

# The Edible Landscaping Toolkit



An informational guide for low-income housing settings to develop a healthy and productive landscape

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## Tools

Plant List  
Resident Interest Survey  
Evaluation Survey – Winter and Summer  
Tree Labels

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Visit [www.targethunger.com](http://www.targethunger.com) for information about the Sacramento Hunger Commission

Cover Photos: Kennedy Estates Apartments residents work together to plant a grapevine

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## **Edible Landscaping Toolkit**

The edible landscaping toolkit is a collection of ‘tools’, including this guide, for individuals, organizations, or institutions interested in doing edible landscaping. The focus of this guide is edible landscaping in low-income communities for food-security, nutrition and food-production education, community development, and beautification.

The following pages explain the concept of edible landscaping. They address questions such as: “What do you plant?” “Who cares for it?” and “How long does it last?” This guide also gives ideas on how to acquire the resources necessary to conduct an edible landscaping project, and how to use edible landscaping as a forum for community involvement and education. The toolkit includes a variety of ‘tools’ that can be used to help others develop edible landscaping projects in low-income communities.

## **Mission and Vision**

The Sacramento Hunger Commission is a non-profit food security program that promotes access to food as a basic human right. We envision the Sacramento region food-secure and free from hunger. A food-secure community is a community where all residents have access to food that is affordable, nutritious, and culturally appropriate. The term community food security also addresses the need for information and education about nutrition and food production systems. Hunger and obesity are both symptoms of food-*insecurity*.

The Sacramento Hunger Commission has written this guide because edible landscaping projects help achieve our vision of building food-secure and hunger-free communities. Though many of the details in this guide may be particularly relevant to central California, the concepts presented pertain to edible landscaping food security projects everywhere.

## Edible Landscaping Defined: The Incredible Edible Idea

Hundreds of years ago Old World gardens were filled with productive fruits and vegetables, but as 'farming' became more associated with peasantry, and 'gardening' became more associated with the upper classes, productive landscapes disappeared and were replaced by ornamental species. Edible landscaping is a renaissance of how we think about what we plant. Instead of surrounding buildings with ornamental pear and cherry trees, why not plant trees that bear fruit? Instead of planting honeysuckle or ivy vines along a fence or wall, why not use grape or passion fruit vines?

Though logical, edible landscaping has had very little practice, particularly in low-income areas. The Kennedy Estates Edible Landscaping Project is one of the first of its kind in California, maybe the United States! This guide provides information that will help readers develop edible landscaping projects of their own, to various degrees of intensity, and in a wide variety of settings. However, **regardless of the scope of project you envision, our belief is that all low-income edible landscaping projects be supported by these three pillars: food producing plants and trees, community ownership, and education/support.**

**Community Food Security: a condition in which all community residents obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes community self-reliance and social justice.**

**Edible Landscaping: the utilization of food-producing plants, trees, and vines in place of traditional landscaping.**

# Why Do Edible Landscaping?

## Health

## Community

## Empowerment

## Environment

The Sacramento Hunger Commission undertook edible landscaping because it will help create a more food-secure Sacramento region. We want to empower low-income members of our community to improve their health and happiness. Can edible landscaping do that? Yes. The following paragraphs explain the benefits of edible landscaping.

### **HEALTH**

In low-income areas throughout the United States there is a chronic lack of access to affordable fresh fruits and vegetables. This lack of access can be due to a shortage of full-service grocery stores (as opposed to ‘convenience’ stores) in low-income areas, or possibly because low-income families cannot afford transportation to reach stores or markets. Poor Americans must make daily decisions about how to budget their limited finances, and, for numerous reasons, that often means eliminating fresh foods, particularly those that could spoil, or require considerable effort to prepare. This contributes to a number of health problems related to unhealthy diets, such as diabetes and many forms of cancer.

Recently, a correlation between low-incomes and obesity has been documented. Factors such as a lack of nutrition education, binge and fast eating cycles encouraged by insecure incomes or federal assistance, lack of access to exercise facilities, and lack of access to healthier foods have been shown to contribute to this correlation. It has also recently been shown that nutrient-poor, fattening foods are commonly cheaper than nutrient-rich, low-calorie foods (“Do Healthier Diets Cost More?” 2004). Emergency food programs (food closets) rarely provide clients with fresh fruits and vegetables.

Edible Landscaping provides residents with a free and potentially abundant source of healthy, fresh produce. Coupled with nutrition education, edible landscaping has the ability to improve diets and the health of residents.

### **EMPOWERMENT**

Low-income individuals have little control over food production and distribution systems. Farming is no longer considered an occupation by the United States Census Bureau because less than 2% of Americans now operate family farms. Many groups immigrate to the United States only to find that they have left their agrarian lifestyles behind. Edible landscaping empowers participants by giving individuals an opportunity to provide for themselves. This allows experienced farmers to practice their trade and guard their culture; it also gives enculturated urbanites a chance to appreciate these skills and learn from them!

Furthermore, immigrant communities typically lack access to their traditional foods. American diets are commonly less healthy than immigrants’ traditional diets, and many immigrants are unaware how to prepare a healthy meal from the foods available to them

here in the U.S. Edible landscaping empowers residents to grow the foods they know and enjoy.

## **COMMUNITY**

Being proud of where you live makes individuals happy. It also creates a community bond if individuals share that pride with their neighbors. Residents who are proud of their home are more likely to take good care of it, and encourage their neighbors to do so.

