

Educational and Community Food Gardens: a Typology

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Abstract

In order to differentiate community gardens with varying missions and means of operation, I propose specific terms for each, while retaining Community Garden as an umbrella term. Although hybridization is not unusual, the types are generally distinguished as follows: individual-plot gardens allocate space separately to gardeners; subsistence-partnering gardens pair food-insecure people with resource providers; service gardens provide food for specific charitable organizations; communal gardens are worked cooperatively; educational gardens train students to cultivate food and perpetuate additional gardens; neighbor-yard gardens link adjacent suburban homes together into growing cooperatives; food forests provide publicly accessible fruit and nut orchards; and edible landscapes replace ornamental plants with food-bearing ones. Collectively, community gardens de-compartmentalize the food network and improve food access and nutrition to food-secure and food-insecure people in their communities.

Keywords: community gardens, edible education, organic food

Introduction: Growth, Origins, and Rationale for Community Gardens

Community Gardens are expanding rapidly in the United States. Their growth parallels the growth of organic food production and sales, farmers' markets, and Community Supported Agriculture (CSA) projects.¹ The recent Community Garden movement responds to the desire to know and enjoy the origin and growing conditions of one's food, minimize agricultural chemical residues, reduce fossil fuel use in food transport, and make quality food affordable. As the movement grows, diversity grows apace: not all Community Gardens are alike in goals, operation, or outcomes. The continued use of "Community Garden" to designate the wide variety of gardens creates confusion and defers appreciation of the positive contributions of many garden types. This essay is a preliminary attempt to name the major varieties of food gardens. Examples from the U.S. West Coast illustrate the types, and balance the prominence of Eastern and Midwestern examples in the existing literature and popular press.

It is nearly impossible to trace the origins of modern U.S. Community Gardens, but there are notable inspirations: the English allotment system; Spanish Huerta gardens; the Victory Garden of WWI and WWII eras; the North American "Back-to-the-Land" movement of the 1960s and 1970s; and the long history of gardening/farming in intentional communities. Each movement, whether originally generated by government dictate or spontaneous enthusiasm, sought to solve a problem in the food network. The English allotment system responded to the newly landlessness of displaced rural people, accustomed to food self-reliance, in densely populated cities (Poole 2006). "Huerta" gardens in Spain and similar international examples², are combination subsistence and market gardens, often allowing a family to feed itself and survive in difficult economic times.

¹ Global organic retail sales were \$90 billion in 2016, and 1.2% of global acreage was devoted to organic crops. About half of the market is U.S.A., in which organic is the fastest growing sector. (Greene, 2017)

² The *bostan* gardens, surrounding Istanbul, Turkey, are so treasured that government threats to replace them with development occasioned riots (Hattan, 2013).

Wartime Victory Gardens, in private yards and public spaces, were encouraged by the U.S. government to meet the shortfall in the civilian food supply while agricultural production was redirected to feed troops and sustain allies abroad.¹ The Back-to-the-Land Movement² was a response to an economy disrupted by shortages and rapid inflation of food, land, housing and fuel prices, and a society recovering from an unpopular war and urban unrest. In intentional communities, an immediate need for local food production was often occasioned by physical or cultural isolation.

Diversity: the Types of Community Gardens

Individual-plot Gardens

To most casual observers, Community Gardens comport with what are here called *individual-plot gardens*. One or a few gardeners, sometimes a family, contract for one-year use of a plot, commonly 40 to 100 square feet, for a nominal fee that may pay for water and liability insurance. Usually one or a few acres collectively, individual-plot gardens are sometimes sponsored by municipalities or non-profits that lease from municipalities. This form most resembles the English allotment system. It is tailor-made for denizens of apartments, or ownership within condominiums or Planned Urban Developments (PUDs), where open land is limited and/or rules prohibit food gardens in individual yards. Individual-plot gardens provide short, direct links between food production and consumption, as they are harvested for use by their tenders, often with a prohibition of commercial sale. In some cases, they provide food for moderately food-insecure people. In many other cases, however, they simply offer better nutrition, variety, and interest to gardeners' diets, while providing relaxation and recreation.

