America. The mission of SHI is to empower farming families with the knowledge and capacity to feed themselves and generate income in a way that preserves tropical forests and the life-sustaining functions they provide. SHI was started in 1997 by a former Peace Corps Volunteer, Florence Reed, out of a profound desire to empower rural communities to provide rural Central American farmers with sustainable alternatives to slash-and-burn agriculture that not only sustain the natural environment, but also provides them with a better livelihood.

Eleanor Baron **External Reviewer**

Eleanor Baron lives, writes, gardens and cooks in Concord, New Hampshire. She serves on the board of the Capital City Organic Gardeners. Eleanor volunteers locally to create a stronger, more connected and vibrant community food system. Visit her blog at www.nourishingwords.net for more ideas and inspiration on food, organic gardening, healthful living and local action.

Peg Boyles **Editor**

Before coming to Cooperative Extension in early 1999, Peg worked for many years as a freelance writer specializing in energy, environmental, and human health topics. She commutes to work by bike, tends a large vegetable garden, splits firewood, runs, walks, swims, lifts weights, and snowshoes. Above all, Peg is a masterful editor who helped to craft this publication.

Pamela Doherty **Layout and Design**

Pam serves as the senior program assistant at the UNH Cooperative Extension Education Center in Goffstown and is pursuing a Masters in Project Management at Granite State College. She is responsible for the design and layout of the award winning *NH Outside Calendar* and other extension publications. Pamela has four grown children and lives in Nashua with her husband Brian and daughter Caitlyn.

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RESOURCES

American Community Gardening Association

communitygarden.org

The American Community Gardening Association (ACGA) is a bi-national (U.S./Canada) nonprofit membership organization of professionals, volunteers and supporters of community greening in urban and rural communities. It was founded in 1979 in order to help gardening programs share their limited resources and thereby benefit from each other's experience and expertise. ACGA and its member organizations work to promote and support all aspects of community food and ornamental gardening, urban forestry, preservation and management of open space, and integrated planning and management of developing urban and rural lands.

ACGA staff, board members, and volunteers answer thousands of requests for information each year about community gardening and greening. They offer support, coach fledgling groups, and promote networking and information sharing on all levels.

Seacoast Community Gardening Network

seacoastcommunitygardennetwork.org

Mission statement: We envision a thriving, collaborative network that creates and sustains an ever-growing number of community gardens in the Seacoast, to enhance our local food resources and build community vitality. By sharing inspiration, support and knowledge, together we are stronger.

A community gardener's welcome packet from Worthington, OH, is one example of how responsibilities could be made clear to individuals:

sustainableworthington.org/files/c-garden_welcome.pdf

Crime and vandalism reduced by community gardens:

tpl.org/content_documents/nyc_community_gardens.pdf

nationalgardenmonth.org/index.php?page=storyline02

ipg.vt.edu/Papers/HallbergMajoPaper.pdf (p.19,20)

together4health.ca/workgroups/benefits-community-gardens

nccommunitygarden.ncsu.edu/research-schukoskeState&LocalPolicies.pdf

Benefits and methods of organic gardening can be explored in the following:

rodaleinstitute.org

nal.usda.gov/afsic/AFSIC_pubs/org_gar.htm

Any project involving a successful, healthy community garden will need to address the health of the soil. This will also involve the need for a soil test, and, quite likely, soil improvement methods. Some good sources of information:

Community Gardening, Brooklyn Botanic Garden All Region Guides, Soil Health and Safety, p. 95-99

hort.cornell.edu/soilhealth/

cwmi.css.cornell.edu/healthy_soils_overview_poster.pdf

Economic benefits of community gardening are multifold, and are outlined in the following:

communitygarden.org/docs/learn/articles/multiple_benefits.pdf

gardeningmatters.org/resources/multiple_benefits.pdf

To reap the benefits of eating local foods, one needs to be able to source the local food supplies. Some of these sources can be found here:

eatwellguide.org/i.php?pd=Home

nhliving.com/farmersmarkets/produce.shtml (NH specific)

An enchanting math curriculum based in the garden is available through the NGA resource, Gardening with Kids:

gardeningwithkids.org/II-3III.html

Further interesting mathematical ideas can be found here:

orinda.k12.ca.us/delrey/Programs/MathGarden.htm

urbanext.illinois.edu/stateline/010215.html

kidsgardening.com/2006.kids.garden.news/feb/pg1.html#lessons

Science touches every part of gardening, and science education is thus a fundamental necessity. Some good resources for youngsters learning science include the following:

gardenmosaics.cornell.edu/pgs/data/maindata.htm

washingtoneyouthgarden.org/index.php?option=com_content&task=view&id=13&Itemid=42

The ACGA's Rebel Tomato site is a good resource for young people to explore the learning possibilities of community gardening:

communitygarden.org/rebeltomato/fruits/garden-classroom.php

Fertile Ground in Williamsburg,, Massachusetts burgy.org/Pages/WilliamsburgMA_News/01550E10-000F8513 has been running an intergenerational garden program for the past several years, with great benefits to both young and old.