Many low-income parts of California are unequivocally diverse. Though this diversity is a great learning opportunity, particularly for children, language and cultural barriers often dissuade adults from interacting. Edible landscaping brings individuals out of their homes where they can meet and work together with their neighbors. At apartment complexes, edible landscaping is shared equally between residents, and that in itself helps build a more closely bonded community.

## **ENVIRONMENT**

Food must be grown; we need to consider whether it should be grown thousands of miles away or right at your home. The average "fresh" produce in a grocery store is 7-14 days old, has been selected for ease of picking and shelf-life, and has traveled approximately 1,500 environmentally expensive miles, losing nutrition and taste along the way (Community Alliance with Family Farmers). Energy and water must be spent growing any food. Energy and water must be spent maintaining any landscape. Why not let the energy being spent on traditional landscaping serve a dual purpose?

## **TANGIBLE BENEFITS**

Edible landscaping is a logical addition to low-income housing. It offers real benefits for property managers as well as residents. Besides the numerous benefits mentioned above, edible landscaping can also create shade, lower energy bills, and increase the overall appeal and value of a property. Providing residents with the ability to practice edible landscaping is offering them a service that will enrich their housing experience, yet it is ultimately the residents who will hold responsibility for the care and maintenance of the food-producing landscape.

# Assessment

## Space

## Water

## Resources

## Interest

## Information

The first step for anyone interested in the concept of edible landscaping is an assessment of available assets and potential obstacles. This includes land area, water, financial and material capital, human capital, and information. Lack of any of those resources could become potential obstacles, as could zoning ordinances and time constraints. In this section we will address each of these resource requirements and potential obstacles.

### SPACE

The scope of an edible landscaping project depends first upon what space is available. Many edibles, such as herbs and peppers, require very little space, and can in fact be planted in pots or planters. An apple or orange tree could potentially get quite large. Most, if not all, housing and apartment complexes have some type of landscaping; along walls and fences and next to pathways, for example. In many instances, plants, trees, bushes, and vines that produce food can be substituted for traditional landscaping plants of similar size. Any green-space that receives sunlight could support a fruit tree, and any sunlit space that residents pass by could support a food producing plant.

If considering edible landscaping for a future property, it is possible that spaces be architecturally designed for edibles. For example, a trellis could be built over a picnic table to support vines, and personal garden spaces could be designed along the south-facing side of buildings.

#### Gardening vs. Landscaping

Edible landscaping is *not* the same as gardening. While community gardens are a designated location for individuals to perform small-scale agriculture, edible landscaping differs in that it involves growing food amidst one's living environment. For example this might mean that perennials, plants that live for more than one year, are more desirable with edible landscaping than annuals.

### WATER

Of course all plants need water, but edibles may have different watering requirements than traditional landscaping. For most scenarios, drip irrigation is preferable to spray-type irrigation. Fruit trees, like all trees, require more water early in their lives and it is preferable that trees get watered more deeply, less frequently. For these reasons, trees should be watered as necessary by individual residents. Residents, therefore, must have close access to water spigots and hoses.

Most lawn areas are watered by large spray systems. If fruit trees are planted in these areas, however, there is a risk that fruit trees will not pollinate well or that fruit will mold or rot on the trees. So once again, individual watering, drip systems, or spray systems that stay below the level of fruit bearing branches are preferred.

### ***Established vs. New Property***

At a new property, it may be possible to include edible landscaping in the landscape design plans, even in the design of irrigation systems. Edibles could be professionally installed. Building plans for a future development could include a community garden and/or compost area. Also, any new development is likely to have a landscaping budget, which could be directed towards purchasing edibles in place of, rather than in addition to, traditional landscaping plants and trees.

Starting an edible landscaping project at an existing property, however, allows you to involve residents in the planning process – very valuable to the sustainability of the project! You will have to decide whether or not to remove existing landscaping, alter irrigation systems, and add landscaping infrastructure (such as trellises), but residents can be involved in these decisions and share in the community improvement work.

It is possible to blend these two methods and use the advantages of both. For example, space could be designed for edibles during the planning and development of a new property, but selection and planting of plants and trees could wait until new residents can be included.

## FINANCIAL AND MATERIAL RESOURCES

Many readers are probably questioning ‘Who’s going to pay for this?’ Costs involved with edible landscaping can vary greatly. Costs may include physical infrastructure (such as plants, trees, and soil amendments), education efforts (such as nutrition education, and translation), community activities involving the landscaping, maintenance, and evaluation efforts.

If edibles are being added to an original architectural plan, then they will likely be paid for in the same way as traditional landscaping - by the owners of the housing property. If edibles are to be added later, such as at Kennedy Estates, extra funds or efforts will obviously be necessary. (See: Paying for the Kennedy Estates Edible Landscaping Project). Funding can come from the property owners or developers, community development groups, local and state agencies, or business and private donations. Keep in mind that while edible landscaping is a relatively marketable idea, most individuals and donors do not immediately realize how many plants, trees, and materials are needed to significantly impact a large apartment complex!

### Paying for the Kennedy Estates Edible Landscaping Project

For staff time, nutrition education efforts, and evaluation, the Sacramento Hunger Commission received a food-security project grant from the California Nutrition Network. Because this was a community development project in a low-income area, we felt community businesses would be willing to support our efforts. The Hunger Commission was able to solicit more than \$2000 worth of in-kind donations for our first year of planting, and an additional \$1000 in financial contributions.

