# Sowing Seeds and Harvesting Community: Increasing Food Security in Anchorage by Expanding Community Gardens

A Partnership between the University of Alaska Anchorage Department of Geography and Environmental Studies and the Municipality of Anchorage Parks and Recreation

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# Executive Summary

This project is the result of a partnership formed between the Municipality of Anchorage (MOA) and the University of Alaska Anchorage (UAA) to understand the needs and opportunities for expanding community gardens within the city. We examine the role these gardens can play in improving citizen's quality of life by expanding the community's capacity to increase food security and improving access to healthy local foods throughout the greater Anchorage area.

The Municipality of Anchorage Parks and Recreation department manages and maintains three community gardens: C Street Gardens, the McPhee Gardens, and the Fairview Lions Community Garden. Collectively, these three gardens have a total of 139 plots which are available to the public to rent from April through September. In addition to the three community gardens they manage, the MOA also partners with various organizations to lease space and lend support for other community gardens. Anchorage ranked 9th in the U.S. for cities with the greatest number of community garden spaces per capita (ADN, 2009) and, while this may seem like a lot, the current demand for community garden land still exceeds the supply, resulting in a waitlist for all of Anchorage's community garden plots. According to Alaska Population Projections 2012 to 2042, the state is projected to continue to grow faster than the Lower 48 and will add nearly 200,000 people between 2012 and 2042. These projections specifically show the Anchorage/Mat-Su growing by approximately 35% from nearly 390,000 people in 2012 to more than 530,000 people in 2042 (Howell, 2014). The demand for garden space will most definitely increase with the increased population growth expected in the Anchorage bowl. Given the amount of food currently imported by Alaskans and projected rising costs of growing and shipping food, expanding community gardening programs is critical to providing a surging population with local, healthy, and affordable food options. This will increase food security while growing community capacity within the region.

To better understand and identify the current demand for community gardens in Anchorage, UAA faculty and undergraduate student researchers worked with the MOA to conduct a needs assessment. As part of this process we 1) conducted case study research of other community gardening programs; 2) conducted an online survey to understand to what degree the community gardening program meets survey participants needs and interests; and 3) organized a Food Summit Workshop that included key stakeholders from the local food movement, interested funders and policymakers, and representatives from local government agencies; and 4) conducted interviews with key stakeholders to help us better understand gaps in the study.

The results of this assessment are based on case study analysis of seven other cities, an online survey with 478 respondents, an all-day workshop with 23 stakeholders, and five in-depth interviews. Significant project findings include:

- The demand for the gardens exceeds the supply. There is broad interest from diverse stakeholder groups and audiences in expanding the city's community gardening system, indicating that the existing demand for community gardens may be greatly underestimated.
- Expanding the gardening system raises many social justice issues including making gardens available and accessible to those who need it most, and making outreach and education materials available in formats and languages that will reach the intended audiences.
- While increasing rental plot fees may work for most gardeners, there is concern that an increase in fees would limit the participation of lower-income individuals who may need food from the garden the most. Developing a sliding fee scale, and/or a scholarship program, and creating opportunities for individuals to donate extra money towards the program could help alleviate this problem.
- The majority of study participants agree that more garden locations are needed, but there is a large discrepancy as to where these new sites should be located. Regardless of where new gardens are installed, new site locations should consider safety/vandalism issues, site convenience and accessibility (including close proximity to bus routes and access to trail systems), and infrastructure (such as water, fences and potentially including locks on the gates).
- In order to expand the community gardening program, all facets of the study point to a need to further develop partnerships. The MOA can pull from partnership models described in the case study section of this report. It may also be a good idea to create a long-term partnership with UAA and APU.
- Given the current demand and interest, a new community garden is likely to attract gardeners no matter where it is placed but the MOA should consider location based on community needs. Questions that should be addressed include *who needs gardens the most* and *how can new gardens be made accessible to people in need*?
- As the community garden program expands, it is essential to revise and update the MOA website, rules, and regulations to better meet user needs. A community garden handbook seems essential. This is something an intern or a volunteer could do with supervision from the staff at the MOA and possibly faculty from UAA and/or APU.

- While many survey respondents reported being marginally interested in formal education programs, many of these same respondents acknowledged they only have little to some gardening experience. This result implies that more educational programming is needed in order for community gardeners to maximize their gardening potential, but drawing attendees to educational programming may be difficult.
- There is a need to diversify the funding and resources used to support the gardens. The rental fees collected do not cover the costs to run the program. Finding funding partners, organizations to donate materials, and leveraging resources to minimize overhead and oversight costs are critical.

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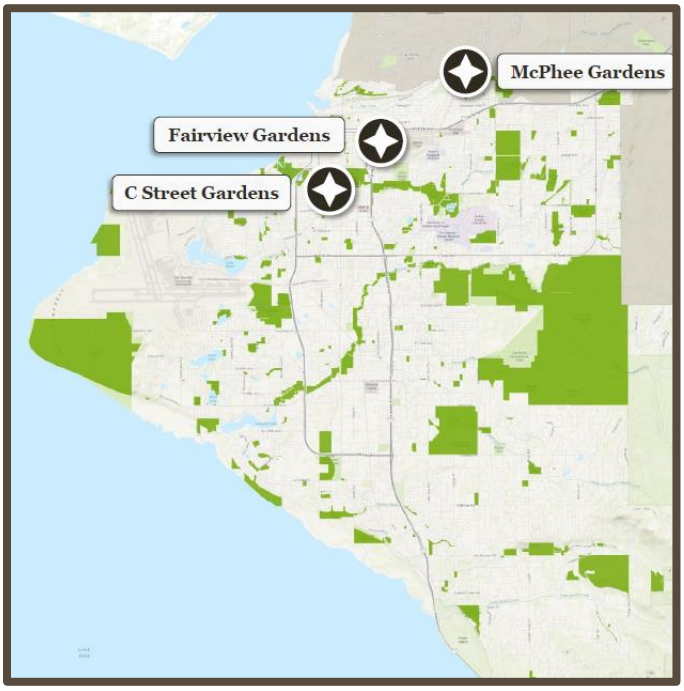
# Project Purpose

The purpose of this project is to form a partnership between the Municipality of Anchorage (MOA) and the University of Alaska Anchorage (UAA) to understand the needs and opportunities for expanding community gardens within the city. We examine the role these gardens can play in improving citizen's quality of life by expanding the community's capacity to increase food security and to improve access to healthy local foods throughout the greater Anchorage area.

# Introduction

The Municipality of Anchorage (MOA) Parks and Recreation department manages and maintains three community gardens: C Street Gardens, the McPhee Gardens, and the Fairview Lions Community Garden. In 1974, the C Street Gardens was the first community garden to be developed in Anchorage (Figure 1). Currently, it is the most popular garden with 73 plots and a waitlist of several years. A second community garden with 50 plots opened at the McPhee Gardens in Mt. View in 1982. In 2008, the Fairview Lions Park Community Gardens opened with 16 plots. Collectively, these three gardens have a total of 139 plots which are available to the public to rent from April through September.




According to the USDA, food security is defined as the access by all members of a household at all times to enough food for an active healthy life (2009). This includes "the ready availability of nutritionally adequate and safe foods and assured ability to acquire acceptable foods in socially acceptable ways without resorting to emergency food supplies, scavenging, stealing, or other coping strategies". From 2006 to2008, the level of household food insecurity in the State of Alaska was estimated to be 11.6% (USDA, 2008). Findings from the 2006 Alaska Behavioral Risk Factor Surveillance Survey (BRFSS) are in line with the USDA data: over 80,000 Alaskans lived in food insecure households (10.8% of households), including 10.8% of adults and 15.2% of children, with the greatest number of food insecure individuals residing in Anchorage and the surrounding area (ASCDPHP, 2008). Furthermore, food insecurity was reported by 86% of those served by agencies representing the Food Bank of Anchorage and the Anti-Hunger Network (FBA, 2010), and nearly 80% of all Alaskan adults

reported consuming less than the five servings per day of fruits and vegetables recommended to ensure adequate diets (ADHSS, 2009). Better understanding and addressing food security issues in the state is a priority for top government officials and is currently being investigated by Governor Parnell's newly appointed Alaska Food Resources Working Group. Food security (outside of subsistence practices) in Alaska is currently dependent on: modern industrial agriculture in the Lower 48 and worldwide; importation of food into urban supply centers (e.g. Anchorage and Fairbanks); and shipping of food throughout the great expanse of Alaska. All of which involve the concept of 'food miles', where the estimated distance that a bag of groceries in Alaska travels from producer to consumer is approximately3,000 to 4,500 miles. On a whole, Alaska imports 95% of its food and has just a three-day supply of food available on store shelves (Helfferich & Tarnai, 2010). Today, Alaska has the smallest state agricultural industry despite being the largest state. Between 2003 and 2008, Alaska produced just over $30 million in agricultural products annually and USDA ranks Alaska last compared to other states in agriculture production (USDA, 2008). In contrast, Alaskans spent approximately $1.4 billion on food in retail grocery stores in 2007 (ISER, 2012).

Alaska imports 95% of its food and has just a three-day supply on store shelves

A household survey conducted by UAA faculty and students (Byers et al., 2011) asked respondents about how they participate in Anchorage's local food system. Select results are as follows:

- Respondents claiming to eat local foods: 69% indicate that less than a quarter of their diet is from local sources; 26% indicate that between a quarter to half of their diet is locally sourced.
- Sources where respondents acquire local foods: 88% grocery stores, 71% restaurants, 56% foraging, 55% farmers markets, 33% home gardening, and 14% community supported agriculture (CSA).
- Further findings regarding perceptions of local food:
    - Cost of local food is too high: 58% either agreed or strongly agreed, 27% disagree.
    - Sources of local food are unknown: 50% indicated knowledge of where to find local foods, 50% did not know where to find local foods
    - Strong interest exists; when posed with the statement, "I have no interest in eating locally-grown foods," 93% either disagreed or strongly disagreed, with 61% strongly disagreeing.

Community gardens as a local food source could further strengthen the linkage between food choices and health since local food is argued to be better tasting and more nutritious than foods shipped from distant sources and bred for shelf life.

Vegetables and fruits that are freshly harvested within a community's local food system are generally higher in nutritional value than fruits and vegetables that are pre-packaged and shipped into the community (USDA, 2010).

It is not only food that can contribute to improved health, but also the activities involved in growing that food. Research on community gardens suggest that gardening can lead to improved nutritional behaviors, increased levels of physical activity and exercise (Brown and Jameton, 2000), improved psychological and community well-being, and promotion of environmental stewardship (Brown and Jameton, 2000). A community garden is defined by the American Community Garden Association (ACGA) as "any piece of land gardened by a group of people". A garden might include fruits, vegetables, flowers, and other horticultural products; may be composed of a single plot or a collection of individual plots; and may be sited in neighborhoods, schools, hospitals, etc. (CRS, 2012). ACGA also cites such benefits as improving quality of life, providing a catalyst for neighborhood and community development, stimulating social interaction, encouraging self-reliance, beautifying neighborhoods, reducing crime, reducing city heat from streets and parking lots, and providing opportunities for intergenerational and cross-cultural connections (2013).

Under average growing conditions, a 10x10 meter plot can produce a year's worth of household vegetable needs

There are approximately 18,000 community gardens across the United States. Out of the 36 million households that participate in food gardening, an estimated 1 million households grow food in a community garden. Food is grown in community gardens for personal consumption, market sale, and donation (CRS, 2012). It's been estimated that under average growing conditions, a 10x10 meter plot can produce a year's worth of household vegetable needs (Brown and Jameton, 2000).

