Public access to urban-grown produce: Who eats local? A case study of Intervale food consumption in Burlington, Vermont

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Public access to urban-grown produce: Who eats local?

A case study of Intervale food consumption in Burlington, Vermont

by

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A thesis submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of

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Program of Study Committee:
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Iowa State University
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2004
Graduate College
Iowa State University

This is to certify that the master’s thesis of

Emily Kinney Neuman

has met the thesis requirements of Iowa State University

Signatures have been redacted for privacy
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Abstract

Farmers in the Intervale, a 700-acre green space in Burlington, Vermont, provide vegetables and fruits to local residents from May to November. This research answers the question: Who eats Intervale food? From a sustainable agriculture perspective, food system localization is expected to improve the livelihoods of participating farmers; from a community food security perspective it is expected to improve the diets of participating eaters and expand their control over what foods are available to them. Intervale-grown food is distributed through market and non-market means. The demographic data that I collected about Intervale eaters suggests that non-market distribution of Intervale food makes it available to segments of the local population that do not access it through market access points. These segments of the population include senior citizens; the households of less-educated adults; and the households of adults in production and transportation and construction, extraction and maintenance occupations. However, people from all income categories are accessing Intervale food through market access categories. Intervale food is eaten by residents from all over the Burlington Urbanized Area (BUA), as well as by a few people beyond it, but eaters are most concentrated in the area immediately surrounding the Intervale. The locations and settings of market access points for Intervale food appear to be a factor in determining the purchasing population.
Chapter I
Introduction

Urban agriculture is on the rise in the U.S. Who eats the food that urban farmers grow in abandoned lots, city parks, and greenways? This study seeks to answer that question for Burlington, Vermont, a community that is on its way to having 10 percent of its fresh produce needs met through urban agriculture.

Burlington, Vermont has a reputation for being a livable city. As home to the state’s land-grant college, it is a young, vibrant community with abundant cultural events, numerous restaurants and shopping, all located in a scenic setting. Less well-known is Burlington’s extensive urban food production. Burlington’s urban agriculture is based in a 700-acre greenway called The Intervale. Thanks largely to the efforts of a non-profit organization called the Intervale Foundation, small-scale organic agriculture is thriving in Burlington. By all accounts, this urban farming experiment is a success. But questions remain: Who benefits by Burlington’s urban agriculture? Is the food physically and monetarily accessible to all residents of the city? How far is Intervale food reaching into the Burlington food system?

To answer these questions, I gathered demographic information about the people who were eating Intervale food\(^1\) in 2003. I collected data through point-of-purchase surveys at farmers’ markets, CSA farms, and grocery stores\(^2\) selling Intervale food. I also used interviews to gather information about the people who eat Intervale food at restaurants. A significant stream of Intervale food circulates through the food system\(^3\) by donation as well, so I gathered data about donation recipients. In addition to collecting data about who is eating Intervale food, I asked people about how they perceive the Intervale and the food grown

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\(^1\) This study focuses on urban-grown produce (fruits and vegetables), though Intervale farmers also raise poultry, eggs, honey, and flowers. From this point forward, “Intervale food” will refer only to fresh fruits and vegetables, not the full range of foods produced in the Intervale.

\(^2\) For purposes of this research, “grocery store” is used to refer to all chain and independent grocery outlets including natural foods stores, health food stores, and cooperative grocery stores.

\(^3\) For a definition of “food system,” see the section in Chapter 2 titled “the food system concept.”
there. These responses complement the demographic information by providing insight into how aware people are of consuming Intervale food and what role it plays in their diet.²

The intersection of Sustainable Agriculture and Food Security

This research has been designed as a food systems study, with a sustainable agriculture and community food security perspective. Such a perspective reflects the “turn to consumption” (Goodman and DuPuis 2002) that the sub-discipline of food and agriculture sociology (as an observer of sustainable agriculture work) has taken in recent years. The turn to consumption has come in response to food system globalization, concurrent effort by farmers to establish local, direct markets for their farm products, and increasing interest on the part of consumers about the safety and sustainability of the system that provides them their food.

Initially, sustainable agriculture arose out of concerns about structural change in agriculture and its economic and environmental impacts. For the most part, advocates of a more sustainable agriculture focused at the farm level when attending to social and economic sustainability issues: for example farm structure and farm family welfare. Meanwhile, changes in diet (primarily facilitated by developments in food processing and food distribution technology) were viewed as largely positive⁵ – as was the decline in percentage of income spent on food. Only in the last several years have sustainable agriculture advocates made a mental connection between consumers’ food access issues and their own struggles in the face of agricultural restructuring.