## HUMAN RESOURCES

Human resource needs and financial resource needs may be inversely or directly proportional depending upon the number of residents involved, and the number of volunteer assistants available. Fewer volunteer assistants will mean more outside (i.e. paid) help will be needed. A project conducted by existing staff, residents, and volunteers will cost considerably less than a project requiring paid caretakers and educators.

The number one rule is that the *more residents are involved, the more sustainable the project will be*. Residents who care for the landscape make an edible landscaping project successful. Before beginning an edible landscaping project, residents should be questioned or surveyed to assess their interest in being involved in such a project. This assessment can also yield a list of individuals who can help to steer and develop the project.

Some other relevant assessment questions are: Are the current/proposed landscapers willing to plant and care for edibles? Are there members of the community that might be resistant to edible landscaping? Is the management supportive? Is the property owner supportive? If housing management does not support the project, it will be very difficult to build the project sustainability needed to ensure that edible landscaping will continue beyond the work of the project leaders.

## INFORMATION

Many books and articles have been published on the topic of edible landscaping, but most focus on individual homes and higher-income residents. Still, these books (such as many by the author Rosalind Creasy) contain valuable information about plant and tree

placement and care. Other information resources available to individuals and groups interested in doing edible landscaping include nursery materials on back-yard orchards and gardens, the world wide web, and the Sacramento Hunger Commission Edible Landscaping Project Resource Binder<sup>1</sup>.

For the Kennedy Estates project, local Master Gardeners have provided invaluable technical support. Most communities have a Master Gardener group, and Gardeners must perform community service to maintain their Master Gardener title. County extension agencies and University of California Extension bureaus are other good sources of information.

### ***What about CLIMATE?***

In California, unless you are in a high-elevation mountain region, chances are you have a wonderful growing climate. Most of California experiences a temperate (“Mediterranean”) climate conducive for growing a wide variety of fruits and vegetables. It may be difficult to grow citrus fruits in some cooler areas in the north; in some balmy areas of the south, it may be possible to grow tropical fruits like mangoes, avocados, passion fruit, and dragon fruit, though these hot areas may not be good for growing apples, pears, and other fruits that require cool nights in order to ripen well. Before you choose any plants, find out what growing region your property lies in and consult a local nursery or master gardener to learn what things can be grown successfully in your region. (The Sunset Western Garden Book is a great resource for this information.) Some plants and trees may grow in inopportune climates but not produce any fruit (e.g. Bananas in the Sacramento region).

When purchasing plants or seeking donations, it is important to acquire cultivars - uniquely bred varieties - from local sources. It is more likely that cultivars from local sources will be designed to perform well in your specific climate. Also, each possible planting location will have its own micro-climate – this means, for example, that a grapefruit tree may thrive in one location (perhaps along a south facing, sheltered wall) but die in another location on the same property!

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<sup>1</sup> The Edible Landscaping Project Resource Binder offers an extensive range of detailed information regarding how to plant and maintain an edible landscape. It is available from the Sacramento Hunger Commission: [www.targethunger.com](http://www.targethunger.com)

## Planning Your Project

After assessing these elements you should be able to get an image of what your edible landscaping project could look like. How big will the project be? Who will plan, design, support and manage the project? Who will participate and care for the long-term success of the project? What types of things could be planted and where? Where will plants and/or funding come from? What types of community education should you plan? How will we assure that the project is sustainable? Not all of these questions will be easy to answer along the way. Community interest and participation, for example, is developed over time; a brief assessment cannot determine the ultimate potential of any community development project. Plants, particularly trees, grow slowly – it may be years before any food is actually being produced! Perhaps it is best, then, to begin with a timeline.

### **TIMELINE**

Edible landscaping is a relatively long-term commitment. Many trees, vines, and bushes will not produce fruit for two or three years. Even annual plants require a significant time commitment in order to produce significant benefits for the community. The following is an example timeline of the Kennedy Estates Edible Landscaping project that illustrates this commitment. However, take into account that projects can vary significantly in scope and available resources and those factors could significantly affect your project's timeline.

The first step is to meet with property developers, managers, caretakers, and residents, then a timeline and scope of work can be created. As can be seen from the following timeline, a project of this size and ambition requires at least a three-year commitment by the individual or group wanting to start edible landscaping. If a project were abandoned after just one or even two years, it would likely be forgotten just as quickly. Furthermore, care for the landscape during the first few years is crucial for the long-term survival of plants and trees.

Because edible landscaping is not yet commonly practiced, it will take some time before it becomes an integrated part of life at the edible landscaping property. In the next section we will discuss specific roles, responsibilities, and planning.

# Kennedy Estates Edible Landscaping Timeline

## 2003

### ❖ **Develop the idea of an Edible Landscaping Project in Sacramento**

- Research edible landscaping and visit other sites
- Locate proposed project site and community, create a vision for a Sacramento project, with help from Master Gardener and Community Development Specialist
- Determine staff needs and secure staff funding
- Attract and select staff, volunteer, intern, or Americorps\*VISTA to steer project

## Winter 2004

### ❖ **Organizing and Fundraising**

- Propagate edible landscaping idea to residents through community meetings, community garden meetings, and door to door interest surveys (with help of resident-translators)
- Determine interested participants and key informants through above means
- Compile 'plant wishlist' by surveying all interested residents, through above means; also evaluate interest and practicality of creating individual garden plots
- Develop ethnically-diverse edible landscaping steering committee to serve as residents' active representation throughout project
- Solicit financial funders to fulfill estimated need of \$10,000 (excluding staff costs)
  - Grant proposals to: Mercy Foundation, Sacramento Regional Foundation, and local businesses
- Solicit in-kind donations from local nurseries