Most community gardens are tranquil and noncontroversial. In contrast, one of the largest and most impressive individual-plot gardens on the West Coast, the South Central Farm, famously engendered conflict, controversy, celebrity endorsements, and lawsuits (Linthicum 2011). Founded on land obtained by the city of Los Angeles from a developer-businessman by eminent domain, the 14 acre farm was granted a conditional use permit when building of a city facility was deferred, and the land transferred to the Harbor Department. From 1996 to 2006, it was farmed by 350 families, predominantly recent immigrants. The over 100 cultivated species, which included numerous semi-tropical food plants indigenous to Mexico, supplied food directly to farmers' families, many of whom had little access to fresh food in what had been a classic inner city food desert. Participants developed a system of covenants and self-government necessitated by such a large site and large number of farmers. Among other challenges, some farmers had to be prevented from raising crops for sale, rather than subsistence use. Eventually the original businessman-owner sued, and regained rights to the land, and called in law enforcement to evict the farmers. The ensuing vigorous and well-publicized protests featured activists lying in front of bulldozers and a famous actress tree-sitting. Presently, some of the original South Central farmers raise crops near Bakersfield, and return to distribute crops near the original site, trying to maintain a "food hub" in the area. The saga illustrates both the value of individual-plot farming, and the challenging nature of securing ongoing access to land for community gardening.

Subsistence partnering gardens

The much rarer *subsistence partnering* gardens aim directly at serious food insecurity. Land is most often provided by a municipal government or faith group, and the garden maintained by a convergence of community volunteers with food-insecure people. The homeless or very economically disadvantaged may participate in the gardening while the basic costs for water, seeds, fertilizers, etc., are paid by the volunteers or a sponsoring group. Subsistence partnering is obviously a challenging model, as it serves a constantly changing constituency that may include the homeless. The model can only alleviate food insecurity with the sustained participation of people who are not living predictable lives, an obvious difficulty. Such gardens have the virtue, however, of offering bureaucracy-free employment-like activity that yields food immediately for the individual or family. In addition to food, the value of meaningful work for alleviating depression, boredom, and damaged self esteem, should not be underestimated.

¹ In 1943, 20 million Victory Gardens in the U.S. supplied over 40% of domestic fruits and vegetables: U.S. Department of Agriculture <http://www.csrees.usda.gov/qlinks/extension.html>

² As many as one million people may have relocated to rural and semi-rural areas at the height of the 1960s-1970s version of the Back-to-the-Land Movement (Louv, 2008 p. 275)

Oxnard, California, is located on a fertile coastal plain known for its strawberry and vegetable cultivation. Nevertheless, many of its residents go hungry: a survey by nearby state college students and community organizers showed that a stunning 78% of resident farm workers were severely food-insecure¹. In a community with many farm laborers from Mexico, the non-Spanish-speaking Mixtec workers are frequently the most marginalized and food-insecure. When a local congregation, the North Oxnard Methodist Church, became overwhelmed trying to come to their aid with its tiny food bank, it decided instead to turn an empty acre parcel into a garden. Accordingly, Community Roots Garden has operated in subsistence-partnering mode. Any community member may garden at its twice-weekly volunteer days and receive a share of produce at the end of the day, thus immediately addressing food needs. Some produce is used immediately by preparing meals on site for the day's workers. A remaining, large share of the harvest goes to local food banks and emergency shelters. In 2012, a total of 1500 pounds of produce was shared or delivered – a very significant improvement in food security.

The heartening success of Community Roots has inspired a succession of new initiatives. A Community Chef program pairs at-risk youth with visiting chefs to prepare meals on site. Interns, identified and supported by a local CSA, provide technical assistance. A few volunteers from the church and community build new and fund features like worm bins and cob ovens. Workshops teach canning, preserving, nutrition, pest management, and other topics that contribute to community wellness. Food is shared at community celebrations, such as Summer Harvest and Dia de los Muertos parties. Finally, Community Roots founded two new community gardens in the neighboring agricultural communities of Satcoy and Nyeland Gardens, funded partly by proceeds from plant sales at the original garden site.

Service gardens

Service gardens grow food for charitable entities like community food banks, which would otherwise rely solely on donated shelf-stable items and expired merchandise from supermarkets and very perishable prepared food from restaurants. Sadly, such donations are often nutritionally deficient: they are either sugar-and-salt-laden processed foods, stale baked goods, or tired and vitamin-depleted old produce. A service garden provides a steady stream of fresh produce, including nutritional standouts like kale and other greens that sometimes are absent from supermarkets and convenience stores, especially in inner-city areas. Service gardens are typically staffed by volunteers from schools, religious congregations, and other community members. The gardens and the food bank may be formally aligned; with such an arrangement, the crops to be planted may be selected to match the needs or demands of the food bank clients. More often, independent gardens forge a partnership with a food bank or multiple banks, by making regular and somewhat predictable donations. Volunteerism in service gardens, as elsewhere, may be ambiguous: sometimes the gardeners are fulfilling community service hours assigned as part of schoolwork (*service learning*), required for participation in clubs or sports teams, or mandated as penalties for minor infractions (*community service*).