At the same time, some anti-hunger activists were looking for a more systemic approach to their issue than had been used historically. They noted the “good” of declining food prices while at the same time acknowledging the “bad” of people’s increased dependence on highly processed and distantly-produced food, particularly among low-income populations. Of

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⁴ Leah Sokolofski, graduate student in Sociology at Iowa State University, and I collaborated on the development of these research questions. Leah’s master’s thesis explores the role of Intervale food in the lives of CSA members. In particular she examines the meaning of CSA membership and how Intervale food fits into or refashions CSA members’ diets.

⁵ For example, diversification of diets, particularly northern diets in winter months and availability of safe, commercially canned foods.
particular frustration for these “food security” advocates was the long-standing circumstance of hunger and food insecurity in the face of agricultural surpluses.

About 15 years ago, people working on food security issues recognized an intersection of concerns between the emerging sustainable agriculture movement and their own work (Gottlieb 2001). They called the intersection Community Food Security (CFS). CFS has connected issues of agricultural production and structure with issues of nutrition, urban well-being, and food access. As both movements (SA and CFS) mature, it makes sense to address agriculture and food security issues together under the heading of Food System Studies as this research does. The food projects of the Intervale Foundation in Burlington, Vermont offer a unique opportunity to examine how concentrated urban food production can impact the local food system and, at the same time, food security and agricultural sustainability.

**The Intervale**

The Intervale is a 700-acre floodplain located within the beltway of the Burlington Urbanized Area (pop. 105,000) (see Figure 1.1). Historically, Native Americans inhabited the Intervale. When Europeans arrived, they established grain crops and dairy operations. Dairy farmers survived through the 1980’s, but were increasingly surrounded by urban blight – of their own or others’ doing. Junked cars, trash heaps, and sewage sludge littered the edges of a once productive and scenic resource.

---

6 Community Food Security is defined as, “All persons in a community having access to culturally acceptable, nutritionally adequate food through local, non-emergency sources at all times” (Allen 1999). It can be distinguished from food security, as defined by organizations like the United Nations’ Food and Agriculture Organization, in that it identifies the preferable origin of food. Although the definition cited does not do so, CFS advocates typically express a preference for food that is produced in an ecologically-sound manner.
Figure 1.1 Map of the Burlington Urbanized Area (Roughly 14 miles across)
Map is adapted from a US Census map of the Burlington Urbanized Area (BUA). The map shows how Burlington and the Intervale are situated within the larger geography of the BUA. Towns not labeled on the map, but included in the BUA are: Colchester, Mallets Bay, Williston, and Winooski.
In 1988 the Intervale Foundation was formed with a mission to revive the Intervale into an ecologically healthy area that could serve as an incubator of technologies for food, fuel, and fiber production. The Intervale Foundation started by removing hundreds of junked cars and establishing a new type of waste facility called the Compost Project. Today, the Intervale Compost Project turns tons of biomass waste into compost each year. Household kitchen scraps and yard waste, as well as ice cream factory sludge and restaurant waste are diverted from the county landfill to produce soil-enriching compost. From its inception, the Project has been successful enough to serve as a source of funds to subsidize other Foundation projects, such as new farm business incubation. Through the Incubator program, the Foundation has aided in the establishment of about 15 organic farms that provide Burlington with fresh fruits, vegetables, poultry, and eggs. Twelve farms are currently operating in the Intervale.

Although Burlington is surrounded by fertile agricultural land, most of the food produced on that land goes to feed dairy herds; the milk from those dairies is sent all over New England. Vegetable and fruit production (other than home gardens and commercial apple orchards) has been, historically, a minor activity in the area. The Intervale Foundation’s goal is to stimulate enough fruit and vegetable production in the Intervale to fill 10 percent of Burlington’s fresh fruit and vegetable demand. Only organic production practices are allowed on Foundation land.

Several farms which were begun in the Intervale have relocated to land outside the city and are now producing for the Burlington market in a more traditional (i.e., rural) fashion. If farmers continue to migrate from the Intervale to rural farms after their three-year incubation period, it is conceivable that the Foundation may foster enough small farm business growth that eventually more than 10 percent of produce will be grown locally.

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7 In 2003, the Foundation estimated Intervale production as providing 6 percent of Burlington residents’ fresh fruits and vegetables.
8 Not all farm businesses would relocate close to Burlington (and not all have), but some likely would.
9 Local food is food that is grown and consumed in the same area. The area may be as small as a township or as large as a multi-state region. My definition of local food, as it applies to this research, is food grown within a
In addition to twelve commercial farms (covering about 100 acres), the Intervale supports six acres of community garden plots. The remainder of Intervale land is taken up by the Compost Project, a wood-energy plant, cooperative greenhouses, a garden-supply store, demonstration gardens, and about 100 acres of hayed land awaiting new incubator farms. The Foundation also has plans to establish a food processing kitchen where local growers (or their business partners) could bottle salsa, jams, and other products.