## Spring 2004

### ❖ **Development and Implementation**

- Reference plant wishlist with gardeners, landscapers, and steering committee
- Create landscape plans
- Procure maintenance system/personnel
  - AARP senior job retraining, current complex-sponsored personnel, and residents, including youth
  - Shared-responsibility plan
- Create community landscaping maintenance supply shed
- Create planting timeline
- Organize resident workers; plan collaborative planting/work day(s)
- Bring in professional help as needed.\*

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\* Note: Interested collaborators/assistants will be added to project as often as seen fit; Master Gardeners and individuals from UC Davis with expertise in urban agriculture or other applicable focus.

## **Summer 2004**

### **❖ Care for Landscape and Develop Nutrition Education Programs**

- Work with residents and maintenance personnel to ensure sufficient watering
- Design nutrition education program, focused on the utilization of the new produce
  - Work with resident services coordinator to develop curricula that integrates edible landscaping, gardening, and healthy eating
  - Begin using curriculum with kids during the after school and Head Start programs. Teach kids the ‘where, when and how’s’ of harvesting from the new edible landscape.
- Create signs/placards labeling each species of tree, and providing nutrition info.<sup>2</sup>

## **Fall 2004**

### **❖ Begin Nutrition Education**

- Begin after-school nutrition education program.
- Begin adult nutrition education and explore possibility of cooking classes. Collect recipes from residents that utilize edible landscaping foods.
  - Encourage recipe sharing among families attending classes and develop the idea of creating an Edible Landscaping Cookbook.
- Conclude first ‘Semester’ of nutrition education with after-school program participants.

### **❖ Orient New Staff**

- Introduce new Americorps\*VISTA to the Kennedy Estates community and project.
- Offer a brief orientation to the edible landscaping project for new residents
  - Give Edible Landscaping presentation at community meeting

## **Winter 2005**

### **❖ Follow-Through and Evaluation**

- Evaluate successes and failures of Kennedy Estates Project to date; determine when each plant will fruit
  - Conduct baseline evaluation to monitor fruit and vegetable consumption, knowledge of the edible landscaping project, and nutrition awareness
- Organize and conduct pruning workshop
- Plan Kennedy Estates planting and edible landscaping development for spring.
- Begin a second semester of after-school nutrition education, begin nutrition education activities with Head Start preschoolers and their parents.

## **Spring 2005**

### **❖ Second year planting**

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<sup>2</sup> Tree label placards designed by the Sacramento Hunger Commission show a picture of the fruit, the name in English, Chinese, Spanish, and Vietnamese, a short list of possible uses for the fruit, and the nutrition facts for a serving of that fruit. See: Tree Labels in Toolkit

- Replace any dead trees, bushes, and vines
- Stage series of plant give-aways and encourage more residents to plant edibles around their homes
- Complete second semester of after-school nutrition education program

### **Summer 2005**

#### **❖ Continued Community Education and First Harvest**

- Continue nutrition activities with Head Start youth and parents
- Design 'Cooking Class' curriculum to teach Kennedy Estates families new ways to use fresh fruits and vegetables in their homes.
- Organize community 'harvest celebration'

### **Fall 2005 - 2006**

#### **❖ Develop a long-term plan for sustainability**

- Create a sustainable budget (grant or otherwise) and/or network of growers, Master Gardeners, and nurseries willing to assist with edible landscaping
- Create an Edible Landscaping leadership group comprised of residents who will plan future events and activities and hold ultimate responsibility for the future of the edible landscape

## Making it Work

There is no cookie-cutter model for an edible landscaping project. *It is important that your project is unique!* Any project must be specifically tailored to the community and residents, the climate, and the space and resources available. This section goes into more detail in order to help you create your own unique model.

### ZONING CODES

After you have conducted an assessment of the requirements listed in the previous section, you should investigate the local landscaping codes. Consult your City Clerks Office and/or your County Extension Agent to learn if there are any specific codes that might affect what you can and cannot plant, and where. Make a note of the information you receive (e.g. from whom and when) and keep it for your records.

Because low-income areas do not receive the same public attention as high-income areas, they often allow for more experimentation with alternative landscaping. In short, the fact that community members are often less concerned with aesthetics in low-income areas is actually an asset! However, part of the justification for edible landscaping is that it can be equally or even *more* attractive than traditional landscaping. For this reason it is advisable to consult a landscape architect or landscape designer, if possible, before putting anything in the ground.

### LANDSCAPE DESIGN

Significant thought should be put into what you plant, where you plant it, and what infrastructure you may need to add or alter. Any vines will likely require some structure to climb on, such as a fence. Another option is to build trellises, over doorways or picnic tables for example, that can double as shade structures. Some other infrastructure possibilities include individual raised-bed garden spaces, and permanent signs labeling fruit trees (see: Tree Labels, in Toolkit).