A recent outgrowth of service gardens, *community kitchens* are places for preparation of meals with produce from the garden. Many clients of community food banks lack facilities and equipment for making meals, therefore limiting the usefulness of the most healthful products from gardens. Community kitchens, established in existing kitchens of religious congregations, or in house at service organization headquarters, give service garden clients space to gather and prepare meals together. Some meals, stored in family-sized or individual containers, can be divided between participants, giving them multiple meals for later re-heating. Some meals can be stored in freezers at the kitchen for emergency distribution or later use.

Loaves and Fishes is a food bank and family kitchen in San Jose California. For 33 years, it has served cost-free meals in the community, as it currently does at three locations five days a week². In order to have a reliable source of fresh vegetables, Loaves and Fishes established gardens immediately outside the door of its kitchens. Volunteer staff serve both gardens and the kitchen. The presence of the garden has been a draw to chefs from nearby farm-to-table establishments, who come to demonstrate produce selection and premium meal preparation.

¹ defined as needing to skip meals, being hungry, and/or unable to afford food. In comparison, 13.7% of residents of Ventura County were food-insecure (Community Roots Garden 2013)

² <http://www.loavesfishes.org/cms/> Loaves and Fishes: San Jose, California

Communal Gardens

Communal Gardens are planned and operated by a large group of people collectively. Many tasks are available for the group or selected subsets of members: finding and arranging for use of the land; planning the crops for each season; constructing beds, rows, and supports; installing irrigation; developing and servicing a compost system; planting, tending, and harvesting; deciding on the distribution of harvested crops; and even preparation and consumption of food. Communal gardens are most often found in schools, and are a growing trend for college and universities, where some forms of communal living (*i.e.*, dormitories) are already long established, even cherished. Service learning from college courses, service by athletic teams or dorm groups, and garden-focused student clubs provide abundant and enthusiastic volunteers. Food services or special campus events easily become the venues for preparing and eating the food, and substantial surplus portions of the harvests may be donated to food banks. In spite of turnover in the membership of any group, communal gardens may gather momentum to build the project year-by-year. Thus, what starts as a vegetable garden might add a food stand, a cob oven, bee boxes, worm bins, or chickens as the group increases, matures, and gains confidence. Communal gardens are best sustained by fun and camaraderie within the group – and sometimes the forbearance and generosity of donors, sponsoring institutions, and landowners.

Communal gardens most resemble the gardens of the wide variety of intentional communities such as monasteries, convents, and communes. By comparison, gardens of intentional communities may have much more direct input to the food network, and a match between food output and consumption. They also likely operate by gardeners fulfilling assignments or work quotas. Modern communal gardening outside of the intentional community has the advantage of thriving on volunteerism, at the cost of some inconsistency in worker turnover and food output.

The SEEd (Sustainable, Edible Education) Garden at California Lutheran University in Southern California began with students who explicitly wished to garden together in a communal manner. It began with a garden seminar convened to facilitate group decision making about design and operation. Workdays, building projects, on-campus farmers' markets, harvests, and in-garden meals are cooperative efforts involving a cross-campus group drawn from students, faculty, and staff. Each new added garden feature (recently, bee hives; coming soon, worm boxes and a greenhouse) involves convening the group for design decisions and cross-training for maintaining the latest feature. The garden is also designed as a gathering place to host classes, celebrations, poetry readings, workshops, and guest receptions.

Educational Gardens

Educational Gardens are for teaching or experiential learning. As such, they may be designed for one learning institution, or may invite learners from a wider community. Educational gardens teach students to grow food, and aspire to create lifelong habits of food cultivation, good nutrition, and local food sourcing. Almost always the gardening space is provided by an educational institution, which may also supply materials and modest funding. Institutions frequently solicit grants to support ongoing operation, or more expensive items like intern salaries or building garden structures like greenhouses.

While the school garden is, or once was, a mainstay in the U.S. elementary school, recent growth has been impressively rapid in college and university settings, where the type may overlap with communal gardens. College gardens have the advantage of access to students who are physically capable self-starters at a characteristically idealistic phase of life. They have control over their schedules and a desire to innovate and develop leadership skills. When paired with on-campus distribution or consumption, on-campus farmers' markets, or cooperative agreements with campus dining staff, college gardens are the epitome of local food sourcing.