Anchorage's community gardening program is administered by the MOA Parks and Recreation program and their mission is "providing access to land, education and other resources necessary for community members of Anchorage and Girdwood, Alaska, to grow food in environmentally sustainable ways as a means to creating a food system where locally produced, affordable, and nutritious food is available to all" (MOA, 2015). Anchorage ranked 9th in the U.S. for cities with the greatest number of community garden spaces per capita (ADN, 2009). And while this may seem like a lot, the current demand for community garden land exceeds the supply, resulting in a waitlist for all of Anchorage's community garden plots. According to Alaska Population Projections 2012 to 2042, the state is projected to continue to grow faster than the Lower 48 and will add nearly 200,000 people between 2012 and 2042. These projections specifically show the

Anchorage/Mat-Su growing by approximately 35% from nearly 390,000 people in 2012 to more than 530,000 people in 2042 (Howell, 2014). The demand for garden space will most definitely increase with the increased population growth expected in the Anchorage bowl. Given the amount of food currently imported by Alaskans and projected rising costs of growing and shipping food, expanding community gardening programs is critical to providing a growing population with local, healthy, and affordable food options, which will increase food security while growing community capacity within the region. The goal of this project is to provide information that can help the Anchorage community gardening system's current efforts, future development, and strategic partnerships to strengthen and grow their important place in the local food market in Alaska and further bridge the gap between the supply and demand of local food availability.

# Methodology

To better understand and identify the current demand for community gardens in Anchorage, UAA faculty and undergraduate student researchers worked with the MOA to conduct a needs assessment. As part of this process we 1) conducted case study research of other community gardening programs, 2) conducted an online survey to understand to what degree the community gardening program meets survey participants needs and interests, 3) organized a Food Summit Workshop that included key stakeholders from the local food movement, interested funders and policymakers, and representatives from local government agencies, and 4) conducted interviews with key stakeholders to help us better understand gaps in the study.

## Case Studies

For our case study research, we selected community gardening programs in seven cities to compare and contrast with Anchorage's program. For each case study we reviewed relevant programmatic and local government webpages and followed up with phone and email as needed. Cities included in the case studies were selected based on the existence of a community gardening program, demographics, climate, and/or size similar to what is experienced in Anchorage. Overall, we included a diversity of city sizes and types in an effort to show a range of programmatic challenges and successes. We used a qualitative approach to organize the themes found for each city and compiled the data into a resulting matrix (see Appendix 1).

## Online Survey

The UAA research team partnered with the MOA to develop an online survey aimed at understanding the needs and opportunities for expanding community gardens within the city of Anchorage. The survey consisted of a total of 37 questions and was adaptive

in nature in that it led participants down a particular question path based on their previous answers. There were two primary question paths which included one for community gardeners and one for non-community gardeners. These primary question paths further branched off into sub-paths based on participant responses and interests. The survey was composed of both open-ended and closed-ended questions, which were piloted prior to the launch of the survey. It took participants approximately 15-20 minutes to complete the survey. Participants were recruited by the research team through announcements on the MOA Parks and Recreation webpage and Anchorage Community Council webpages and listservs. A link to the survey was emailed to key stakeholders and shared via handouts at the community gardens. The online survey was available to participants from April 15, 2015 until August 31, 2015. We analyzed and shared initial survey results at the Food Summit Workshop and included final survey results in this report.

## Food Summit Workshop

On June 5, 2015, we held a Food Summit Workshop that included 23 key stakeholders interested in expanding Anchorage's community gardening program. These stakeholders represented a diversity of non-profit, public, and private organizations engaged in the local food movement. The workshop was an all-day, interactive meeting co-sponsored by UAA and the MOA Parks and Recreation Department and held at the BP Energy Center. The day began with an overview of the case study research, online survey and spatial mapping efforts completed to date. Workshop participants then worked together to develop a framework for a shared vision for Anchorage's community gardens. Based on preliminary results from the online survey, we then divided the room into the following six themes: Education, Fundraising, Site Selection, Volunteers, Garden Management, and Other. Workshop participants self-selected a theme that was of most interest to them. In relation to their chosen theme, participants worked in groups to conduct a Strengths Weaknesses Opportunities and Threats (SWOT) analysis of Anchorage's community gardening program. After reflecting on the SWOT process and resulting information, participants worked in small groups to brainstorm ideas and to develop potential strategies for expanding the community gardening program. Participants then prioritized strategies based on greatest need and interest and within short-term and long-term timeframes. Workshop notes were typed and analyzed using qualitative coding.

## Key Stakeholder Interviews

After preliminary analysis of our survey results, we noticed there were a very few participants that gardened in the McPhee Gardens, which is primarily gardened by members of the Hmong community. We were concerned that the survey and Food Summit workshop might not accurately capture the perspectives of Hmong gardeners, or of other underrepresented groups (such as members from refugee populations and

lower-income minority groups), so we recruited key stakeholders that could help us. Selected key stakeholders are individuals who have experience working with members of these communities and have an established knowledge of their local food and gardening needs. Five stakeholders were interviewed by phone or email. The interview script was developed based on the online survey and included the following questions:

- Describe your experiences working with members of the 'X' community.
- Which community garden do most of these individuals use?
- How are people getting to and from the garden?
- How far are community gardeners typically traveling? (is the community garden close to their home)
- Do the community gardens seem to be conveniently located for them? Why or why not?
- Are there other parts of town these gardeners would like to see a community garden added?
- In your opinion, would gardeners be willing to pay more for the plot rental? Does the rental price seem fair to them? Please explain why or why not.
- What do community gardeners do with the produce? How much do they actually use for themselves and their families?
- Are they interested in gardening education programs? If so, what kind? If not, why not?
- To what degree do you feel the community garden program satisfies this communities demand for garden plots?
- How do these individuals get information on community gardens and other issues?
- What methods have you used to build relationships with this community?
- What lessons have you learned?

# Results

## Case Studies

As noted above, for our case study research we selected seven cities to compare and contrast with Anchorage's program. Cities included in the case studies were selected based on the existence of a community gardening program, demographics, climate, and/or size similar to what is experienced in Anchorage. Below is a summary of the seven programs, their strengths and challenges, and potential applications for Anchorage. A matrix highlighting these findings is in Appendix 1 of this report.

## *Berkeley, California*

Berkeley's community garden structure includes eleven traditional community gardens, two demonstration gardens, one youth-training garden, one non-profit garden project, two college gardens, and seventeen school gardens. Community gardens in Berkeley are facilitated by Municipal Parks and Recreation and managed by Berkeley Community Gardening Collaborative (BCGC). Some of the gardens are privately owned. The collaborative is supported by the Berkeley Ecology Center. Berkeley Parks and Recreation encourage community members to organize, design, and manage community gardens collaboratively and sustainably through the development of partnerships. (City of Berkeley: Department of Planning and Development, n.d.). BCGC is committed to environmentally beneficial urban stewardship including urban agriculture. Community involvement, collaboration, alliances and partnerships keep community gardens alive and vibrant in the city of Berkeley. Fees vary and are handled separately by each garden (Berkeley Ecology Center, 2010).

**Strengths**

- Berkeley community garden members are dedicated to organic, urban agriculture and providing access to healthy food
- Advocates food security in local schools and the city
- School gardens provide students with organic produce and serve as a learning laboratory for education programs.
- A training garden is used to train and employ youth from high-risk neighborhoods
- Nonprofit organizations partner to build and support garden projects
- The city has several demonstration gardens to help facilitate community education
- The Berkeley Community Garden Handbook is clear, decisive and gives numerous resources such as: cost of starting a garden, how to obtain permissions to use private land, water use, compost use and provides an extensive list of resource links (Berkeley Climate Action Coalition Land Use Working Group, 2013)
- Berkeley Ecology Center's website is comprehensive and offers information on other related topics

**Challenges**

- Each community garden is managed separately and the fee structure and management varies. (Berkeley Ecology Center, 2010)
- Establishing a community garden on private land can be difficult and costly
- Some of the gardens have struggled with Berkeley's zoning ordinances

**Applications in Anchorage**

Berkeley has several models for developing partnerships to expand and run community gardens. Berkeley Parks and Recreation support the development and maintenance of community gardens, however, the municipality rely on the community to make the gardens function. The Berkeley Ecology Center is a critical partner for community gardening efforts in Berkeley and Anchorage could benefit greatly from developing a similar model with a local non-profit organization. Anchorage would also benefit greatly from expanding the school-based community garden effort and the MOA could look to Berkeley for ideas on how to formalize city-school partnerships. In Berkeley, gardens act as a hands on learning tool and also provide locally grown foods to students. The MOA currently does not have any demonstration gardens or formal gardening internship opportunities. Both a strength and challenge in Berkeley is getting permissions to use privately owned land to build gardens on. Anchorage also lacks a comprehensive, easy to navigate handbook or resource guide, which Berkeley's community gardening handbook could serve as a great model or resource. Lastly, Berkeley's rental plot fee varies and could serve as a model for developing a sliding-scale fee for renting a community garden plot in Anchorage.

## *Boulder County, Colorado*

Growing Gardens is a non-profit organization established in 1998 and is connected with a rich local agricultural history got its start in 1975. Their mission is to enrich the region through sustainable urban agriculture while improving lives through connection with plants, land, and the community. Urban gardening is valued as a way to build and engage community members of all ages and abilities. There are more than 500 individual community garden plots across 12 locations in Boulder County. Growing Gardens has an extensive list of partnerships and donors. Garden plot registration begins on January 15th of each year with initial preference given to returning gardeners. Fees vary based on plot location and there are reduced rates for low-income and seniors with proof of Medicaid, public housing, disability, or Colorado Health Plan. Registration guidelines are clearly outlined through the Growing Gardens website (Growing Gardens of Boulder County, 2011).

**Strengths**

- Gardens are successfully managed in partnership with a resident Garden Leader. Garden Leaders are volunteers who help community gardeners navigate the Colorado growing season and act as valuable resources. They are incentivized with a free garden plot, which has been a primary component in garden success. Garden Leaders are trained to serve as educators and managers (M. Reehl, personal communication , April 23, 2015)

- Reduced garden plot rental rates are available with proof of required documentation
- Their website is detailed and comprehensive
- Garden funding is diverse and comes from donations by sponsors, foundations, grants, community donors, and plot fees
- Boulder has well rounded and extensive gardening education programs for youth and adults
- Growing Gardens offers internships and volunteer opportunities
- Annual reports released each year outline accomplishments and yearly revenue and supporters
- In addition to helping run community gardens, Growing Gardens is a diverse organization offering youth programs, land preservation efforts and bee colonization.

**Challenges**

- Not all of the community garden locations are well advertised and Growing Gardens has struggled with their outreach efforts. While some garden spots are extremely popular, others retain vacant garden plots due to lack of community interest and/or awareness.
- Funding is a challenge. Program fees (plot fee) do not cover all of the costs to manage and maintain the gardens. Growing Gardens relies on grants and donations from partnerships to cover additional costs. The needed grant funding is not always secured and there is limited support available from the city.
- Water availability, access, and cost are big challenges for Boulder community gardeners. There is a push to add a water fee and/or require gardeners to install their own drip irrigation systems. Both of these actions would greatly increase the costs shouldered by the gardener. (M. Reehl, personal communication , April 23, 2015)

**Applications in Anchorage**

Growing Gardens is another example of a successful public-non-profit partnership for expanding and managing a community gardening system. Non-profits like Growing Gardens can be a cohesive mechanism to facilitate community involvement, diversify funding, and increase independence. Reduced rates for seniors, those on disability, and those with lower incomes would help provide better accessibility to food, increase food security, and possibly decrease the use of food assistance programs. Growing Gardens incentivizes volunteers to become Garden Leaders by offering them a free plot and giving them proper training. This approach may facilitate oversight of day-to-day garden operations and alleviate that responsibility from Parks and Recreation. Demonstration gardens are an excellent resource that provides educational

opportunities. Anchorage could greatly benefit from dedicated demonstration gardens. Anchorage would also benefit from school gardens at elementary, middle, and high schools by providing gardening education to youth. UAA and the UAF Cooperative Extension could serve as excellent resources to facilitate educational gardening opportunities.