Also of interest is Garden Mosaics gardenmosaics.cornell.edu/index.htm of Cornell University, in Ithaca, New York, which connects youth and elders with the diversity of human culture, gardening and science activities:

For multicultural experiences, there are some wonderful projects ongoing, such as:

- Nuestras Raices (Holyoke, MA) (nuestras-raices.org/en/home)
- New Horizons Bosnian Garden (Toronto, CAN) (newhorizonsgarden.ca/wiki/wiki.php)
- Multicultural Gardens for elementary school kids (Portland, OR) (olg.atkinsonelementarypta.org/?p=mcg)
- National Immigrants Farming Initiative (NIFI) (immigrant-farming.org/index.html)
- Brooklyn Bear's Garden, Brooklyn, NY (tpl.org/content_documents/nyc_community_gardens.pdf)

- Community Gardening, Brooklyn Botanic Garden All Region Guides, p58: "Growing New Americans" (Aaron Reser)

The educational aspects of public health can be found as follows:

nplanonline.org/nplan/content/community-gardens-public-health-webinar-resources

cwmi.css.cornell.edu/healthy_soils_overview_poster.pdf

huntingtoncommunitygardens.com/36.html

For many people, local food is difficult to access due to limited information and/or limited availability. Issues of access to local food are addressed here:

givinggardensnetwork.org/

cefs.ncsu.edu/cefsfarmtofork/wit-disparities.html

civicpartnerships.org/docs/tools_resources/food_security.htm

ers.usda.gov/Publications/AP/AP036/AP036g.pdf

Resources for Starting a Garden:

extension.unh.edu/HCFG/Start_Garden.htm

backyardgardener.com/veg/index.html

union.osu.edu/topics/horticulture/horticultural-articles-1/vegetable-gardening-in-your-own-backyard

plant-materials.nrcs.usda.gov/pubs/mipmcarcggseedstart.pdf

extension.iastate.edu/publications/pm819.pdf

Resources on Environmental Education:

dpr.dc.gov/dpr/cwp/view,a,1241,q,642050,dprNav,32110,asp

schuykillcenter.org/programs/organicgarden/

urbanfarming.org/programs/

grassrootsfund.org/about_us/

Information on CSAs

nal.usda.gov/afsic/pubs/csa/csa.shtml

localharvest.org/csa/

en.wikipedia.org/wiki/Community-supported_agriculture

extension.unh.edu/FHGEC/documents/CSANH.pdf (NH)

The following link has a nice overview of herb gardening, as well as a table of the commonly grown herbs with their main characteristics:

pubs.ext.vt.edu/426/426-420/426-420.html

The following link has a wealth of information as to garden types, styles, and plant varieties:

bhg.com/gardening/flowers/perennials/

Some links below to information about soil amendments:

en.wikipedia.org/wiki/Soil_conditioner

ipm.ucdavis.edu/TOOLS/TURF/SITEPREP/amenfert.html

ext.colostate.edu/pubs/garden/07235.html

Health improvement/organics/nutrient-dense food

Evidence shows that community-based agriculture and gardening have great benefits to people of all ages and to the environment. One of the main benefits is improvement in human health when people raise and consume their own food, and when they engage in local food growing, crop tending, and other gardening activities. Children are some of the great beneficiaries of spending time in gardens and outdoors.

nccommunitygarden.ncsu.edu/research.html

childrenandnature.org/research/

Education: science, math, social studies

There is great education potential when it comes to a garden setting. Many schools and after school programs have curricula based around backyard habitats and garden playgrounds. Gardening in general, and community gardening specifically, offers great possibilities for youth development, and opportunities to teach kids the importance of learning and acquiring practical skills in science, math, and environmental and social responsibility.

assoc.garden.org/about/

servicelearning.org/instant_info/hot_topics/community_gardens

GLOSSARY OF TERMS

Asset-based model:

An approach to community-based development, based on specific principles, such as

- development is local community driven;
- individual skills, talents, and assets are identified and mobilized.

Biodiversity:

The degree of variation of life forms within a given ecosystem (area, region, or the entire Earth), regarded as a measure of natural health.

Biological Pest Control:

A method of controlling pests that relies on predation, parasitism, or other natural mechanisms. It can be an important component of integrated pest management (IPM) programs.