Unlike farmers in rural areas, Intervale farmers interact on a daily basis with the people who eat their food. They share the single access road running up the middle of the Intervale that connects to the city’s bikeway system, with tractors and bicycles passing each other routinely. Woodlands border all of the farms; some wooded areas are accessible via hiking trails. The Winooski River borders the Intervale as well, providing canoeing and kayaking opportunities as well as irrigation water for the farms. As a multi-use space, the Intervale provides direct advertisement of the hard work and care that farmers put into the production of organic food for local sale.

The research question

The Intervale Foundation’s initiatives began on a bio-physical, environmental level with the Compost Project, trash removal efforts, and the requirement that all future farming be organic. Community development was a priority too, as evidenced by the farming projects that followed. Community gardens were established early on, even before much remediation was completed. The Intervale Community Farm, a CSA, was one of the first farms. Another early enterprise, called Green City Farm, sought to provide Fletcher-Allen hospital with fresh organic produce while the Compost Project recycled its food waste. More recent social efforts of the Foundation include the establishment of a public education venue and engagement of low-income families and youth in the farm program.

30-minute drive (without traffic) of where it is eaten. Given this definition, Intervale food is a subset of the local food available to BUA eaters.
Building on this legacy of community development through Intervale projects, my research is intended to measure the social impact of Intervale efforts in the most basic way: by finding out who eats Intervale food. These data will provide a baseline of information about the reach of Intervale food into the Burlington food system. In the future, the Intervale Foundation or others will be able to measure how participation has shifted since 2003, and they may be able to attribute the shifts to efforts by the Foundation or other entities to reach particular segments of the population. At the outset of this research, I expected to find that Intervale food primarily reaches people with high incomes, lifestyles that allow them the luxury of preparing fresh foods for their meals, and a personal incentive to eat healthfully; that is, I expected to find the dominant profile of an Intervale eater household to be something like one stay-at-home parent and one high-income earning parent with several young children.

My motivations

If any place is experiencing the positive impact of sustainable agriculture innovation, specifically local organic food production, then Burlington – as a beneficiary of Intervale farming activity – must be. As an Iowan and as a student of sustainable agriculture, I have wondered how our state agriculture could be turned around so that young people would be hopeful about starting new farms, so that the food produced in Iowa would feed Iowans as much as it feeds national and international markets, and so that Iowa agriculture might be a model for creating positive economic, environmental, and social outcomes. In large part, the Intervale has created a program to incubate exactly these kinds of changes in its food and agriculture system.

As an Intervale farm apprentice in 2000, I witnessed Intervale’s successes first-hand and was inspired to share their model back in Iowa. I took this thesis research opportunity to begin to gather data about the outcomes of Intervale’s programs, in order that the data could be used to evaluate how Intervale programs have really impacted the food and agriculture system that they are in. It will be up to others to evaluate whether an Intervale-style program in Iowa could have similar, positive results for our state’s food and agriculture system.
Chapter 2  
Literature Review

In recent years, food system localization has become a central strategy for achieving sustainable agriculture and community food security. The most prominent appeals for a return to localized food systems cite their potential to provide fresh, healthy food to people who are not receiving it via the global food system and, thereby, improve community nutrition; increase the viability of small, family farms; facilitate greater farmer-eater interaction and, consequently, improve mutual understandings of the needs and interests of each group; and, diversify agricultural ecosystems. In other words, localization is expected to tame the extremes to which the modern US food and agriculture system has gone, wherein spheres of production and consumption are separated.

Urban agriculture can be thought of as a sub-topic within local food system work. At one time, nearly all of a city’s fresh fruits and vegetables would have been grown within and adjacent to the city itself. Many people would have had home gardens; others would have grown crops on the urban fringe and sold to fresh markets in the city. Recently, urban agriculture has been experiencing a rebirth in some US cities. Urban agriculture is valued not only for the quality food it can produce, but also for the positive impacts of greening, community-building work, and entrepreneurial opportunities associated with it.

Systematic evaluation of localization campaigns is needed in order to learn whether they achieve the outcomes that they are expected to produce. This research is one such evaluation. I have taken a food systems perspective, as informed by work within the areas of sustainable agriculture (SA) and community food security (CFS). As a student of SA, I see a need to evaluate localization campaigns\(^\text{10}\) in regard to their impact on the agriculture system; my sensitivity to CFS concerns leads me to inquire about the breadth of “eaters'” participation in localization projects.

\(^{10}\)“Localization campaigns” or “local food system initiatives” are activities (formal or informal) designed to increase the circulation of local food in an area’s food system.
A systems approach helps investigators work with complex systems, moderating their tendency to externalize factors in order to make research questions manageable. Increasingly, researchers recognize that food and agriculture systems are intertwined, so that investigation into agricultural issues may be better understood alongside concurrent food investigations and vice versa. The food system concept helps researchers address the integrated environmental, social, and economic issues of food and agriculture systems.