## *Fairbanks, Alaska*

Fairbanks has one community garden that started in 1979, formed by a non-profit organization and funded by the plot fees collected each spring. The garden has 85 plots averaging about 600 square feet each. Returning gardeners have priority if they choose to renew their garden plot and there is a waitlist available for new gardeners. Plots become available on May 15th and are distributed in order of the waitlist. Fairbanks is 365 miles north of Anchorage, with a shorter growing season of about 90 days. (Anderson, W., Blizzard, S. & Vivra, E., 2014).

**Strengths**

- A single large community garden results in less variation and discrepancies than several smaller gardens
- Some gardening equipment, a dumpster, a water system and a port-a-potty are available to the gardeners
- Through the formation of a nonprofit, the community is engaged in making the garden successful
- An online forum provides opportunities for sharing and advice

**Challenges**

- Short growing season
- Lack of donors
- Only one community garden space in all of Fairbanks
- The community garden does not have educational material to hand out, nor does it have educational programs for adults or youth.
- Other gardening programs in Fairbanks such as Calypso Farm (Calypso Farm and Ecology Center, 2013) and Fairbanks Cooperative Extension through UAF (University of Alaska Fairbanks, 2014) are not partnered with the community garden.

**Applications in Anchorage**

Community gardens run by a non-profit could increase participants buy-in and ownership of garden management efforts. Information sharing through online forums is a convenient and efficient way to communicate with gardeners and to increase a

sense of community. Community gardeners in Fairbanks struggle with a short growing season and lessons learned there could be applied in Anchorage.

## *Portland, Oregon*

The Community Gardens program has provided gardening opportunities for the physical and social benefit of the people and neighborhoods of Portland since 1975. There are 50 community gardens located throughout the city, developed and operated by volunteers and Portland Parks and Recreation staff. In 1986, the nonprofit Friends of Portland Community Gardens (FPCG) was established in response to dramatic municipal budget cuts. FPCG aids Parks and Recreation by providing volunteers and helping maintain sustainable community gardens in Portland (Friends of Portland Community Gardens, 2015). To sign up for a plot, gardeners can submit a Garden Plot Request Form. New gardeners can expect to receive their assigned plots in March or April, which continues through June as plots become available. Garden plots are assigned on a first-come, first-served basis. If plots are available, the assignment process typically takes 2 - 3 weeks, alternatively, the gardener will be put on a waitlist and notified when one becomes available. Fees vary and are based on plot size (square footage). Plot fees pay for land and water. Scholarship assistance of up to 75% of the fee is offered to those with limited-income. Gardeners provide their own tools, plants, soil and any other supplies. Organic gardening practices are required in all Portland gardens (The City of Portland Oregon, 2015).

**Strengths**

- Portland Parks and Recreation (PP&R) devised a Community Garden Business Plan for fiscal years 2008-09 through 2010-11. This plan outlines several goals listed in order of importance: maintain and improve existing gardens, increase service capacity through land management and acquisition, update operational practice, engage, and educate. This business plan is the backbone to Portland's Community Garden success.
- Portland Parks and Recreation works with Friends of Portland Community Gardens, a nonprofit organization, to help expand community gardening for all Portland residents
- Volunteer garden managers help oversee gardens by reporting vacancies and maintenance issues to PP&R as well as assisting gardeners
- Volunteers from community and partner organizations help gardeners by coordinating outreach, fundraising, work parties, and advocacy efforts
- Community Gardening has strong support from partner groups, agencies and neighbors
- 75% of garden land is owned by the City of Portland
- Gardens in Portland provide elements to the regional food shed

- Gardens help further goals of environmental and social movements by providing space for people that would not otherwise use public parkland (Miranda, P., Harper, M., Pohl-Kosbau, L, 2009).

**Challenges**

- The largest challenge Community Gardens face is the growing demand for all park land for the various recreational activities is growing, however, the supply of land for recreational use is limited and there is a lack of available land for purchase or lease.
- Land use regulations and zoning policies can make creating new gardens difficult.
- Funding for repairs and replacement of existing gardens is limited (Miranda, P., Harper, M., Pohl-Kosbau, L, 2009).

**Applications in Anchorage**

Portland's Community Garden Business Plan is an excellent model and resource. Portland recognizes that gardens cultivate community, food security, education, opportunity for self-preservation, sustainability, and provides aesthetic beauty to the city. Creating more active green spaces that provide a function, such as food production, could help mitigate the rising crime levels in Anchorage and facilitate community growth. Similar to Portland, a majority of the land in Anchorage is owned by the municipality, which is a perfect mechanism to facilitate more community gardens. Portland has fostered the cultivation and preservation of green spaces through business plans and land development. The city is built in a forest and Anchorage developers could greatly increase the use of green space by incorporating gardens into business and dwelling developments. Portland Community Gardens is also another example of a thriving public-non-profit partnership model, pieces of which could be applied in Anchorage.

## *Vancouver, Washington*

Vancouver is the fourth-largest city in Washington, situated along the north bank of the Columbia River. Being located in the Pacific Northwest gives the area a similar climate to that of Anchorage. There are a total of fourteen community garden locations in Vancouver. Vancouver Parks and Recreation Board supports five community garden locations throughout the city, while the rest are organized by local nonprofit and neighborhood organizations. One of the largest is the Clark County gardens, which is open year-round and managed by 78th Street Heritage Farms.

**Strengths**

- Clark County supports teaching of children and adults about organic gardening through the Master Gardener Foundation

- Washington State University in Vancouver runs many gardening classes at different garden locations.
- The community gardening programs solicits mentors from Master Gardeners and Growing Groceries.
- Many of Vancouver's community gardens are located in city parks so there are often restrooms, trails, benches and playgrounds on site.
- Excess produce can be donated to Clark County Food Banks' Farmers Market in Vancouver
- Fees are consistent throughout all community gardens

**Challenges**

- There is a heavy reliance on volunteers to maintain gardens which can lead to inconsistency in management.

**Applications in Anchorage**

Anchorage may benefit from following a model similar to that of Vancouver with support from the city Parks and Recreation as well as Neighborhood Association support. Vancouver makes it easy for Neighborhood Associations to create community gardens in local parks. The Neighborhood Association (NHA) works in collaboration with Vancouver-Clark Parks and Recreation (VCPRD) to review the garden proposal, update the parks master plan, establish a site, and connect to water resources. Once the VCPRD has helped establish the garden, all other costs and maintenance operations are the responsibility of the NHA (Community Gardens, n.d.). Anchorage could likely benefit from a similar plan as to where the MOA helps to establish the garden, but maintenance costs are left to other organizations. Although it is rather easy for non-profits or Neighborhood Associations to establish a community garden, they rely a lot on volunteer work. And even though Anchorage may not have well established volunteer coordinators like in Vancouver, there are resources available. Similar to Vancouver, Anchorage could attract smaller established groups such as scout troops, students, or local businesses.

## *Montgomery County, Maryland*

Montgomery County is located in the northern subtropical climate of Maryland. There are over 600 gardeners spread over 11 garden locations throughout the county. All except one garden is enclosed with a fence and most gardens have gates with combination locks and only plot tenants are given combinations. The Parks Department hosts a Parks Volunteer Garden Liaison program to keep gardens in working order. With a plot permit, gardeners are expected to fulfil a minimum of 8 volunteer service hours per season.

**Strengths**

- The University of Maryland Extension offers services and resources for any level of community gardener.
- The University has a program called Grow It Eat It (GIEI) to educate growers on viable crops, organic growing operations, how to control pest, best soil options, and more.
- Parks department provides basic equipment such as wood chips, water, and compost when available.
- Organic methods are used on all gardens.
- People can apply to be on waitlists for multiple gardens to increase chances of getting a plot
- New renters can only rent one plot per season, whereas other gardens have demonstrated the opportunity to rent another plot if there are still some left after the initial registration session.

**Challenges**

- Although water is provided by the city, gardeners have to go to nearby fire hydrants to collect water to fill a cistern on site that can be used to water the garden.
- Garden plots fill quickly and there are not enough plots to meet the demand.

**Applications in Anchorage**

Anchorage may be able to benefit from using Montgomery County as an example based on the use of the University of Maryland Extension that provides resources for gardeners through the Grow It Eat It (GIEI) program. Following the model, UAA and/or the University of Alaska Cooperative Extension could offer organic gardening classes to community gardeners and other interested in sustainable urban agriculture. Montgomery County gardens also expect people holding a plot permit to commit to 8 service hours working in the garden in addition to joining the listserv for their garden. The service hours are used to help the garden as a whole by weeding or otherwise improving the garden as instructed by the Parks Volunteer Garden Liaison. Requiring gardeners to participate in service could increase community capacity while conducting needed garden maintenance (Montgomery Parks, 2014).

## *New York City, New York*

New York City is a thriving metropolis, with more than 600 gardens spread over five boroughs – Brooklyn, Queens, Manhattan, the Bronx, and Staten Island. The community gardens are supported by the program GreenThumb. The program has been a part of the New York City Parks Department since 1995 and provides support and some materials to the 600 gardens throughout the city. The program is funded through Federal Community Development Block Grants and is known to be the largest community gardening program in the country.

**Strengths**

- GreenThumb supports gardens with supplies and educational information
- Workshops are held monthly throughout the year
- There is an ample amount of community involvement, cooperation, and volunteer hours
- There is a wide variety of garden types (green spaces for meetings to fully functional farms)
- Many neighborhood residents manage gardens in their area
- GreenThumb provides translation services for gardeners with limited English-materials and programs are offered in Spanish, Korean, French, Chinese, and Russian
- GreenThumb provides request forms for soil/compost, lumber, signage, or hydrant access on their user friendly website
- There is a wide variety of different events and workshops to attend that are scheduled almost daily in the summertime
- There are many smaller organizations that help run farmers markets and local gardens
- This program has been a large part of many neighborhood revitalization efforts

**Challenges**

- This program is largely based on volunteer time

**Applications in Anchorage**

GreenThumb actively engages community members and works to establish community gardens in neighborhoods. Spaces that once were vacant and were the scene of crime and vandalism now have thriving gardens that are closely watched by local neighbors. By making these gardens local and using them for educational and social events, GreenThumb has successfully gained community support and buy-in of the community garden movement. Following the model used by GreenThumb to identify potential garden locations and soliciting neighbor involvement could help reduce crime and increase participant safety in Anchorage. Although New York City has hundreds of garden locations and has more resources to maintain a comprehensive community gardening website, Anchorage could benefit by revamping or creating a new community garden website that is easier to navigate. Currently, it is difficult to find information about community gardening in Anchorage and a more user-friendly online source would be beneficial to participants. (GreenThumb. n.d.)

## *Case Study Summary*

In summary, community gardening programs around the nation face many of the same struggles and share many of the same successes as Anchorage. To overcome the challenges associated with the high demand for community garden plots, including limited funding, limited personnel, and limited infrastructure, these cities created

partnerships with private entities, nonprofit organizations, and other public institutions. Many cities also offer incentives for the volunteers on which they rely heavily. Partners and volunteers help share the burden of garden management and expansion but still require oversight and coordination. Cities that have more internal resources tend to have greater institutional capacity than those that rely primarilyon volunteers. Efforts to increase community and neighborhood buy-in can increase local ownership resulting in improved aesthetics, increased safely, and greater participation.