One important thing to consider is how residents will access food from the landscaping plants: Will fruit fall on cars? Over fences? Will residents be able to reach the fruits or vegetables? Will existing landscaping overgrow or shade the edibles? These questions point to the importance of thoughtful landscape design, but also the importance of practical pruning (as opposed to aesthetic pruning). Dwarf or Semi-dwarf trees are very versatile for edible landscaping because they do not grow as tall as Standard trees, and therefore produce will be more accessible for residents (see: PLANTS). After assessing your property and creating a plant wish list, we suggest that

#### Family Garden Beds

In Pomona, CA, Park Williams Apartments opted to build small (~ 4'x8') beds that individuals could use for planting herbaceous garden vegetables like tomatoes and corn. Because limited beds were available, they were awarded on a first-come, first-serve basis; a waiting list was started when more families wanted to garden than there were beds.

you consult a landscape architect or designer for help deciding which plants to place where.

Previously we talked about space and water requirements, but an edible landscape requires two other elements as well – soil and sunlight. Nutrient-rich soil and adequate sunlight are essential for plants and trees to thrive and produce fruits or vegetables. Plants and trees may survive without rich soil and sufficient sunlight, but never produce significantly.

## **SUNLIGHT**

Almost all plants that produce food require lots of sunlight. Plants use sunlight as energy to grow; food producing plants need lots of energy to make fruits or vegetables, so seek out full-sun locations, keeping in mind seasonal variation of sunlight. As mentioned earlier, some plants and trees may survive without much sun, but never produce. However, a few plants actually prefer to stay a little cooler. For example, blueberries are one species that grows well in partial-sun areas, such as under the shade of larger trees, or near buildings that cast shadows over them.

## **SOIL**

Soil is composed of three main parts: clay, silt, and sand. Clay soil drains very poorly and becomes extremely hard for roots to penetrate when dry. Sand drains very well, but that also means it dries out very quickly. Perfect soil is a combination of silt and sand with a little clay. Ideal soils for growing fruit trees are those that are fertile and drain well; adding organic matter will help give your soil these traits.

Do not be surprised if your property has very poor soil. Fill dirt used in construction is not agricultural grade nutrient-rich soil. Consequently, you can expect to have to work to improve, or ‘amend’ your soil. Typical soil amendments include compost, manure, lime, and products high in Nitrogen, Phosphorous, and Potassium (such as kelp meal, worm castings, and other mixed fertilizers). Note that soil type is difficult to change without adding large amounts of compost.

## **PLANTS**

Depending on your climate, an edible landscaping property could have dozens of different varieties of fruits and vegetables. *It is very important that the plants and trees chosen produce foods that residents will use and enjoy.* For this reason, the Sacramento Hunger Commission chose to survey residents prior to choosing any plants.

Unfortunately, if you are dependent upon donations, like we were, you often have to take what you can get.

However, there is no sense in planting a plant or tree that will produce food that will go un-used. That said, planting unusual fruits and vegetables provides a good opportunity to introduce new foods to residents. Individuals tend to be more likely to try something they helped grow. (See: California Rare Fruit Growers for information on unusual fruits: [www.crfg.org](http://www.crfg.org))

### **Poisonous Ornamentals**

Keep in mind that, though some flowers are edible, many ornamental plants are poisonous. Clearly it is best to avoid any plants with poisonous leaves, flowers, berries, or fruits in an edible landscape. If poisonous plants currently exist, you should consider removing them.

Select plants that are healthy and well suited to your climate and growing conditions. When selecting fruit trees, consider both the tree variety and the variety of rootstock. Tree variety generally affects the type of fruit the tree produces, while rootstock variety has more to do with the growing conditions of the tree. For example, tree varieties may be bred to have fruits that store well, taste extra sweet, or ripen at different points in the growing season. The variety of rootstock, by contrast, can determine the size of the tree, help the tree grow in different soil types, or be adapted to a particular microclimate, such as excessively wet or dry soils. Therefore, when purchasing plants, seek out rootstocks that fit your particular soil and growing conditions.

## **PESTS AND PROBLEMS**

Keeping plants healthy is the best way to avoid problems. (For proper plant care, see SOIL, SUNLIGHT, and PLANTS.) While it is best to avoid problems, some problems are inevitable. Do not worry if a few fruits go bad, or insects are eating some leaves, but take care not to let problems get out of control. Remind residents to look at their trees each week to watch for problems. When problems are detected be sure to identify them before treating them. ([American Horticultural Society Pests and Diseases: The Complete Guide to Preventing, Identifying, and Treating Plant Problems](#) is a good identification guide with a lot of pictures.) Also, take care when handling or working around trees and plants -wounds from lawnmowers and trimmers can let in pests and disease. For this reason, be sure to talk to landscape maintenance personnel whenever new edibles are planted.

Be aware that pests and disease do not cause all problems that fruit trees have. Many problems are actually due to the living conditions of the tree. Harmful living conditions include: inconsistent watering, nutrient deficiencies, and sunburn. This is another reason why identification of problems is particularly important. Lastly, try not to assume that all bugs are bad. Some insects, such as bees and ladybugs, are beneficial and promote the health of the plants by pollinating plants or keeping other pests away.

### **Don't Create Problems**

Potential *negative* affects of the edible landscape should be considered as well. For example, at the Kennedy Estates Project we were discouraged from planting an entire fence line with grapes because Sacramento has had problems with an invasive species of black tree rats that are attracted to grapes and grapevines. Spacing the grapes throughout the complex rather than grouping them together diminishes the risk of creating a pest habitat.

## Community Ownership

Throughout this guide we have mentioned that community ownership of edible landscaping is essential for the long-term success and sustainability of any edible landscaping project. Community ownership includes resident involvement as well as the buy-in and support of property owners and managers.