**The food system concept**

A food system is the set of relationships, processes, and entities involved in the life cycle of food. The major processes encompassed in food systems are: production, processing, distribution, consumption, recycling, and waste handling. The food system concept, or framework, can be applied at various scales. At extremes, some scholars have focused on understanding the global food system while others have investigated local food systems. Often the global system and a local system are presented in opposing terms; it is important to remember that, in real life, aspects of multiple food systems (not just global and local but also national, personal, and regional systems) are interconnected.

**Food system issues**

In their investigations of the global food system, many authors have drawn attention to the alarming concentration of power among input suppliers, processors, distributors, and retailers of agricultural products during the late 20th century (Hendrickson et al. 2001, Bonanno et al. 1994). Through processes of horizontal and vertical integration and globalization, a handful of global food chain clusters currently dictate much of the activity in food systems around the world (Hendrickson et al. 2001).

---

11 Dahlberg, who has written extensively about food systems at various levels, invokes the term “recycling” in regard to secondary distribution and consumption of food. This may take place, for example, through gleaning and food pantry donations. In contrast, waste handling is meant to include processes such as composting, landfill burial, and sewage treatment (1994).
Whereas input suppliers and commodity-trading companies used to dominate, in the last several years, the retailing sector has come to the forefront of power in global food systems (Dimitri et al. 2003). This latest development has caused particular concern among SA proponents because it promises to intensify the difficulty that small farmers and small growers’ organizations experience in getting their products into supermarkets. CFS proponents have determined that the decline in grocery service to less-profitable retail markets such as lower-income areas, whether rural or urban, is connected to the consolidation of supermarket and hypermarket companies. Access to affordably-priced, high-quality vegetables within minority and inner-city communities is low (Ashman et al. 1993).

While SA and CFS proponents share an interest in localizing food systems, it is not clear whether their goals can be met simultaneously. For example, market farmers often target high-value niche markets for their produce. From a SA perspective, the success of such farmers, particularly if they farm organically, is regarded as an example of sustainable agriculture in action. From a CFS perspective, success would not be met until the farmer’s local organic food was also available to limited-income households.

Food system scholars have identified both opportunities and potential pitfalls of localization initiatives. A review of the literature makes clear that innovative networking, clear communication, and broad community involvement in localization efforts will be critical to the success of localization as a joint vehicle for agricultural sustainability and community food security. In this chapter I outline the agendas and rationales that SA and CFS have laid out for localization initiatives. I pay particular attention to food distribution concerns and what bearing such concerns may have on localization efforts.

**Sustainable Agriculture’s goals for localization**

For this project, sustainable agriculture is defined as the study of how to meet social and economic needs of people involved in agriculture without compromising the health of the environment within which they practice it. SA has been described as a stool with three legs:
economic, environmental, and social. All three legs must be in place to keep the stool stable. One reason that food system localization has been promoted as a way to improve agricultural sustainability is that it is an approach which attends to all three legs (see Table 2.1).

Table 2.1 Benefits of local food systems as anticipated by sustainable agriculturalists

<table>
<thead>
<tr>
<th>Expected outcomes of local food systems</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Economic</strong></td>
</tr>
<tr>
<td>• Improves economic returns to farmers by increasing direct sales to consumers</td>
</tr>
<tr>
<td>• Opens a market with great growth potential in regions where most fresh foods could be grown locally but are normally imported</td>
</tr>
<tr>
<td><strong>Environmental</strong></td>
</tr>
<tr>
<td>• Cuts petroleum-based energy use for transportation</td>
</tr>
<tr>
<td>• Increases diversity of crops in a given area; may contribute to diversification of plant genetics and agroecosystems</td>
</tr>
<tr>
<td>• Increases farmers’ accountability for the impacts of their farming practices on the local environment and improves consumers’ understanding of how their food choices impact the quality of their environment</td>
</tr>
<tr>
<td><strong>Social</strong></td>
</tr>
<tr>
<td>• Re-embeds economic transactions in social relations between farmer and eater; community-building</td>
</tr>
<tr>
<td>• Increases consumers’ respect for the risks of farming</td>
</tr>
</tbody>
</table>

**Community Food Security’s attention to local food systems**

Traditional food security advocates criticize the CFS approach because it de-emphasizes household food security in favor of an emphasis on community-level food security (see Table 2.2). CFS advocates see individual hunger alleviation and food security as short-term goals; they are more interested in the long-term goal of a community food system that provides food for all. Community self-reliance is viewed as being a critical component of sustainable solutions. CFS works toward self-reliance by teaching people how to grow food for themselves, securing land for neighborhood food production in urban areas, and promoting connections between commercial growers and local markets (Winne et al. 2000).

A unique contribution of CFS advocates has been their emphasis on food quality – that all people should have access to the highest quality food, whether they have access to it via the market or via entitlements. In the CFS literature, quality is determined by the food’s
freshness (determined by time from harvest to consumption), healthfulness (inherent in the type of food – vegetable, meat, etc), and production process (e.g., organic versus non-organic). Sustainable agriculture puts a similar emphasis on quality of process over quantity of production and on system outcomes versus the short-term economic needs of farmers and of price-conscious consumers.