## Online Survey

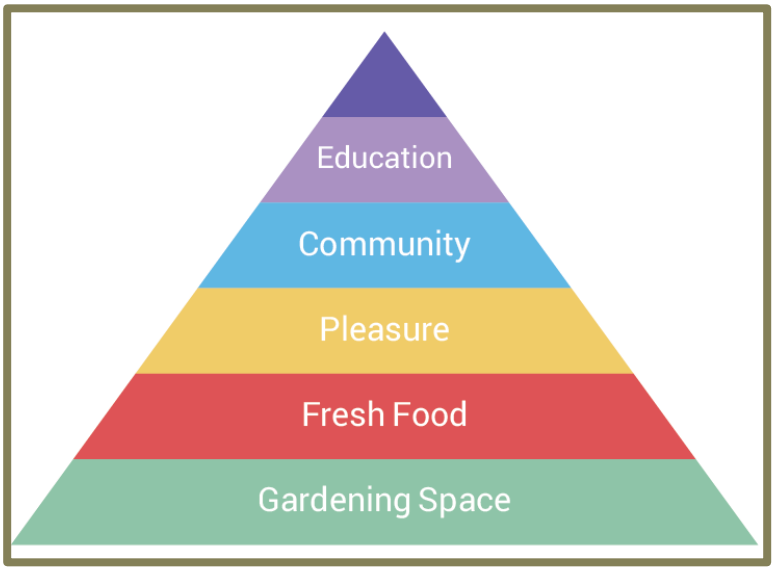



**Figure 2 Primary reasons survey respondents consider the community gardening program important**

Between April 15 and August 31, 2015, 478 respondents participated in the online survey with 346 respondents (approximately 72%) completing the entire survey. Survey respondents reported that while gardening space is what they value most about community gardens, they also consider fresh food, pleasure gained from gardening, a sense of community, and educational opportunities as important aspects of the community gardening program (Figure 2).

Of the 478 individuals that started the survey, more than 400 identified themselves as either gardeners or those interested in gardening (see Figure 3). However, of the 277 individuals that identified themselves as interested in community gardening, but not participating in the community gardening program, only 31 had at some point been on a waitlist for a community garden plot and nearly 75% had been on the waitlist for just one year. The majority of those waitlisted were waiting for a spot at the C Street Garden. Respondents gave a diversity of reasons for not signing up for the waitlist, including not being able to attend in-person registration, thinking the waitlist was too long, and not knowing a waitlist process existed.

Of the survey participants, 41 identified as community gardeners and approximately 64% of these individuals garden at C Street garden, which was ranked the most conveniently located of the MOA's community gardens. Of the other self-identified community gardeners, 6% garden at Fairview, 6% garden at McPhee, and 24% participate in other gardening programs including St. Anthony's Church, Loussac Place and Yarducopia (Figure 4).

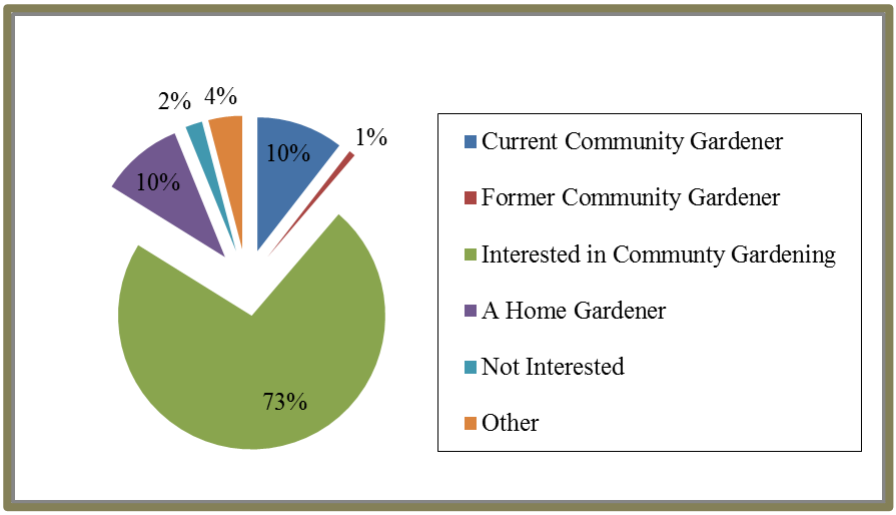



**Figure 3 Description of Survey Respondents**

Of those that were on a waitlist, approximately 70% waited one year for a plot with the remaining 30% waiting 2-4 years for a garden plot. Approximately 50% of survey respondents who identify as community gardeners have participated in the gardening program between 2 and 4 years.

Community gardeners reported visiting their plots at various times during the day with afternoons and evenings having the highest frequency of visitation. Thirty-one of the gardeners visited their garden plot two or more times a week and most visits last between 2 and 4 hours. The majority of participants do not bring children to the garden with them. Approximately one third of respondents report that 50% or more of the produce they consumed last summer came from their community garden plot. Gardeners reported growing 38 different crops. Popular items include carrots, kale and peas and more unique items include rhubarb, sunchokes, and peppers (Figure 5).

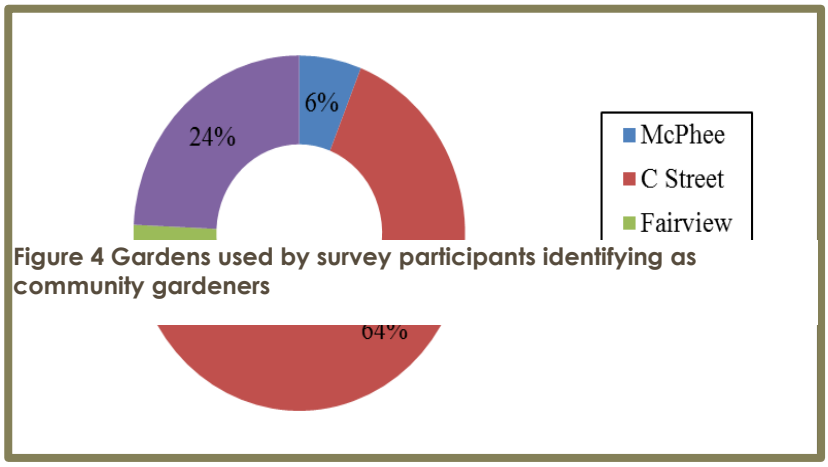



**Figure 4 Gardens used by survey participants identifying as community gardeners**

While some gardeners kept all the produce grown in their gardens for themselves, many report sharing with family, friends, neighbors, or trading with other gardeners, and donating produce. The majority of community gardeners drive to their garden plot,

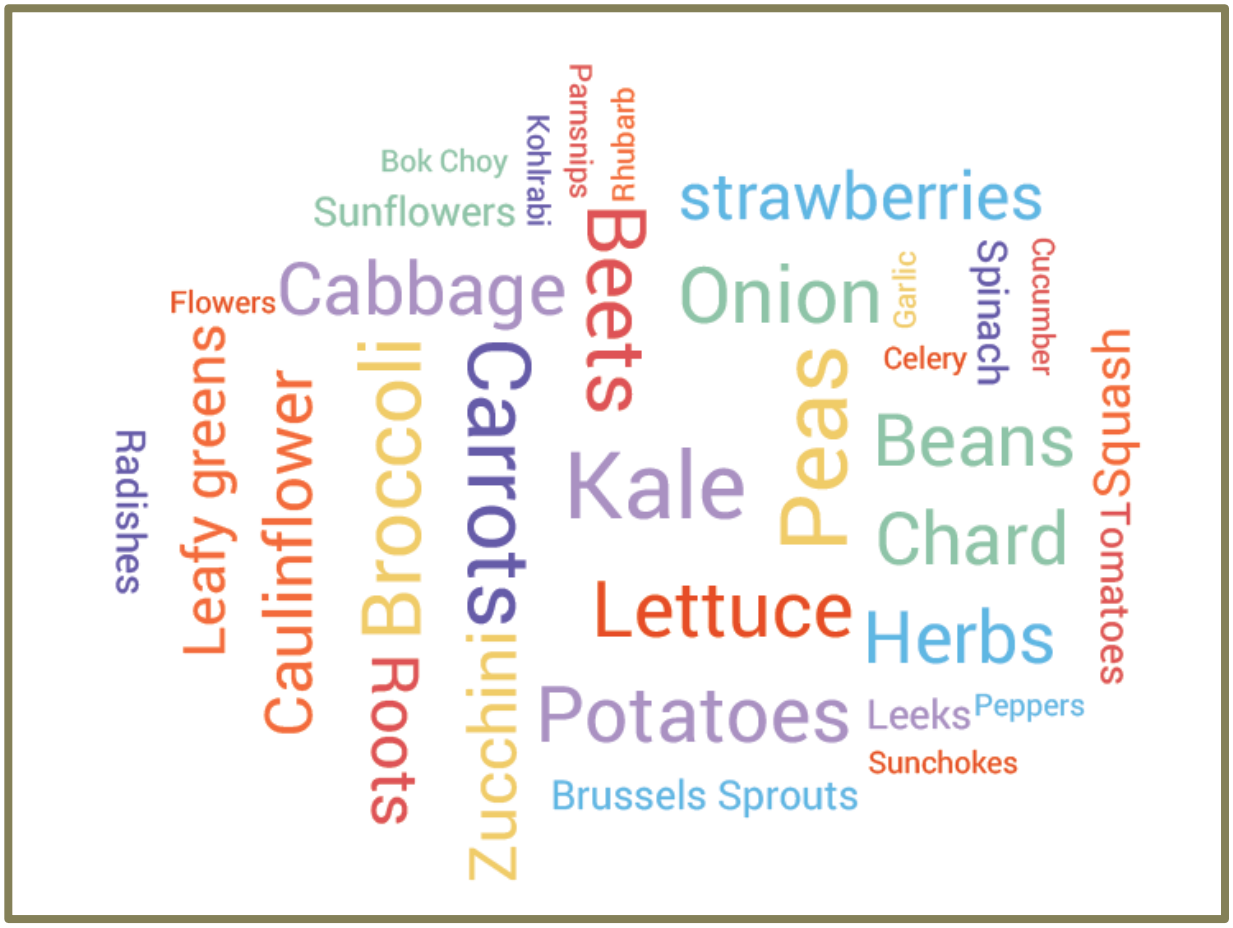



**Figure 5 Diversity and relative abundance of produce reported from Anchorage community gardens**

however, 18 survey respondents reported that they walk or bike to their plot. Several respondents noted that they are not able to drive to their garden.