### RESIDENT INVOLVEMENT

The first step toward developing a resident-owned project is to involve residents from the very beginning. Residents should be involved in, or at the very least, informed of, any decisions that are made regarding the landscaping. One valuable outcome of edible landscaping is greater individual involvement in food production. However, it is likely that some residents will be much more interested in the concept of edible landscaping than others. In the interest of a resident-led edible landscaping model, a cadre of those more interested individuals should be encouraged and supported by project leaders to stay involved. That cadre can grow into a more formal ‘edible landscaping steering group’, and gradually gain ultimate responsibility for the project.

#### Residents and Landscaping

During the development of the Kennedy Estates project, we made a point to never plant anything or make any major decisions about the landscape without the assistance of at least one resident. Often this assistance came from youth. We feel that if youth are involved in planting, they are more likely to act as stewards to protect and care for the project, rather than vandalize or ignore it.

Involving residents from the beginning of a project is ideal, but realistically, interest among residents must be cultivated throughout the process. Unlike fast-food and chain grocery stores, edible landscaping is not a common part of any United States community. Therefore, it may take a bit of marketing and demonstrated success before many residents will get on board. Project leaders must develop the trust of residents before residents will feel that it is truly in their interest to take part in edible landscaping. This can be particularly difficult in ethnically diverse areas where differences in culture can create barriers between individuals.

### HARVEST AND DISTRIBUTION

As mentioned above, edible landscaping is not commonplace in U.S. communities, so it is important to inform all residents that common-area edible landscaping is

FREE to EVERYONE. Keep in mind that residents may need to be encouraged to pick fruits, vegetables, and herbs from their landscape. At Kennedy Estates it also became clear that residents (particularly youth) would need some education about *when* to pick fruits.

When planting at Kennedy Estates, we made a point of saying that the fruit trees were all free as long as residents followed one rule: *produce must be shared with your neighbors*. To forestall competition among residents, we made a point to add such an abundance and variety of food producing plants that, once trees were fully producing, scarcity would not be a problem.

## **MAINTENANCE AND CARE**

Responsibility for the care and maintenance of the edible landscape must be clearly designated and understood by residents, housing staff, project leaders, maintenance staff, and funders. To best distribute the work, project organizers can persuade resident youth and adults, maintenance personnel, contract landscapers, and property managers to each help with watering, pruning, harvesting, etc. The drawback to this shared-work method is that it can lead to a lack of continuity of care, and further, no individual feels they are fully responsible for the success of the edible landscape. One solution is to encourage residents to ‘adopt’ a tree. Care for that tree would be the responsibility of the resident who chooses to adopt it.

However, it must be reiterated that residents do not own the tree and the fruit it produces is to be shared. Individual plots, immediately in front or behind each residence, can be planted and maintained as residents wish.

More technical maintenance and care should be handled by professional landscapers or gardeners, just as with traditional landscaping. If professional maintenance personnel decide that the use of chemical fertilizers or pesticides is required, project leaders, housing staff, and residents should be consulted prior to its use. Many safer alternatives are available to now commonplace chemicals (see Organic Landscaping).

### **Organic Landscaping**

Growing plants and trees organically essentially means that no chemical fertilizers, herbicides, or pesticides are used; instead, natural substances are used to treat problems or deficiencies. For example, at Kennedy Estates we used a soap spray to eliminate aphids rather than a chemical based pesticide, and we used kelp meal in place of Miracle Grow.

## **COMMUNITY EVENTS AND EDUCATION**

Community events, such as a ‘harvest celebration’, are a great way to build interest and draw attention to the edible landscape. Periodic workshops on tree care, gardening, and pruning teach residents how to best maintain a productive landscape. Events and workshops both help to develop community ownership and pride in residents’ edible environment. A harvest celebration potluck, for example, reminds residents that they can and should harvest edible landscaping foods. It also gives residents a chance to share ways to use the fresh foods being grown close to home.

Inviting community members, leaders, and individuals from outside the housing complex to an event is a great opportunity to educate them about edible landscaping and give residents a chance to show off their landscapes. Edible Landscaping Awards can be given to ambitious residents. For example, an award could be presented to the best-landscaped patio area, healthiest fruit tree, or best new dish that uses edible landscaping produce. Again, residents should be involved in the planning of these events. The principal concept is that these events champion resident involvement in edible landscaping, and celebrate the progress of the landscape.

Skill-building workshops train residents and other individuals responsible for landscape care how to better care for plants and trees so they become and remain productive. Workshops are also a valuable opportunity to develop greater resident ownership of the

edible landscape. Some ideas for workshops include: soil amendment, tree pruning, seasonal water requirements, and even more sophisticated skills such as grafting. Master Gardeners could facilitate these types of workshops, as could volunteers from nurseries or extension agencies. Workshops are a great opportunity to pass on the experiential knowledge of senior community residents and agriculturists to younger generations and urban individuals who have little experience with agriculture.

## Nutrition Education

It was mentioned early in this guide that any low-income edible landscaping project should involve three components: food producing plants and trees, community ownership, and education/support. Nutrition Education is an important part of edible landscaping because it builds a foundation for the value of fresh fruits and vegetables. Nutrition Education can occur in a range of different settings, from formal classroom education about the components of a healthy diet, to simple postings promoting the consumption of fresh fruits and vegetables.

### EDUCATING

A main motivation for including nutrition education in an edible landscaping project is to promote the value of the edible landscape. Nutrition education activities should therefore be directed at increasing consumption of fresh fruits and vegetables. However, in order to provide context for the promotion of fruits and vegetables, we suggest giving a basic overview of the components of a healthy diet.