Table 2.2 A comparison of paradigms in food security work

<table>
<thead>
<tr>
<th>Model</th>
<th>Anti-Hunger</th>
<th>Community Food Security</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Treatment</td>
<td>Prevention</td>
</tr>
<tr>
<td></td>
<td>Social Welfare</td>
<td>Community Development</td>
</tr>
<tr>
<td>Unit of Analysis</td>
<td>Individual/Household</td>
<td>Community</td>
</tr>
<tr>
<td>Time Frame</td>
<td>Shorter-term</td>
<td>Longer-term</td>
</tr>
<tr>
<td>Goals</td>
<td>Reduce societal costs</td>
<td>Build community resources</td>
</tr>
<tr>
<td></td>
<td>Individual health</td>
<td>“Healthy cities”</td>
</tr>
<tr>
<td></td>
<td>Social equity</td>
<td>Individual empowerment</td>
</tr>
<tr>
<td>Conduit system</td>
<td>Emergency food</td>
<td>Marketplace</td>
</tr>
<tr>
<td></td>
<td>Federal food programs</td>
<td>Self-production/local-regional food</td>
</tr>
<tr>
<td>Actors</td>
<td>USDA/HHS</td>
<td>Community organizations</td>
</tr>
<tr>
<td></td>
<td>Social service agencies</td>
<td>Multi-sector partnerships</td>
</tr>
<tr>
<td></td>
<td>Charitable institutions</td>
<td></td>
</tr>
<tr>
<td>Agriculture relationship</td>
<td>Commodities</td>
<td>Support local agriculture</td>
</tr>
<tr>
<td></td>
<td>Cheap food prices</td>
<td>Fair price for farmers</td>
</tr>
<tr>
<td>Policy</td>
<td>Sustain food resources</td>
<td>Community planning</td>
</tr>
</tbody>
</table>

From (Winne et al. 2000).

Is local food distribution meeting SA and CFS goals?
SA and CFS activists have searched for innovative distribution methods to further their causes. They have employed alternative methods (CSA, farmers’ markets, cooperative groceries, chef-farmer networks) and conventional methods (direct sale to grocery stores, wholesale to grower-brokering organizations, independent sales to restaurants). They have
also experimented with non-market means to broaden local food distribution (community gardens, local food-based community meals, school gardens, etc). All of these distribution methods have inspired scholarly commentary about their promise and significance. Recently, activists have directed much of their energy into advertising local food to consumers. This new avenue, too, deserves academic attention and evaluation as a way of anticipating its effects on the larger system and its potential contribution to the overarching goals of SA and CFS.

**Alternative markets**

CSA and farmers’ markets have been touted as distribution pathways with potential to fundamentally alter the producer-consumer relationship in food systems, as well as significantly increase the local produce intake of consumer participants. Cooperative (consumer-owned) grocery stores are also a popular alternative market for local farmers.

CSA is a method of local food distribution whereby farmers receive payment for their product ahead of delivery and consumers are assured an abundant supply of fresh vegetables during the growing season. Proponents of the CSA distribution method have praised its potential to create new relationships between farmers and consumers, namely, as partners who share the risks of farming. Normally, farmers assume this risk alone. In CSA, members take on some of the risks that farmers normally bear alone, and farmers in turn allow members to take part in the season’s abundance when it occurs and gives them an understanding of the daily operations of the farm via newsletters or on-farm experiences. Early critics expected CSA farms to be organizations with an open membership that would build strong ties between a diverse set of residents. However, as Hinrichs (2000) found in her review of CSA research, “CSA shareholders do tend to be a rather select crowd. Studies have found that CSA members tend to be predominately upper-income, well-educated, Caucasians” (p.125). As well, not all producers have a farm location or personal temperament that would make them a good CSA farmer.
Though not strictly alternative, farmers’ market is a novel type of distribution pathway simply because supermarkets have become the norm for US shoppers. The economic transactions at farmers’ markets are imagined to be more socially-embedded than those at supermarkets because of the direct, repeated interaction between farmer and consumer. Farmers’ markets are understood to provide farmers better returns on their labor and to provide consumers with fresher, healthier food than they can find in supermarkets (Hinrichs 2000, Allen 1999). Secondarily, farmers’ markets are imagined to provide producers and consumers with a meaningful social experience (Hinrichs 2000). As with CSA, proponents have expected the social experience to create meaningful ties and improve mutual understanding between producers and consumers, thereby building social capital among participants.

There have been efforts to broaden participation in CSA farms and farmers’ market shopping by making opportunities available to persons of low income. To this end, some CSA farms offer supported shares – memberships that are paid in part by donations from members with resources to spare. The USDA and certain non-profit organizations provide WIC and senior citizen food stamp recipients with vouchers to spend at farmers’ market, making it more affordable for them to shop there.