Survey respondents not currently involved in community gardening but interested in the program offered several reasons why they don't participate (Figure 6). The number one reason participants listed was garden locations and/or inaccessibility. Some survey respondents are unsure where to access community gardening information while others are concerned about safety issues and busy roads. Registration and lack of parking

where both noted as barriers along with various other things including regulations that are too rigid, vandalism, and a lack of infrastructure. For example, one participant noted "Fairview Lions Park community garden was poorly planned and implemented with no water or fencing. There are lots of complaints over the need to initially haul water, and of vandalism or theft of vegetation". In regards to registration, while 49% of

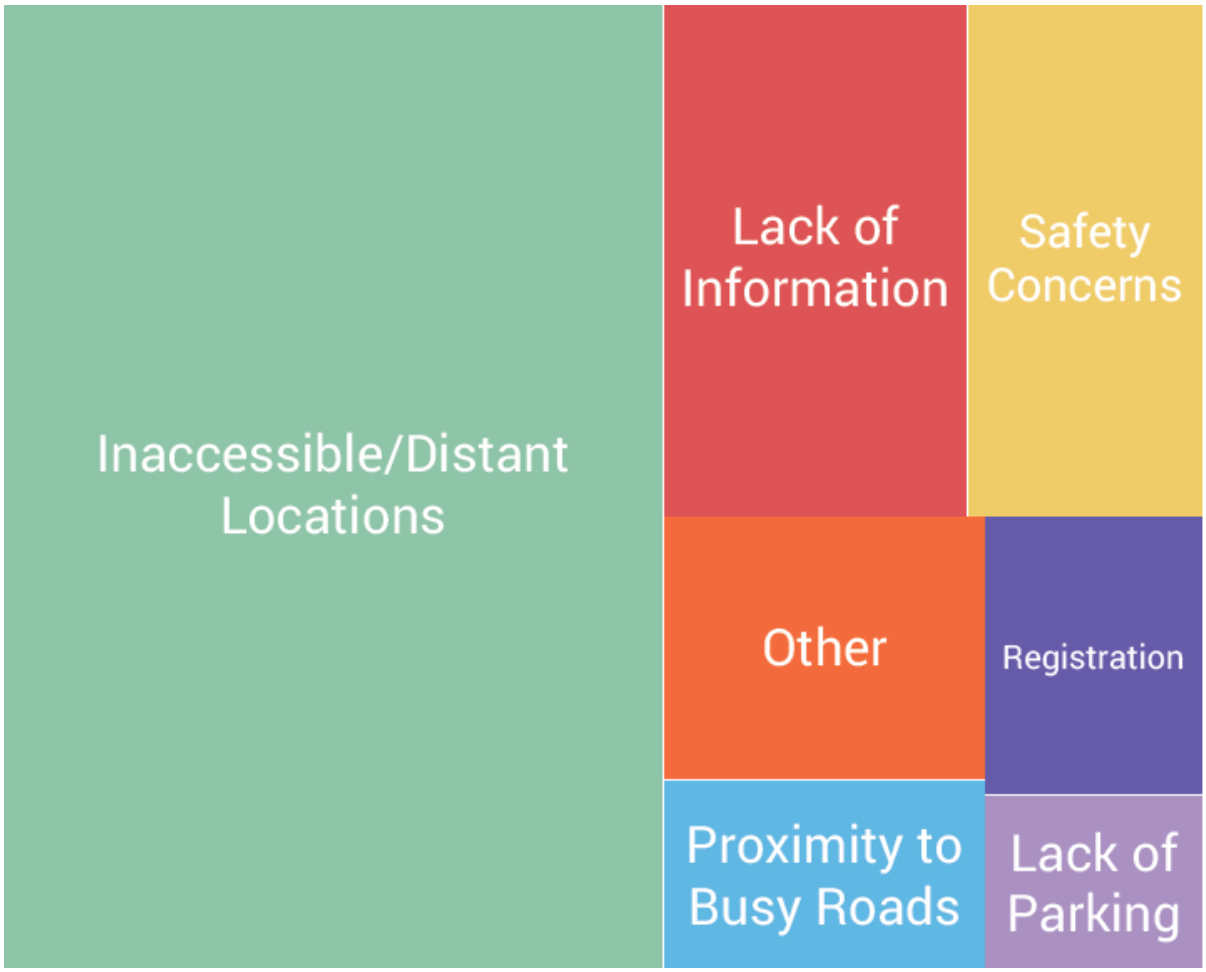



**Figure 6 Diagram representing barriers to community gardening participation**

respondents reported being satisfied to somewhat satisfied with the current registration process, 149 participants indicated they would prefer the registration process be online. More than 60% of those surveyed indicated increased convenience through greater availability of garden locations within their neighborhoods would prompt them to participate in the program. When considering location, nearly 300 respondents reported they would be willing to travel up to 2 miles to participate in a community garden program. Based on existing community garden locations, only 36% of total respondents indicated they were satisfied and 86% of those that are satisfied are current community gardeners. Those that reported being unsatisfied with the existing garden location echoed the above message that locations are inconvenient, space is limited, and they are concerned about safety.

When asked where new gardens should be located, approximately 80% of survey respondents offered suggestions which ranged all over town. Of specific neighborhoods, survey respondents ranked Mountain View, East Anchorage/Muldoon, and Spenard of greatest interest. South Anchorage and Airport Heights were mentioned by 12% and 10% of survey respondents, respectively. Within these neighborhoods, individual respondents indicated specific locations at schools, churches, housing developments, and on greenbelts however no major trends were seen in these responses. But in addition to describing locations, several respondents noted that new gardens should be started where there is the greatest need while others stated new gardens should be slated in areas where there are no gardens present, and others thought new gardens should be raised where the greatest population density is located. One survey respondent suggested adding gardens as "functional greenery that will turn vacant lots into growing centers that promote community," while another noted "community gardens should be available in every neighborhood and accessible to everyone wanting to participate and gain knowledge".

Approximately half of the respondents consider themselves to be somewhat knowledgeable to extremely knowledgeable of gardening practices with many participants getting their knowledge from the web, books and/or magazines, and family and friends. When asked if they were interested in participating in educational workshops, 280 respondents said they were either interested or extremely interested in doing so. Gardening programs that are of interest to survey respondents are illustrated in Figure 7.

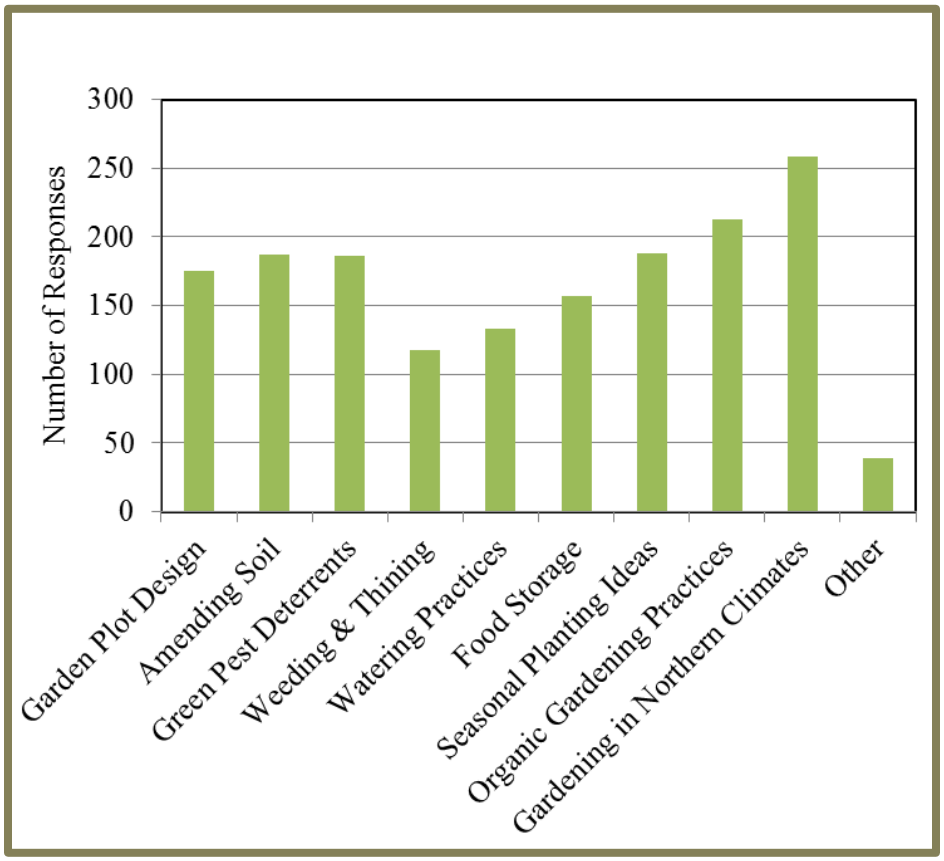



**Figure 7 Gardening education programs of interest to survey respondents**

In addition to the education programs listed above, survey respondents listed a

host of other topics they would be interested in learning about. These topics range from beekeeping to gardening for those with physical challenges (Figure 8).

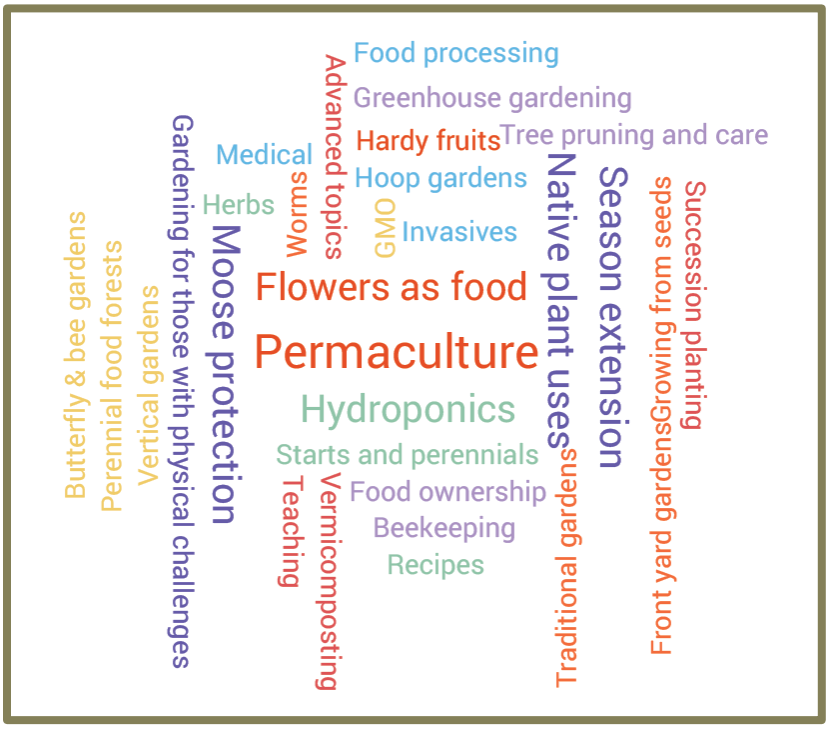



**Figure 8 Additional education programs suggested by survey respondents**

While educational programs can be one benefit gained through community gardening, community gardens offer host of other benefits and amenities. The majority of survey respondents were either extremely interested or somewhat interested in these benefits with the greatest interest expressed in affordable produce, access to local foods, and support from other gardeners (Figure 9).

Most participants feel the current fee to rent a community garden plot is fair. Approximately 10% of respondents thought the price should be reduced with two people indicating they think the plots should be free and 5% thought the price should be increased with three respondents indicating they would be willing to pay up to $100 per year for a garden plot. A few respondents indicated that while they would be willing to pay more for a garden spot, raising the fee might make the program inaccessible to others. One participant noted “I would be willing to pay more, but I think that they should be more affordable so people with low incomes can grow their own food".