Educational gardens should be viewed as distinct from traditional agriculture education in secondary schools and colleges. Unlike agriculture majors, gardeners rarely will go on to life-long farming careers. Rather, one hopes, they will become habitual practitioners of local food consumption, and builders of gardens in new places as their lives and careers unfold. At least initially, gardening will lack the automatic institutional backing and funding characteristic of academic agriculture programs. To their advantage, however, school and college gardens are independent of the kind of corporate influence that has tied academic agriculture to chemically-dependent, fossil-fuel-intensive, genetically-manipulated food production.

Some educational gardens have unique missions beyond, and in addition to, acquainting students with food growing. An example, the Huerta garden at Mission Santa Barbara in Santa Barbara, California, honors its namesake Spanish institution.

Its specific mission is to preserve and demonstrate the full array of plant varieties brought from Spain by the Franciscan missionaries who founded the California Mission system. Many of these – olives, grapes, oranges – became the backbone of commercial agriculture in Alta California. It also preserves food species used by the indigenous Chumash Indians, who were the mission's original inhabitants and plant cultivators, in pre-contact times and simultaneously with the rise and fall of the missions (Hill 2011). The Huerta Garden is a permanent, ongoing site for education of elementary students in the Santa Barbara public schools. Field trips and workdays in the garden are facilitated by garden docents who founded and maintain the Huerta.

Neighbor-Yard Gardens

Neighbor-Yard Gardens may not be named and recognized as community assets as readily as traditional varieties, but they share many traits of other models. Neighbor-Yard Gardens are formed when a preponderance of residents in a neighborhood plant vegetable gardens, cultivate fruit trees, or establish chicken houses. Neighbors cooperate informally, helping each other plant or tend, loaning equipment, sharing or exchanging fruit, vegetables and eggs. Some neighborhoods expand the concept to employ neighborhood teenagers, design innovative watering systems or other inventions, or celebrate with regular block parties.

In an overlapping variant, neighbors or volunteers interested in the neighborhood for fruit gathering collectives. Equipped with a few ladders and permission from landowners, these collectives harvest ripened fruit and redistribute it to participants or other targeted recipients. This arrangement has the advantage of combining an intentionally-developed resource (trees planted for this purpose) with ambient resources (pre-existing fruit trees), without demanding commitment or even interest from the tree owners.

Yet another variant takes advantage of the “parkway”, the strip of land at the street front of house lots between the sidewalk and the street. Although parkways are technically owned by the city, most cities require residents to water and maintain them within guidelines established by the city. Residents of several cities have discovered the parkways as ideally suited for neighbor-yard gardens. Residents may cooperate to cultivate each other's parkways, or an active neighborhood gardener may volunteer to establish or maintain multiple adjacent parkways. In some neighborhoods, certain residents establish vegetable gardens, while others establish landscaping meant for communal use, such as benches and shade plants. The synergy between them establishes a kind of pocket park that provides food and a site for resident interaction often lacking in cities and suburbs. One such development in a working class neighborhood in South-Central Los Angeles gained notoriety when authorities of the city of Los Angeles noticed it and condemned it for violating parkway rules. Though poorly known, those rules apparently included restrictions to a few types of ornamental cultivation such as grass lawns, a shocking preference for water-challenged Southern California! After considerable media attention, however, the city council reversed its policy and allowed parkway gardening to continue (Blackmore 2013).

A vibrant example of neighborhood-yard gardens was active in the small city of Prescott, Arizona during the 1990s and early 2000s. The impetus for development was a garden activist who began to offer permaculture classes in Prescott. He purchased a home in the diverse working-class Lincoln-Dameron neighborhood, established yard-scale permaculture, and encouraged others to buy homes in the neighborhood and do the same. In time, a two-block *Ecohood* of households sported experiments in garden and tree production, five organic gardens, 25 heirloom tree varieties, rainwater and greywater systems, and multiple chicken coops (DeFrietas 2006). Some neighbors removed fences between houses in order to share compost facilities and increase space. A few households detached from commercial energy grids and experimented with alternative housing structures. The Prescott Ecohood demonstrated that local food production need not be a preoccupation of middle-class dilutants, and need not be built *de novo*, but can be retrofitted into neighborhoods with small, affordable houses and diverse populations.