Civic agriculture:

Locally based agriculture and food production that is tightly linked to a community's social and economic development.

Community decision-making process

A process that seeks not only the agreement of most or all participants but also the resolution or mitigation of minority objections.

Community garden:

A piece of land gardened collectively by a group of people.

Community-supported agriculture (CSA):

A community of consumers who share the risks and benefits of food production with one or more growers.

Companion planting:

Planting different crops in proximity to assist each other in nutrient uptake, pest control, pollination, and/or other factors necessary for reducing pest damage and/or increasing crop productivity.

Compost:

Decomposed organic matter, recycled for use as a fertilizer and soil amendment.

Cover cropping:

Crops planted primarily to manage soil fertility, soil quality, water, weeds, pests, and diseases.

Crop rotation:

The practice of growing dissimilar types of crops in the same area in for one or more sequential growing seasons.

Food security:

Year-around access to an adequate, affordable, nutritious, and culturally appropriate food supply.

Holistic:

The idea that all the properties of a given system cannot be determined or explained by its component parts alone; the system as a whole determines how the parts behave.

Horticulture:

The industry and science of plant cultivation, including the process of preparing soil for the planting of seeds, tubers, or cuttings.

Hydroponic:

A method of growing plants using mineral nutrient solutions, in water, without soil.

In-kind donations:

Donations that are given in goods and services rather than money.

Insectary:

A place for keeping, breeding, or observing living insects.

Insectary plants:

Plants that attract insects; beneficial insectary plants are intentionally introduced to increase pollen and nectar resources required by natural enemies of insect pests.

Integrated Pest Management (IPM):

<http://www.epa.gov/opp00001/factsheets/ipm.htm>

An effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices.

Intercropping:

The practice of growing two or more crops close together. Usually, the goal is to produce a greater yield on a piece of land than would be obtained from a single crop.

Irrigation:

The science of artificial application of water to the soil to supplement natural rainfall.

Master Gardeners:

In New Hampshire, graduates of the UNH Cooperative Extension Master Gardener Program. Master Gardener volunteers receive extensive training and support to educate the public on gardening and horticultural topics.

National Gardening Association:

Extensive online information resource for consumers and educators on all aspects of gardening (www.garden.org/).

Organic gardening (horticulture):

A method of growing fruits, vegetables, flowers, or ornamental plants by following the essential principles of organic agriculture in soil-building and conservation, pest management, and plant variety preservation.

Ornamentals:

Plants grown for decorative purposes in gardens and landscape design projects, for cut flowers and specimen display.

Perennials

Plants that live for more than two years.

Permaculture:

A sustainable land-use design of human settlements and agricultural systems that are modeled on the relationships found in natural ecologies.

Pesticide:

Any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any pest. Subclasses of pesticides include: herbicides, insecticides, miticides, fungicides, nematocides, and rodenticides.

pH:

A measure of the acidity or basicity of a solution. Pure water is said to be neutral, with a pH close to 7.0 at 25 °C (77 °F). Solutions with a pH less than 7 are said to be acidic, and solutions with a pH greater than 7 are basic or alkaline.

Potpourri:

A mixture of dried, naturally fragrant plant material, used to provide a gentle natural scent.

Rain gardens:

A planted depression that allows rainwater runoff from impervious urban areas like roofs, driveways, walkways, parking lots, and compacted lawns to be absorbed.

Raised beds:

A form of gardening in which the soil is raised above the surrounding soil (6 inches to waist high), sometimes enclosed by a frame made of wood, rock, or concrete blocks, and enriched with compost.

Ribes spp.:

A genus of about 150 species of flowering plants native throughout the temperate regions of the Northern Hemisphere, and it includes the currants (blackcurrant, redcurrant and white currant), gooseberries, and many ornamental plants.

Rider (Insurance):

An additional set of terms and conditions that “rides on” the basic package offered by an insurance company.

Succession planting:

The practice of repeat plantings of fast-growing vegetables such as lettuce or spinach to ensure a continuous supply throughout a growing season; also refers to making efficient use of seed spacing or transplanting a new crop after harvesting and pulling out an early crop.

Sustainable

Systems that remain diverse and productive over time without depleting resources.

Tillage (Tilling):

Preparing soil for planting by mechanical agitation of various types, such as digging, stirring, and overturning.

Tilth:

Soil that has the proper structure and nutrients to grow healthy crops.

Vermiculture:

Composting with worms.

Vision statement:

An organization's outline of its strategy, direction, and decision-making processes as regards allocating its resources to pursue organizational goals.

Water table:

The underground surface below which the ground is entirely saturated with groundwater. The boundary between saturated and unsaturated soils.