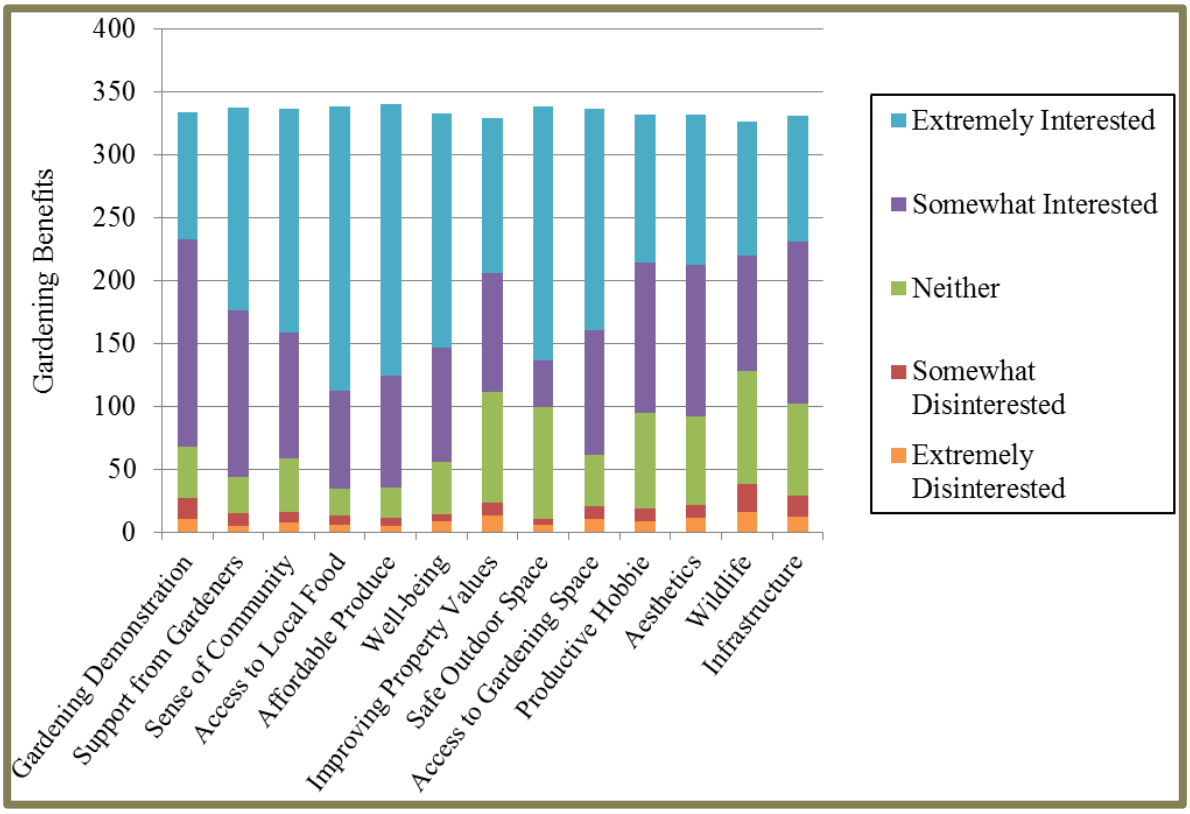



**Figure 9 Benefits of community gardens ranked by survey respondent interests**

In general, people engaged in the community gardening program are somewhat to extremely satisfied with the program. The majority of respondents interested in participating in the community garden program but not currently participating express less satisfaction and their answers tend to be linked with lack of plot availability, inconvenient locations and difficulty registering.

## Food Summit Workshop

At the Food Summit Workshop, participants worked together in activities described in the Methods section of this report. Their work culminated in three products. The first was a framework for shared vision of the community garden program, the second was a SWOT analysis of the Anchorage's community gardening system, and the third was a set of strategies for expanding community gardens in Anchorage.

### *Developing a Shared Vision*

As part of the Food Summit, workshop participants worked together in four groups, with 4-6 individuals in each group, to brainstorm their shared vision of Anchorage's community garden. Each group came up with a set of values they wanted captured in this vision. Each small group recorded their thoughts on a worksheet and then shared their thoughts with the larger group. Workshop facilitators took notes and sorted their comments into the following categories and themes (Table 1).

Table 1 Values for a shared vision of an expanded community garden program in Anchorage

| Value | Shared Vision |
|---|---|
| Quality of Life | • Enhance community – interactions with neighbors<br>• Improve local food security<br>• Increase affordability - access |
| Education | • Enhance education<br>• Master gardeners<br>• Garden champions |
| Access | • Prioritize high density locations<br>• Affordability – access<br>• Map out sequential expansion plan<br>• Work with developers and housing organizations to create community gardens on multifamily housing complexes |
| Partnerships and Funding | • Partnerships<br>  ○ Identify partners<br>  ○ Diversity of partnerships<br>  ○ Connect with industry<br>  ○ Sustainable partnerships - government<br>  ○ Community involvement/alliance<br>  ○ Master gardeners and garden champions<br>  ○ Focus on housing opportunities<br>• Funding<br>  ○ Establish methods for obtaining funding<br>  ○ Corporate donations and leadership<br>  ○ Private donations |
| Health | • Affordability – access to healthy food<br>• Increase health<br>• Education and nutritional health |
| Management | • System wide approach<br>• Community involvement/alliance<br>• Volunteer requirement from gardeners<br>• Municipal code that supports community gardens<br>• Oversight – make sure policies are enforced<br>• Establish methods for obtaining funding<br>• Easier sign-up<br>• Strategic Planning<br>  ○ Identify partners<br>  ○ Establish methods for obtaining funding<br>  ○ Map out sequential expansion plan<br>  ○ Expand methods we have already<br>• Create a foundation for sustainable gardening programs<br>  ○ Financial<br>  ○ Educational<br>  ○ Diversity of partnerships<br>  ○ Municipal code that supports community gardens |

Additional values shared, but not included in Table 1:

- Aesthetics/art
- Year round gardens indoors
- Larger scale urban farming approach
- Diversifying the economy
- 1-2 year plan: collaboration, collective impact, asset mapping, online hub
    - Easier sign up
    - New garden development
- 5 year plan:
    - 2-3 new gardens
    - Education and nutritional health

The results of the visioning exercise illustrates the diversity of values stakeholders hold and offers insight into how to find common ground for moving forward. The themes described above were often discussed concurrently, showing that a multi-faceted approach to expanding the community garden program is needed. This approach needs to consider that while growing food is a very important benefit of the community gardens, an expanded program should be built on a foundation of the above elements to ensure the greatest buy-in and long-term sustainability.

### *SWOT Analysis*

The SWOT analysis was divided into six themes: Education, Fundraising, Site Selection, Volunteers, Garden Management and Other. Participants worked together to complete the SWOT (see Appendix 2). While groups were asked to focus on a particular theme, as expected, many of the topics and issues that emerged overlapped across themes. A topic that was raised by all groups was the need for more partnerships. Some groups saw the existing partnership the MOA has with the Anchorage Community Land Trust through the Gardens at Bragaw as a strength that should be capitalized on and a model which should be replicated. Some participants suggested partnering with schools, churches, and other organizations to create more gardening programs that are more accessible and diverse. Partnering with other organizations that are involved in gardening programs is seen as an opportunity to leverage resources and develop better programs through collaboration. The lack of partnerships threatens the community garden system because the MOA does not have enough financial or human resources to expand the city's community garden system.

Lack of partnerships threaten the community garden system

This raises the question of sustainability and what is "sustainable"? The concept of sustainability was raised throughout the SWOT process. There were additional questions raised through the SWOT process. Can and should the MOA community gardens strive to become financially sustainable? How do you assess the actual cost of garden and all the inputs and maintenance? What other factors should be considered? To what degree can volunteers help increase sustainability? What additional oversights need to accounted for to ensure the program itself is sustainable while volunteers rotate in and out? How can gardens be used as a mechanism for teaching sustainability? Can community gardens make for a more sustainable food system by increasing our city's food security?

Education, while a topic of its own, was discussed throughout the SWOT and seen as both strengths and weaknesses of the community gardening program. There is interest and demand by outside organizations to develop gardening education programs and potential opportunities to partner with educational institutions to expand the gardens, but there are few resources allocated to developing and implementing community gardening education modules. This is where education ties back in with the need for partnerships to leverage more resources for educational programs, which will build knowledge, interest, and ownership of the community gardening system.

Additional evaluation of the SWOT analysis shows that while there is ample parkland, new community garden site selection needs to be accessible, conveniently located, safe, and contain the necessary infrastructure (road access, parking, water availability, etc.). The safety concern is one that needs to be addressed both through site selection and garden management practices. Selecting sites that are well lit, in public view, well maintained, and frequently regulated will help increase a sense of safety.

### *Strategies*

After reviewing the SWOT analysis, individuals picked a theme-based SWOT to develop goal-based strategies. Participants worked in groups to develop action steps, and to identify needs and potential partners for enacting their strategy. The following chart, labeled Table 2, summarizes the strategies that resulted from this session.

**Table 2 Food Summit participant-developed strategies for expanding Anchorage's community gardening program**

| | Project/Objective | Goals | Actions | Needs | Potential Partners/Programs |
|---|---|---|---|---|---|
| Education | Create incubator garden | Develop skills to move to larger-scale farming to become eligible for USDA financing | 1) Conduct needs assessment to assess demand<br>2) Project budget<br>Permitting + approval | 1) Land/space<br>Start-up funds<br>2) 10-20 participants (beginning farmers/refugee community members)<br>3) Equipment (from UAA)<br>4) Lessons learned and costs of community gardens | UAA, USDA , CES, ABG<br>USDA<br>State Division of Agriculture (Food Safety), interns, connect with private sector |
| Fundraising | Develop diverse and sustainable funding streams | Partner to make gardens feasible and accessible | 1) Create a city-wide community garden coalition of stakeholders to share information/ and create partnerships<br>2) Take advantage of existing infrastructure by partnering with schools/churches/nonprofit owned housing properties (RURAL CAP, CIHA) to decrease maintenance and start-up costs for community gardens<br>3) Use community gardens as an event facility | 1) Develop income based sliding scale<br>2) Free plots for volunteers and corporate sponsors<br>3) Tax incentives for Pick.Click.Give (with fiscal sponsor as a non-profit) | Farm stands, fee-based education workshop |

| | Project/Objective | Goals | Actions | Needs | Potential Partners/Programs |
|---|---|---|---|---|---|
| Site Selection | Conduct land assessment | Determine which lands will meet community garden needs | 1) Identify where public wants gardens<br>2) Determine potential garden locations based on existing infrastructure<br>3) Create public/ partnerships to increase accessibility and diversity | 1) Buy-in from community councils<br>2) Access to existing information<br>3) Assistance filling in the gaps of knowledge | Community councils, housing associations, churches, schools, funders |
| Volunteers | Expand volunteer base | Partner with other organizations to leverage volunteer resources | 1) Partner with UAA and APU to offer gardening course with volunteering as a service component<br>2) Partner with Cooperative Extension to offer volunteer hours at the community gardens<br>3) Offer rehabilitation opportunity for juvenile offenders | 1) Volunteer training and toolkits<br>2) An entity/person to coordinate and provide oversight | Schools, UAA and APU, Master Gardens/Cooperative Extension, businesses (for sponsorship/donations), provide free garden plots to volunteers |
| Garden Management | Revise the MOA community garden framework | | 1) Revisit and ensure compatibility of land use codes, regulations, and management structure of the gardens<br>2) Identify partner roles<br>3) Developing a funding plan<br>4) Develop education modules and tie into existing education programs | 1) Political Support and board of directors with connections<br>2) Funding<br>3) On the ground support at the gardens | Schools, donors/sponsors, |

The strategies developed by the Food Summit participants rely heavily on partnerships, sustainable funding sources, education and volunteers. Similar to the results of the SWOT, strategies ran across individual themes and require a holistic and multi-faceted approach to implementation.

## Key Stakeholder Interviews

In general, our key stakeholders confirmed that community gardeners from the Hmong and refugee communities are eager to garden and that current supply of garden plots does not meet current demand. Many of the Hmong gardeners make it a priority to stand in line and rent their plot as quickly as possible. Hmong families collectively are able to rent 3 or 4 plots, most of them located in McPhee garden. Because of language barriers and the limited number of garden plots available, members of the refugee populations have had a harder time securing enough plots from the MOA community gardens and have looked to other community-based gardening outlets like those found at St. Anthony's church. But even then, these gardeners would like to see more plots available because current plot availability does not meet their needs.

Because of language barriers and limited number of garden plots…refugee populations have had a harder time

In addition to not being able to get a garden plot (or plots), many gardeners from both the Hmong and refugee populations are unable to participate in the community gardening program because they live too far away from the existing community gardening locations. The majority of gardeners from these underrepresented communities are from the Mountain View, Muldoon, and Spenard neighborhoods. Many of them do not have cars and most of them take the bus or walk to their garden plots. Some people walk and/or bus up to 30 minutes to tend to their garden plot. Adding a garden to Spenard would offer refugees a local alternative to the already over-capacity C-Street garden. More gardens in Mountain View and East Anchorage would be beneficial to Hmong and lower-income residents in that area. Most gardeners feel the current rental fees of $25-$35 is fair and are willing to pay that price to rent a plot, but a raise in price could present a hardship to Hmong gardeners, most of which are older and on a fixed-income. Gardeners are also concerned about vandalism and safety coming and going from the garden. New garden locations should take this into account and consider adequate lighting, good visibility, accessibility to the bus system, and walking paths.