Food Forests

That some forms of community gardening are tinged with utopian urges is undeniable. Thus one of the newer innovations, the *Food Forest*, is envisioned as an Edenic place where any citizen may pluck sustenance from a variety of food-bearing perennials, especially fruit and nut trees. The design may include multiple canopies, with food-bearing shrubs sheltered by the larger food trees, and smaller perennial or annuals beneath and around the shrubs, thus partially mimicking natural woodland or forest ecosystems. Where the climate allows, fruit trees will be selected for bearing staggered harvests, so that something is ripening at any given time of year. Supported vines like berries or grapes may form organic fencing, creating boundaries for esthetic or practical purposes.

The well-planned Food Forest will be located in an area that is accessible to the city or community core, and is pedestrian-friendly. Careful planning is required to ensure that individuals do not strip the trees for illicit commercial use, and that the danger of vandalism is minimized. The largest and best-publicized Food Forests are sponsored by cities, but equally successful, smaller, projects work well in smaller, self-contained communities like residential colleges.

Seattle, Washington is currently developing the Beacon Food Forest, an experiment closely watched by other municipalities. The seven acre site, located in the working-class Beacon Hill neighborhood, features a simulacrum of a woodland ecosystem, but substitutes edible trees and shrubs (Mellinger 2012). Sub-areas within the project are devoted to special uses like gathering spaces, classrooms, and *p-patches* for individual-plot gardening. For the most part, though, the purpose of the forest is to provide a place for urban foraging, enticing city residents to provide some of their food needs by harvesting foods in season. Walkways and bikeways lead directly to the forest, to encourage easy but non-motorized access.

Edible Landscapes

Where it is not possible to set aside substantial space for a garden or fruit forest, existing landscape may be replaced with attractive food-bearing plants, forming an *edible landscape*. Ironically, street side landscapes often employ non-fruit-setting male trees, in order to spare groundskeepers the trouble of collecting fallen fruit. (The pollen from such trees contributes to urban and suburban allergens.) Where such fruit trees thrive, they may be selectively replaced with the female or self-pollenating fruit-bearing equivalents. Berries, grapes, or bushes and shrubs with edible fruits may be used as hedges, borders and boundaries. Low-growing, colorful vegetables, fruits, or herbs can replace ornamental groundcover. Organic mulches such as shredded bark or straw conserve water and fill in gaps between plants. Converting landscapes to edible landscapes is practical because adequate siting, soil conditions, irrigation, and expertise are usually already in place.

Edible landscapes need not be inferior landscapes. IncrEdibles, a 2013 display at Kew Gardens in West London, demonstrated the edible landscape concept masterfully, with plots devoted to tiered selections of taller corn and tomatoes surrounded by vegetables chosen for intense colors such as rainbow chard, multi-colored cabbages, and flame-colored chili peppers¹. The UK and international visitors at Kew are expected to perpetuate the meme.

Edible landscapes are ideal for residential arrangements such as retirement homes, where residents have leisure time to maintain trees, thus creating recreation and reducing landscaping labor costs. At Pilgrim Place in Claremont, California, arborist residents join interested volunteers and share knowledge in weekly Wednesday tree tending parties. The trees provide fruit for the community; the work provides a social and educational event.

Commonalities among Community Gardens

Although the various community garden types are distinct in their missions and methods, they have commonalities. Unlike commercial agriculture, community gardens resist the compartmentalization and professionalization of the food network. Gardeners may be producers, preparers, distributors, and consumers simultaneously or in succession. In so doing, they subvert the dominant economic model wherein “food goes where money flows.” Ideally, the food-insecure become more food-secure, and the food-secure improve their own nutrition and that of their neighbors.

Finally, community gardens are not static. Instead, gardens commonly expand their missions through time, by adding new components such as workshops, kitchens, and satellite sites. Some may even be ephemeral: perhaps brought into being by generous sharing of an unused parcel, they may be eliminated when the owners are ready to build or sell the land. Whether intentionally, as in educational gardens, or incidentally, as gardeners move on geographically or professionally, gardens tend to perpetuate themselves. For this reason, the ephemeral nature of some gardens should not be discouraging. Community gardens, in all their diversity, are here to stay.

¹ <http://www.kew.org/about-kew/press-media/press-releases-kew/edible-plants-and-fungi-2013.htm> IncrEdibles: a voyage through surprising edible plants: Kew Royal Botanical Gardens accessed 11/18/2013

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