**Conventional market openings**

Hendrickson and Heffernan (2002) observed that the global food system has created niches where local food systems might successfully take root. They recommend that localization efforts capitalize upon the weaknesses – or empty niches – of the global food system. For example, as the dominant global food clusters grow larger, they are less able to react quickly to ‘niche’ markets. They are also creating ever-larger social and environmental problems. Finally, they find themselves forced to spend massive amounts of money on advertising brands that maintain people’s trust and make the firms look smaller and more personable than they are. In contrast, local food producers typically possess enough flexibility to respond to niche markets, contribute positively to the social and environmental systems within which they work, and maintain their consumers’ trust through personal relationships.
However, while global food firm clusters may be creating niches for small, local food producers, global retailers like Wal-Mart are drawing consumers away from traditional supermarkets and into hypermarkets\(^{12}\) (while local food producers typically depend on the opposite end of the spectrum – direct markets – for their livelihood). As independent grocers find themselves squeezed out, Guptill and Wilkins (2002) suggest that making connections with local produce farmers may help them to maintain an edge over supermarket and hypermarket retailers whose buying system is not set up to take advantage of extra-fresh local products.

In order to make grocery-retailing a possibility for local growers, efforts have been made to create 1) brokering services and 2) marketing campaigns that assist both farmer and retailer in selling locally-grown foods. Red Tomato, a New England-based enterprise, was developed specifically to help New England vegetable and fruit growers get their products into mainstream New England grocery outlets. In northeast Iowa, farmers use a cooperative brokering group called GROWN Locally to sell their products to institutions.

In part to heighten demand for local products among supermarket consumers, SA proponents have organized marketing campaigns to advertise the availability and benefits of local produce to consumers. These marketing campaigns, like the “Buy Fresh, Buy Local” campaign run by FoodRoutes Network\(^{13}\), base their appeal on consumers’ “core food values” of freshness and taste (Pirog 2003) rather than on SA core values like livable wages for farmers and farm workers, biological diversity, and eliminating pesticide and synthetic fertilizer reliance. Most noticeably, there has been no call – via marketing – for consumers to participate in local food systems because they promote food democracy and may enhance community food security.

\(^{12}\) In general, supermarkets sell only produce and groceries; hypermarkets sell produce, groceries, and general merchandise. Hypermarkets are larger than supermarkets and may provide more services (like banking) on site.

\(^{13}\) FoodRoutes Network is a Pennsylvania-based non-profit organization dedicated to the promotion of local foods.
Non-market openings

Both backyard and community gardening are potentially significant non-market means of household food provision. Gardening contributes to the self-reliance that is so highly valued within CFS. Community gardens have made it possible for urban dwellers with no other access to arable land to grow something for themselves. Many community gardens are managed organically; in this way they also contribute to the goals of SA. The Plant a Row for the Hungry program encourages gardeners to share some of their bounty by donating it to local food shelves or soup kitchens.

What kind of work is this?

A persistent, central question within both SA and CFS is: What type of work is this? Some advocates feel called to change public policy, some to do research, some to work on community development, others to grow food. Among those with an eye on policy change, there is perennial disagreement about strategy: Should they work in opposition to the mainstream or should they simply provide an alternative to it (e.g., Allen et al. 2003)? Should they engage people only when they understand the cause or should they get people to participate whether they are sympathetic to (or knowledgeable about) the cause or not?

Recent focus on marketing

As noted, much of the current effort on behalf of local food systems development is in marketing local food to mainstream consumers. Several scholars have pointed to the danger of mainstreaming local food. Guptill and Wilkins (2002) caution that “local” is just as commodifiable as “organic.” As local food grows in popularity, it is likely to be used by hypermarket retailers in their advertising even if their offerings are not particularly local or sustainable. Therefore, any collaboration between local producers and embattled grocers must also engage active consumers who can distinguish shallow promotion of “local foods” by hypermarkets, for example, from local foods promotion by stores that have forged substantive win-win relationships with local growers. Their conclusion suggests that SA organizations should exercise caution in their marketing campaigns, taking care to engage consumers in the issues of SA and CFS, not just playing to consumers’ “core values.”
In a similar vein, scholars have expressed concern that localism is becoming more of a defense against globalization than a pathway toward agricultural sustainability. Winter (2003) makes the point, so often overlooked, that consumer interest in local food buying does not necessarily signal a green future for agriculture. Interest in local purchasing, particularly in the UK, is often motivated by consumers’ concerns over food safety. Consumers are also likely to feel that they are contributing to their local economy by buying local food.

Likewise, Guptill and Wilkins (2002) found that owners and general managers of grocery stores (from hypermarkets to cooperatives) perceive consumer interest in locally produced foods as a result of concern over health of the local economy, food safety, agro-chemicals, genetic engineering, and an increasing interest in high-quality fresh produce. More significantly, they report consistently promoting local products as “premium” or “special” products, suggesting that “in most cases, even when incorporated, [local] foods are still marginal to mainstream food retailing” (p.48).