Members of the Hmong community have found success in the gardens and don't likely feel a need to participate in gardening education programs. It is also difficult to share educational resources with the Hmong community because most information is

exchanged through word of mouth. Refugees engaged in community gardening efforts could be very interested in educational programs because many come from agriculturally-based societies but they could use assistance applying Alaskan growing practices. Seed exchanges and social gatherings have been successful avenues for working with and getting to know members of these groups better.

For underrepresented groups such as these, the in-person system for renting a plot does not seem to be a burden. Many of these individuals have limited access to the internet and/or do not speak English and would struggle with an online sign-up only available in English. Retaining in-person registration as a mechanism for garden plot rental is important to ensure accessibility to all those that are interested.

# Discussion

## The Big Picture

Data collected by the four different methods described above had overlapping results and drew similar conclusions. The most prominent conclusion is one that the MOA knows, which is that the demand for the gardens exceeds the supply, and there is broad interest from diverse stakeholder groups and audiences in expanding the city's community gardening system. However, the results of the study imply that the existing demand for community gardens may be greatly underestimated because not all interested individuals have signed up for the waitlist.

While it may be important to retain an in-person registration component to ensure sign-up opportunities for those that do not have access to the internet or who are not English speakers, adding an online registration option would enhance the signup process for those that are unable/uninterested in signing up on-site and could may make the waitlist a better tool for assessing public demand for the garden. In addition to diversifying registration opportunities, the MOA may need to clarify who is permitted to rent MOA garden plots and which gardens are part of the MOA community gardening program. Results for this study show that there is some misinformation related to these topics. For example, some study participants who are interested in participating in the program believe only low-income individuals or refugees are eligible. Other individuals reported that they participate in the community garden program but, in fact, the site they garden at is part of a different gardening program (not the MOA community gardening program). Clarifying these types of discrepancies and improving the registration and waitlist process could provide the MOA with a more realistic picture of the current demand for community garden plots in Anchorage.

Demand for community gardens may be greatly underestimated

Expanding the gardening system raises many social justice issues including making gardens available and accessible to those who need it most, and making outreach and education materials available in formats and languages that will reach the intended audiences. The majority of study participants agree more garden locations are needed but there is a large discrepancy as to where these new sites should be located. Regardless of where new gardens are installed, new site locations should consider safety/vandalism issues, site convenience and accessibility (including close proximity to bus routes and access to trail systems), and infrastructure (such as water, fences and potentially including locks on the gates). While increasing rental plot fees may work for most gardeners, there is concern that an increase in fees would limit the participation of lower-income individuals who may need food from the garden the most. Developing a sliding fee scale and/or a scholarship program and creating opportunities for individuals to donate extra money towards to program could help alleviate this problem.

> Who needs gardens the most and how can they be made accessible to people in need?

In order to expand the community gardening program, all facets of the study point to a need to further develop partnerships. The MOA can pull from partnership models described in the case studies to do things like develop advisory boards to help with the leg work, create funding partnerships to expand the garden, create partnerships with other local food and gardening groups to share resources and staff, and develop/share educational programming and modules. It may also be a good idea to create a long-term partnership with UAA and APU. Interested faculty can include related tasks in their yearly workload agreements, can provide overarching consistency to the partnerships, can recruit and supervise student interns, and can help shoulder oversight responsibilities with the MOA.

Given the current demand and interest, a new community garden is likely to attract gardeners no matter where it is placed but the MOA should consider location based on community needs. Questions that should be addressed include who needs gardens the most and how can new gardens be made accessible to people in need? Results of the study show East Anchorage would benefit from the development of more gardens that are easily accessible, include necessary infrastructure, and are safe and secure. In addition to placing more gardens in East Anchorage, the results of this study suggest there could be a high level of interest in having gardens installed in South Anchorage, Turnagin, and/or downtown. To select specific locations, the MOA should confer with Community Councils and consider doing further, specific sensing activities in these communities. Activities could include focus groups, short surveys, and/or participatory mapping exercises with community members.

As the community garden program expands, it is essential to revise and update the MOA website, rules and regulations to better meet user needs. A handbook seems essential. This is something an intern or a volunteer could do with supervision from the staff at the MOA and possibly faculty from UAA and/or APU.

While many survey respondents reported being marginally interested in formal education programs, many of these same respondents acknowledged they only have little to some gardening experience. This result implies that more educational programming is needed in order for community gardeners to maximize their gardening potential, but drawing gardeners into educational programming may be difficult. Innovative methods for cultivating interest in education and outreach programs should be employed such as peer-to-peer mentoring, competition and incentive-based activities, and/or social events. Partnering with other organizations to plan and execute education and outreach programs could reach a wider audience while sharing the burden of overseeing the program. Partnership ideas include using the gardens as a place to host educational events being put on by other organizations, working with other organizations to develop educational modules and then making those modules available online, sharing educational resources, and making educational programming more accessible by holding events at different times and locations.

There is a need to diversify the funding and resources used to support the gardens. The rental fees collected do not cover the costs to run the program. Finding funding partners, organizations to donate materials, and leveraging resources to minimize overhead and oversight costs are critical. Many of the ideas outlined in the case study section of this report are applicable to Anchorage and could help increase the long-term sustainability of Anchorage's community gardening program.

## Working Vision

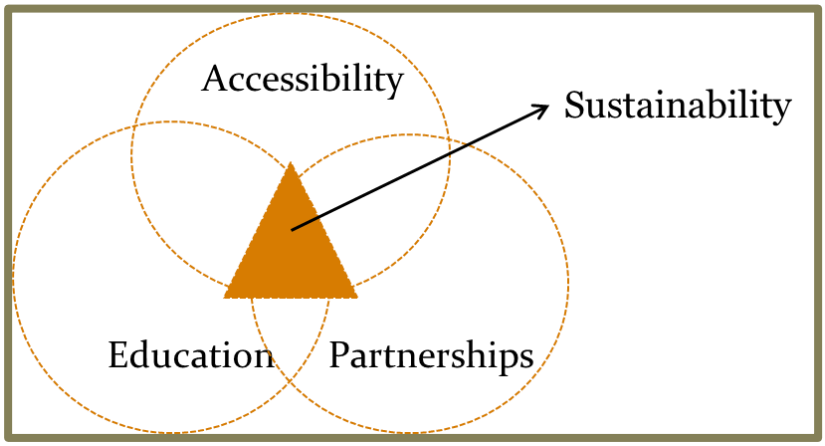



Figure 10: Vision for Sustainable Community Gardens in Anchorage

Through all areas of the study, project participants reiterated a need for the community garden program to be sustainable. Participants explained sustainability in various ways including developing a program that is self-sustaining; expanding the gardens in a mutually-beneficial way; ensuring the gardens long-term existence;

folding the community garden program into larger; city-wide, food security goals; and creating a program that is environmentally-sound and mutually-beneficial. Based on the results of this project, creating a sustainable vision for the community gardens is based on the following three tenants: education, partnerships and accessibility (Figure 10). The importance of these three tenants to the sustainability of Anchorage's community garden system mirrors what we found in the case study section of the report.

With input from partners and community members, the MOA needs to determine how they define sustainability. Questions that should be asked include: To be sustainable, do we need to cover the cost of make a profit? Will there be a need for an influx of outside support? How can roles and responsibilities be rearranged to increase sustainability? How should the concept of food security be integrated into the definition of sustainability? What social justices need to be considered and accounted for when developing a sustainability framework? What partnerships need to be developed in order to achieve our sustainability goals?

### *Objectives, Goals and Actions Steps*

Based on results from the online survey and Food Summit workshop, the long-term objectives of expanding the Anchorage community gardening system should focus on:

- Increasing garden accessibility so that they are available to those in need while still being geographically dispersed and reachable by multiple modes of safe transportation choices.
- Creating partnerships with funding agencies and other organizations that are involved in community gardening and/or the local food movement and to help support the resources needed to sustainably expand the community gardening system.

Based on the results of this study and to achieve these long-term objectives, the MOA should consider adopting the following goals and action steps

## 1-2 Year Goals

**<u>Goal 1</u>: Assess and revise the city's vision, policies, regulations for Anchorage's community gardens.**

- Action: Determine to what degree the current vision, policies, regulations meet existing needs.
    - Identify elements that should/could be modified and determine what steps need to be taken to enact these modifications.
    - Assess how existing resources are used and identify changes that would improve the MOA's efficiency and management.

- Determine what elements of the community garden program are potentially open to change and which pieces are embedded in larger set of protocols and policies, requiring them to stay the same.

**<u>Goal 2</u>: Create a shared vision for how the community gardening program can be sustainable**

- Action: With input from key stakeholders, develop an operational definition for community garden sustainability.
- Action: Determine what it actually costs to run the gardening program. Consider the costs of infrastructure, staff time, management and other resources.
- Action: Create a model that considers the economic benefits of the community gardening program. Things to consider include public health benefits, ecosystem services, increased community capacity, and social justice issues among other things.

**<u>Goal 3</u>: Create a clearinghouse of local food and community gardening resources**

- Action: Partner with UAA and/or APU to help design and manage the clearinghouse. Ask faculty members for assistance with clearinghouse design and oversight and with recruiting and supervising student volunteers and/or interns. Partner with them to:
  - Identify other organizations engaged with the community gardening and/or local food movement
  - Develop an inventory of programs and activities affiliated with these organizations
  - Create a live portal for potential partners to share and engage

**<u>Goal 4:</u> Design and install 2-4 new community gardens in Anchorage**

- Action: Identify specific site for new gardens by conferring with community councils and community members in neighborhoods that have the greatest need and/or interest
  - Approach Community Councils that represent low-income neighborhoods with a high degree of interest (East Anchorage and Spenard) and those that represent neighborhoods that have interest but no community gardens within close proximity (South Anchorage, Airport Heights).
  - Conduct focus groups and/or a survey with community members living in these neighborhoods. Consider including a participatory mapping component to pinpoint exact locations. Be clear about limitations given MOA restrictions and infrastructure needs.
  - Identify partners and/or funding agencies to help offset the cost, oversight and/or management

**Goal 5: Increase public awareness about the role and purpose of the MOA community garden program**

- Action: Conduct outreach activities that explain which gardens are in the MOA system and that anyone (not just lower-income and minority groups) is eligible to apply to rent a garden plot.

**Goal 6: Increase opportunities to register for community garden plots**

- Action: Create an online registration option
- Action: Translate online registration instructions and forms into multiple languages

## 2-5 Year Goals

**Goal 1: Create gardening education programming**

- Action: Use the clearinghouse to partner with others to create and implement education programs
- Action: Survey gardens to determine specific education programs of interest
- Action: Design education programs that include a social component (such as a potluck) in an effort to create camaraderie and to increase community capacity

**Goal 2: Remove the financial barrier to gardening**

- Action: Create sliding scales, scholarships and/or donated plots so that rental costs do not hinder participation

**Goal 3: Create more garden spaces**

- Action: Continue to work with Community Councils, neighborhoods and potential partners (schools, housing developments, churches, etc.) to identify specific garden locations.
- Action: Enlist the help of partners (UAA, APU and others) to garner funding from granting organizations

**Goal 4: Become more sustainable by diversifying**

- Action: Use the community garden space to host fee-for-service events
- Action: Consider selling a portion of the produce grown in the garden for profit

To achieve these goals and objectives, further sensing work needs to be done to determine exact locations for new garden sites and how these sites will be managed. To do this, the MOA should determine what their existing resources are, develop clear boundaries on how the community gardening program needs to stay the same and

which elements are open to change, and to what degree they are able to collaborate with others. Revisiting and revising the MOA's internal vision for the community garden program will help guide and steer the expansion of the program in the future. But regardless of the direction the MOA takes, results of this study indicate the demand for community gardens far exceeds the supply. Additionally, the benefits of an expanded community garden program will be multi-faceted in nature and ripple throughout the Anchorage community.