#### Nutrition Ed. Tactics

At Kennedy Estates we discovered that adults had limited interest in nutrition but a great deal of interest in their child's health. So we chose to conduct a series of parent nutrition ed. classes in which we explained how good eating habits would help their children to grow and stay healthy. The classes included topics such as nutritious after-school snacks, sugar alternatives, and how to encourage your child to try new foods.

Forms of nutrition education may include taste-testings, cooking classes, fun nutrition activities with kids, promotion of five servings of fruits and vegetables each day (5-a-Day), group seminars, one-on-one Q&A sessions, or simple notices informing residents of the nutritional content of the foods that are coming ripe during a particular season (see: Tree Labels in Toolkit).

### SEEKING HELP

If project leaders are not comfortable providing nutrition education you may wish to solicit the assistance of a nutritionist or registered dietitian (RD). School districts, Headstart programs, WIC centers (Women, Infants, and Children Program), and of course hospitals employ nutritionists and RD's who may be interested in working with this type of project. Faculty of the nutrition department at many universities may be willing to help and/or may be in need of internships for their students. At the minimum, a nutrition specialist should be consulted for advice before beginning any nutrition efforts.

### **Long-Term Costs? Long-Term Benefits?**

The cost of a fruit tree is a one time cost that will produce a gradually increasing quantity of fruit, but many components of an edible landscaping project require continued attention and resources. It must be determined early on in the project *who* will hold ultimate responsibility for the food producing landscape, even if responsibility is to be shared. That responsible party or collaborative group may incur continued or additional expenses (or need to seek donations) throughout the life of the project, so it is important to consider the long-term costs of each separate element of an edible landscaping project.

**Fruit Trees** – Fruit trees will have minimal long-term costs. Depending upon the quality of soil and the tree variety, periodic fertilization may be necessary. The amount of fertilization required will be limited if soil is sufficiently amended during planting. If soil is of poor quality, fruit trees will require seasonal fertilization to remain productive. For example, \$15 worth of citrus fertilizer will help around 30 citrus trees remain healthy and productive for one year. Pruning may also be required throughout the years, but costs should be negligible, particularly if residents have been trained to prune and pruning tools are purchased at the beginning of the project.

**Plants** – Annual plants produce for just one year. Project leaders will have to decide if they will continue to provide residents with vegetable, fruit, and herb plants each year, or if residents will be responsible for purchasing their own plant starts or seeds. Another option would be to teach and encourage seed saving. Additional soil amendments, though most important in early years, may be required. Fortunately, both soil amendments and plant starts are relatively cheap; a few hundred dollars a year would provide even a large complex with significant starts and amendments.

**Irrigation** – Any property in California is likely to require functioning irrigation, at least during the summer. Because many edibles require a more regular flow of water than traditional landscape plants, it is important to keep irrigation systems functioning properly. Beyond initial irrigation set up, repairs and maintenance are the only long-term costs.

**Events and Workshops** – Edible Landscaping workshops (e.g. tree pruning 101), which may be facilitated by local Master Gardeners or other volunteer experts, will cost nothing more than the outreach required to attract residents. A large, annual ‘Harvest Celebration’ event may be integrated into existing community events and paid for by the property management group. Event costs will vary depending upon the amount of resident and volunteer efforts and donations.

**Nutrition Education** – The Kennedy Estates project conducted nutrition education classes, seminars, and workshops thanks to a USDA Food Security grant from the California Nutrition Network. Ideally, volunteer nutrition educators, nutrition experts, and guest chefs could be brought in, but it may be necessary to pay these individuals and/or language translators, if required. Seeking a specific nutrition education grant and intern or staff member would secure this element of the project.

While mentioning long-term costs, we should also remind readers of long-term *savings*. Fruit trees can create shade that will decrease energy bills. Once trees are deeply rooted, they will require less irrigation than smaller plants. Lastly, there is potential for significant savings in residents’ food costs! Less quantifiable are the benefits of a healthier, more interactive and involved community.

## Evaluation

As with any community development project, project leaders may at some point want to evaluate if their work has been successful. Success of edible landscaping can be as obvious as oranges hanging from a tree or as subtle as a youth choosing to eat a carrot to protect his eyesight. To track the success of an edible landscaping project, it is important to evaluate both the process and the impact.

A baseline evaluation should be conducted at the very beginning, a process evaluation during or immediately following project development activities, and an impact evaluation only after a successful 'process' or activity. Since edible landscaping takes time to become established, evaluation results will likely change at the pace of increasing food production, meaning the most striking results may come years after the implementation of the project.