**Who wants to eat local food? To whom is it marketed?**

Data from consumer studies have shown that food provenance (being local) is more important to consumers than production processes (being organic) (Kolodinsky and Croom 2003, Pirog 2003, Wimberley et al. 2003, Food Processing Center 2001). Such findings seem to confound the pre-conclusion that local food systems would holistically improve agriculture; rather, the data suggest that consumers interested in buying locally-produced foods place more value on who grows the food and where their food dollars go than on the environmental consequences of how the food is produced. Depending on their slant, local food marketing efforts could exacerbate this consumer tendency.

In a study of Australian consumers, Lockie (2002) concluded that targeted advertising and limited sales locations, not general consumer sentiment, has made organic a class-based food preference. Though local food does not appear to hold class associations now, it is likely that it could in the future, depending largely on how it is marketed. To quote Lockie (p.288),
The key question here is not whether the organic industry is marketing itself to the wrong people, but the extent to which knowledge of the ‘organic consumer’ – irrespective of its spurious foundations – may contribute in the longer term to the mobilization of particular types of people as organic consumers and have significant impacts on the pattern of organic consumption.

If this sort of gentrification were to occur for local food, it might hamper CFS efforts (and SA efforts as well) to broaden local food distribution across class and income lines.

Research on consumer shopping strategies, rather than on consumer preferences, may help SA advocates design their marketing strategies for a broader audience. In an example of this type of research, Kolodinsky and Croom (2003) concluded that low and high income consumers in Vermont purchase a different array of local food products, and they purchase local foods from different locations. Low-income consumers are less likely to buy local food at a farmers’ market or direct from a farmer than are other consumers. They also found that 95 percent of Vermonter believe that they have purchased local food in the last year.\(^{14}\) However, based on focus groups, the same research team concluded that confusion exists among consumers in regard to where local food is available and how to identify it.

On the question of who eats local food, a Midwestern study found that a similarly high percentage of the populations in Midwestern states believe that they consume local food. A 2001 study of primary shoppers in 500 Midwestern households found that 99 percent had bought local food\(^{15}\) at one time or another (Food Processing Center 2001). Over 80 percent had made their local food purchases at farmers’ markets, 76 percent at grocery stores, and 74 percent direct from farmers. Although the survey population demographics were representative of the Midwest population, analyses were not conducted by which to determine whether access patterns differ by age or income level.

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\(^{14}\) Local food was defined as “foods grown, harvested, or produced anywhere in the state of Vermont.”

\(^{15}\) Local food was poorly defined. The definition used was “grown on a local family farm or made by a small local company.”
What does the discipline of Planning have to offer?

In connection to the social justice issues of food availability and food quality, and in response to the growth of the CFS concept, there is an emerging recognition by urban planners that they could play a role in improving urban food systems. Pothukuchi and Kaufman (2000) have illustrated how food system planning fits into the mission of city planning agencies; they have also documented the low level of attention that planners give to food system issues. In fact, few planners are even familiar with the food system concept. Yet, city planners often hold the key to where supermarkets will be located, whether neighborhoods can use vacant lots for gardening, and whether public transportation makes affordable, quality grocery (and farmers’ market) outlets accessible to inner city residents.

Some cities and states have established food policy councils (FPCs) to advise the city or state government on food system matters. Many FPCs have gathered data to help them assess the status of their food system. Some have gone on to propose policies aimed at stimulating greater local self-reliance (Hamilton 2002). Although Burlington has a FPC, no one has undertaken an assessment of the Intervale or the Burlington local food system.¹⁶

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¹⁶ The Burlington Food Council is currently looking for ways to increase local food use in schools (Burlington Food Council 2004).
Chapter 3
Research Design and Methods

Study location
Burlington is the largest city in Vermont (though a small city by national standards) and is located in the most urbanized county (Chittenden) in the state. The city’s 2000 population was 38,889; the Burlington Urbanized Area population was 105,573. Population for Chittenden County was 146,571 (US Census Bureau 2004). Burlington is 10.56 square miles in size. Therefore, its population density is 3683 people/mile². According to the 1997 Census of Agriculture (2004) the county had 456 farms, 34 of which were vegetable farms. About one-third of the vegetable farms were located within the Intervale.

Research design
I designed this research as a case study of Intervale food consumption. My intention was to take an in-depth look at local food consumption in one small city and describe it using data gathered through multiple methods. I did limit my data collection so that it was primarily focused on characterizing who eats Intervale food. In general, I analyzed my data by access category (see Table 3.1) and compared these groups. As a result, the population accessing Intervale food in each category serves as my principal unit of analysis. The access points themselves also serve as units of analysis.