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## Appendix 1: Case Study Matrix and Associated Definition

### *Matrix Definitions*

| | |
|---|---|
| **City/Town** | Titles the name of the case studied city or town. |
| **Number of Gardeners** | The number of garden locations reflects how many actual community gardens are present in the city/town. This number does not include how many plots per garden or other garden programs that are not facilitated as "community garden" space. |
| **Education Programs** | Some cities have education programs supporting local foods through community gardens. Themes seen relating to education are programs aimed at youth and adults. Some cities have public health education promoting healthy lifestyles through gardening. School gardens are a way to educate youth. Colleges were found to have school garden programs. Internships are offered in some cities, providing opportunities for students to gain experience in local food networks through gardening programs. Demonstration gardens are spaces that communities facilitate workshops and educational opportunities to learn more about how to garden. |
| **Affiliation** | Highlights if cities are supported through partnerships either private, NGO or municipal. Affiliation with a municipality is if the garden is managed, regulated or somehow endorsed by a city or town. A food policy council affiliation indicates interest or support from local food policy councils in the community gardens. Non-profit indicates if the community gardens are operated by a non-profit. |
| **Outreach** | Defines if community gardens have programs for diverse demographics and low income participations. Demographics indicate if gardens are in areas in most need of a garden and if there is diversity in community participation. Low income indicates if the city has programs aimed at helping aid low income individuals participate in community gardens. |
| **Food Use** | In most cities studied, food sharing, food sales and donation are all allowable. There are some rules in some cities outlining to what extent food can be distributed amongst the community. |
| **Waitlist** | Gardens fill quickly in most cities and new or returning members may be placed on a waitlist if garden plots are not immediately available. *Cost*: Indicates an associated membership fee or fee for a garden plot. It is important to note that not all fees are associated with membership. |

## *Case Study Matrix*

| City/Town | # of Community Gardens | Education Programs | | | Affiliation | | | Outreach | | Food Use | | Wait List | Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Youth | Adult | Nutrit. PH. | Muni | FPC | NGO | Dem. Div. | Low-Income | Personal use only | Mrkt/Comm Share | WL | Fee |
| Berckeley, CA | 34 | Yes | Yes | Unkn | Yes | Yes | Yes | Yes | No | Yes | Yes | Mix | Yes |
| | | Schools | Dem. | Intern | | | | | | | | | |
| | | Yes | Yes | No | | | | | | | | | |
| | | Youth | Adult | Nutrit. PH. | Muni | FPC | NGO | Dem. Div. | Low-Income | Personal use only | Mrkt/Comm Share | WL | Fee |
| Boulder, CO | 12 | Yes | Yes | Unkn | Yes | Yes | Yes | Unkn | Yes | Yes | Yes | Yes | Yes |
| | | Schools | Dem. | Intern | | | | | | | | | |
| | | Yes | No | Yes | | | | | | | | | |
| | | Youth | Adult | Nutrit. PH. | Muni | FPC | NGO | Dem. Div. | Low-Income | Personal use only | Mrkt/Comm Share | WL | Fee |
| Fairbanks, AK | 1 | No | No | No | Yes | Yes | Yes | Unkn | No | Yes | Yes | Yes | Yes |
| | | Schools | Dem. | Intern | | | | | | | | | |
| | | No | No | No | | | | | | | | | |
| | | Youth | Adult | Nutrit. PH. | Muni | FPC | NGO | Dem. Div. | Low-Income | Personal use only | Mrkt/Comm Share | WL | Fee |
| Portland, OR | 50 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Unk | Yes | Yes | Yes | Yes |
| | | Schools | Dem. | Intern | | | | | | | | | |
| | | Unkn | Yes | Yes | | | | | | | | | |
| | | Youth | Adult | Nutrit. PH. | Muni | FPC | NGO | Dem. Div. | Low-Income | Personal use only | Mrkt/Comm Share | WL | Fee |
| Vancouver, WA | 14 | Yes | Yes | Yes | Yes | Yes | Yes | Unkn | Unkn | Mixed | Yes | yes | Yes |
| | | Schools | Dem. | Intern | | | | | | | | | |
| | | Yes | Unkn | No | | | | | | | | | |
| | | Youth | Adult | Nutrit. PH. | Muni | FPC | NGO | Dem. Div. | Low-Income | Personal use only | Mrkt/Comm Share | WL | Fee |
| Montgomery County, MD | 11 | No | Yes | Yes | Yes | Yes | No | Unkn | No | Yes | Unkn | yes | Yes |
| | | Schools | Dem. | Intern | | | | | | | | | |
| | | No | Yes | No | | | | | | | | | |
| | | Youth | Adult | Nutrit. PH. | Muni | FPC | NGO | Dem. Div. | Low-Income | Personal use only | Mrkt/Comm Share | WL | Fee |
| New York City, NY | >600 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes | Yes | Yes |
| | | Schools | Dem. | Intern | | | | | | | | | |
| | | Yes | Yes | No | | | | | | | | | |

| Abbriviation Key | |
|---|---|
| Nutrit. PH. - Nutritional Programs and Public Health | |
| Mrkt/Comm Share- Market and Community Share | |
| Muni- Municipality Support | WL- Waitlist |
| FPC- Food Policy Council | Unkn-Unkown |
| NGO- Non-Profit Organization | Dem. - Demographic Diversity |

## Appendix 2: Food Summit Workshop SWOT Analysis Notes

| | Strengths | Weaknesses | Opportunities | Threats |
|---|---|---|---|---|
| **Education** (formal and informal, demonstration, outreach, workshops, training) | • Existing community garden program.<br>• Education via master gardening<br>• Opportunity for education (youth + adult)<br>• Master Gardeners /Cooperative Extension<br>• Diverse education opportunities | • Few interns<br>• Difficult to find language-accessible education | • Expand UAA nutritional education<br>• Partners working together to promote mutually-beneficial outcomes<br>• Youth education - practicing healthy living<br>• Demonstration gardens<br>• Partnership with schools<br>• Spenard Rec/ Fairview Rec Centers<br>• APU Urban Farm<br>• Working w/ partners to provide classes at community gardens | • None reported |
| **Fundraising** (networking, leveraging resources, collaboration) | • Possible funding sources exist (e.g. Rasumson Foundation, Anchorage Parks Foundation<br>• Obtain free resources (like woodclippings and manure)<br>• Volunteer labor<br>• Corporate/industry money available<br>• Community support<br>• Model for cooperation between | • There is no low cost model<br>• Easy to work in a silo<br>• Lack of coordination among potential supporters<br>• Lack of management expertise<br>• No coordination/clearingho use | • Adopt a muni-wide community garden plan with funding for a dedicated staff person<br>• Feasibility studies of parks, open spaces, natural areas for community gardening<br>• Sell products from gardens, food stands<br>• Coaching/mentorship program<br>• Lots of potential partnerships (with Co-op Extension, ACAT/Yarducopia, | • Uncertain funding future<br>• Competing community needs<br>• Burnout from high demand |

| | Strengths | Weaknesses | Opportunities | Threats |
|---|---|---|---|---|
| | Muni/Partners (Gardens at Bragaw)<br>• Assembly/community council support | | Schools/ 21st Century, ABG, Land Trusts, 4H, UAA Public Health)<br>• Neighborhood/Community Council engagement<br>• Sliding Scale<br>• Sponsor-a-plot, individual giving<br>• Increase outreach and education on benefits of community garden<br>• Food tourism<br>• Marijuana funding<br>• Develop a community garden non-profit organization and manage, volunteers, funding<br>• Use higher education resources to help run clearinghouse or other organization oversight | |
| **Site Selection** (location, accessibility, convenience, available resources) | • 11,000 acres of municipal parkland<br>• C-street - well-known/established, centrally located, accessible<br>• Lots of park, open spaces, other natural areas<br>• Room for a few pilots in little-used parks | • High start-up costs<br>• Safety issues/Vandalism/Crime<br>• Infrastructure/Plumbing availability<br>• Wildlife<br>• Landuse regulations<br>• Land needs to be garden-ready for development (soil, fencing, | • Partner with Mountain View Boys and Girls Club and Schools<br>• UAA as resource<br>• Use heat from schools to warm greenhouse<br>• Demand for a garden in the U-Med<br>• ML&P and Greenhouse | • Vandalism<br>• Cost of water and access on muni land<br>• Competing land uses |

| | Strengths | Weaknesses | Opportunities | Threats |
|---|---|---|---|---|
| | throughout Anchorage<br>• Private land (churches, condos, rooftops)<br>• Schools<br>• Abundant water<br>• Gardens at Bragaw as a model | design/planning and land use)<br>• Weak public transportation system<br>• C-street garden too close to the road, pollution, noise, shade<br>• Problems associated with locking gardens<br>• Water turned on later than people want to start gardening<br>• Existing infrastructure is weak – not enough people, time or money | | |
| **Volunteers** (human capital, community capacity, mentorship) | • Lots of people volunteer!<br>• Waitlists mean that there is demand | • Reliance on volunteer time<br>• School ends when gardening starts – student volunteers are difficult to come by<br>• Need to connect with new populations that aren't using the gardens<br>• Finding volunteers is difficult<br>• Volunteer oversight is difficult | • Farm Stands (schools, etc?)<br>• Encourage/require plot users/members to volunteer<br>• Proper security guidelines<br>• Tapping into student resources UAA/APU/High School<br>• Interested Politicians (Geran Tarr, Elvy Gray-Jackson, Dick Traini, Mayor Berkowitz) | • Too far stretched<br>• High demand for volunteers<br>• Burnout from the opportunities<br>• Competing priorities for interested people |
| **Garden Management** (regulations, maintenance, | • Community buy-in/momentum for idea of community gardens | • Muni code is rigid<br>• Fees collected don't cover management/maintenan | • Muni support for cooperative use agreements w/partner organizations<br>• Water catchment from | • Administrative barriers<br>• Maintenance costs (Insurance, fertilizer, |

| | Strengths | Weaknesses | Opportunities | Threats |
|---|---|---|---|---|
| infrastructure) | • Low fees at gardens now<br>• Many models currently exist | ce costs<br>• Lack of sustainable revenue stream to maintain/manage into future | garden sheds or covered compost (spring melt could help early season gardening)<br>• Change/take advantage of municipal ordinances/laws<br>• Need database of other community gardens (church, private, etc)<br>• Need to make private land easily, legally, community garden space<br>• Identify community resources: people, ordinances, funders, non-profits<br>• Work with developers to create greenspace to be used for gardening | fencing, etc)<br>• Vandalism<br>• Economic climate<br>• Municipal ordinances zoning/permitting/food safety<br>• Homeless camps<br>• Space lies unused 9 months out of the year<br>• Flooding or natural impacts such as snow<br>• Difficulties with sustainability/long-term management<br>• Pests<br>• Moose<br>• Shade<br>• Lack of water or access to water |
| **Other** (other items not captured above) | • Increased accessibility of food<br>• Nutritional benefits<br>• Cold climate seeds available<br>• Cultural diversity<br>• Locally-sourced soil amendments<br>• Community building<br>• High demand from users<br>• Need safe spaces | • Short growing season<br>• It's a slow process<br>• Competition from other activities during growing season<br>• Maybe we are not at the tipping point for gardens being a priority in Anchorage yet<br>• Lack of gardening knowledge | • Build for food security<br>• New administration<br>• Add livestock?<br>• Build food sovereignty<br>• Expand gardens with minimal operations and support | • Winter<br>• Public perception of return on investment<br>• Loss of motivation |