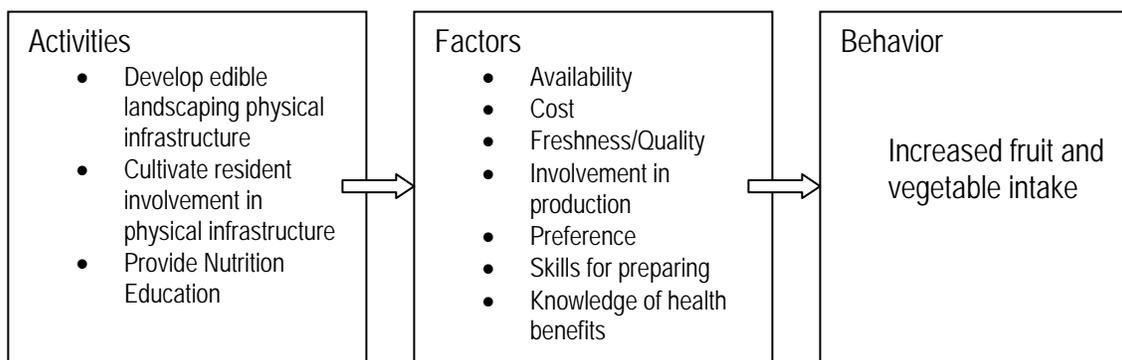
### PROCESS

A process evaluation would involve evaluating how well the plans for the project have been carried out. A process evaluation asks: "What elements of the project have or have not proceeded as planned?" This could include a list of trees that have been planted and the number of nutrition education sessions that have been conducted. For the most part, you are evaluating the activities of project leaders; a funder may be interested in the results of this type of evaluation.

### IMPACT

If all project elements have been successfully carried out, or at least partially carried out, then project leaders can move to an impact evaluation. Evaluating the impact of a project is more sophisticated because it involves gathering information about the behavior of residents. To get to see behavior change results, project leaders must first conduct a baseline evaluation (see: Kennedy Baseline), and then note the difference in results of a later evaluation. It is advisable to use a logic model to create this type of evaluation. A logic model, such as this example, is designed backwards from a desired outcome.

**Kennedy Baseline**  
Evaluating increased consumption alone would not have shown the whole picture of the success of the project, so we decided to use multiple evaluation methods. A baseline survey was designed to evaluate both process and impact. The survey will be conducted in summer and winter, as available produce changes. Success of nutrition ed. with youth was evaluated independently.



Some factors to consider evaluating include awareness of the project, involvement in tree care, success of nutrition education activities, effect on residents' food budgets, and changes in fruit and vegetable consumption. An incomplete evaluation method will never accurately show the impact of a project, so we recommend consulting a research scientist or evaluation professional.

## Sustainability – Making It Last

An edible landscaping project that has been successfully developed will endure for generations. A 'successfully developed' project is one where infrastructure has been built

### Old Edible Landscapes

Village Homes in Davis, California was landscaped with edibles in the 70's as part of a communal living model. Today residents enjoy a wide variety of fruits and herbs, throughout the year. Though not a low-income community, Village Homes is a good example of how edible landscaping ages. Fruit from so many large trees could make a mess, but fortunately, picking fruit has become part of life.

or planted, value and productivity of the landscape has been exhibited, and residents have taken ownership. Early in the project, project leaders need to think about how long they can and need to be involved. How long will nutrition education continue? Will events and workshops go on year after year? These are questions to discuss with residents, property staff, and project funders.

### PLANT LIVES

As trees age and grow deeper roots, they will become less and less dependent upon irrigation and fertilization. If not subject to excessive pests or disease, established fruit trees will continue to produce fruit for decades. Annual plants, such as peppers and many herbs, will need to be planted every year. Other herbs, strawberries, and some vines such as chayote squash, will live for multiple years, but still need replaced periodically.

### OBSTACLES

One obstacle to the sustainability of a project in a low-income neighborhood is a high resident turn-over rate. Project leaders must design a method to introduce new residents to the idea of edible landscaping, and find ways for established residents to share the knowledge and skills they have gained.

A secure funding system for edible landscaping activities should be developed from the beginning so funding does not become an obstacle. Sustainable funding methods might include forming partnerships with local nurseries or stores, working edible landscaping into the property's existing landscaping budget, and the development of a permanent intern position for local university nutrition students.

### Sustainability Timeline

The Hunger Commission hired Americorps\*VISTA's to design and manage the Kennedy Estates project. VISTA's are intended to build community capacity and project sustainability that will render their own position obsolete in three years. This ideology met perfectly with our timeline for the Kennedy Estates Project. After three years, Kennedy Estates residents will be prepared to manage the project and the Hunger Commission will take a less direct role.

Another obstacle is the ability for project leaders to make a long-term commitment. As with all community development, edible landscaping takes time to be successful. Do not expect change overnight. The inputs required are not excessive, but they should remain constant. A citrus tree that becomes accustomed to a particular water cycle will often drop all of its fruit if there is a sudden change in watering – a community will respond with equal confusion if subject to inconsistent support. But as with the fruit tree, every season is a new opportunity to grow.

## **Conclusions**

In an urban environment it is a constant struggle to consume the recommended 5-9 servings of fruits and vegetables each day, but it is a particular struggle for low-income individuals who lack access to healthy foods, nutrition education, and resources to purchase fresh foods on a regular basis. It is equally difficult to feel in control of your own food security in today's globalized and corporately controlled food production system.

We have found that urban youth often have no idea where their food comes from or how it grows – ignorance that almost dooms them to a food-insecure future. But we have also seen magnificent changes in just a couple years involving young people in edible landscaping. Kennedy Estates youth now jump at the chance to pick up a shovel and plant something, with hardly any supervision required. Furthermore, agrarian immigrants have been able to reconnect with a life they know ancestrally. And concerned parents will certainly find it much easier for their family to eat healthy if there is a consistent flow of delicious produce – fruit of their hands so to speak.

Edible landscaping has the potential to change a community. It can make people healthier by giving them free access to nutritious food and nutrition education. It can make people happier by giving them a more active role in their surroundings and by building closer relationships with their neighbors. It can even secure a better future for youth who grow up with a closer connection and relationship with one of the most impactful necessities and pleasures of life - food.

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