I began by surveying Intervale farmers about where their food is sold and, if they donate any, to what organizations they donate it. Through this process I identified 29 market access points and over 20 non-market access points for Intervale food (see Table 3.1).¹⁷ I then went through the access points to contact people who eat Intervale food. Two of the market access points were located outside of Burlington city but within the Burlington Urbanized Area.

¹⁷ Market access points are defined as points of purchase of Intervale foods. Restaurants, farmers’ markets, farm stands, CSA, pick-your-own venues, and grocery stores are market access points. Non-market access points include Burlington Meals on Wheels (because although some recipients pay full price for their meals, the Intervale ingredients are donated), the Chittenden Community Action Food Shelf, and other social service providers who receive Intervale produce donations and then distribute the food to their clients. Community gardens in the Intervale are also considered non-market access points for Intervale-grown food.
(BUA) as defined by the 2000 Decennial Census.\textsuperscript{18} I quickly learned that many eaters of Intervale food reside outside of Burlington and that two access points are located outside of the city. For this reason, I compare most of the demographic data that I gathered in this research to 2000 Decennial Census data for the BUA (see Figure 1.1) rather than to the Burlington city Census data. However, when appropriate, I have made comparisons to Burlington city Census data.

<table>
<thead>
<tr>
<th>Table 3.1 Number of access points for Intervale food, by category</th>
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<tr>
<td></td>
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<tr>
<td>Access points</td>
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<tr>
<td>Access points studied</td>
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<tr>
<td>Interviews or surveys</td>
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</tbody>
</table>

*Counts the five social service agencies that receive most of the donated Intervale produce, the Intervale Foundation’s Healthy City Program, and Friends of Burlington Community Gardens.

Vegetables and fruits make up the bulk of Intervale’s agricultural output and are the only products available through all access points. Therefore, from this point forward, when I refer to Intervale food I mean only produce, even though in 2003 Intervale farms also produced flowers, honey, eggs and poultry.

I employed surveys as my primary data collection strategy. The kind of data that I wanted to collect – mostly short-answer, personal demographic information – is most easily collected via surveys.\textsuperscript{19} In addition to surveys, I used interviews and observation to gather data. For example, rather than survey non-market food recipients, I interviewed social service providers. I chose to use interviews for three reasons: 1) some agencies had already collected

\textsuperscript{18} The US Census Bureau refers to Burlington as “Burlington city” in order to distinguish it from the Burlington Urbanized Area.

\textsuperscript{19} I pre-tested the surveys with consumers at a farmers’ market, a cooperative grocery store, and a CSA pickup site.
demographic data about their client population, 2) I had limited time to administer surveys, and 3) the special needs\textsuperscript{20} of many non-market recipients would have required the use of special survey methods. Because it appeared that interviews could give comparable data to what surveys would give, interviews were used. During the two weeks that I was in Burlington conducting surveys (late July and early August, 2003), I visited most of the market access points for Intervale food, taking observational notes and photographs. I observed the people who were present at each site, what foods were available and at what prices, how foods were labeled and presented, and the atmosphere in which they were presented. I also visited five conventional grocery stores in the BUA, none of which carry Intervale produce, in order to put the Intervale access points in their broader food system context. At those stores I took note of fresh produce offerings, prices, labeling, and promotional signs as well as the atmosphere of the store generally. In addition to visiting market access points, I spent time at several Intervale farms. I spent a half-day working on two of the farms and visited two others. I also spent some time at farmers’ markets in conversation with farmers about how, and to whom, they sell their produce.

I designed point-of-purchase consumer surveys\textsuperscript{21} to gather data from people who were buying Intervale produce on the survey day. At farmers’ markets and CSA access points it was relatively easy for me to confirm that consumers were indeed buying Intervale food, even when they were unaware of it themselves. However, at grocery store access points it was more difficult to confirm whether or not purchasers were buying Intervale produce. One reason was that most people preferred to complete the survey before entering the store, therefore they were unsure of what they would be buying and could not say for sure that they would buy Intervale produce unless they were very familiar with the normal store selection and could tell me that they had bought Intervale produce at the store recently and would likely buy it again soon. The greater difficulty was that few consumers were sure whether they ever bought Intervale produce in the grocery store. Many of the latter consumers were

\textsuperscript{20} Many non-market recipients are aged, illiterate in English, or developmentally disabled.

\textsuperscript{21} Permission to conduct research with human subjects was granted in June 2003 by the Institutional Review Board of Iowa State University (IRB-ID No. 03-585). The survey instruments are included in Appendices A and B.
familiar with the Intervale and its programs and some were sure that they buy Intervale food at farmers’ market and or through a CSA, but they had not paid close attention to their purchases at the grocery store. As a result, I had a short conversation with most shoppers in order to help them determine whether or not they were likely purchasing Intervale produce at the store.

Because of the exploratory and applied nature of my research project, I had to adjust my research design and data collection strategies throughout the study period. For example, I discontinued restaurant patron surveys after testing at three sites due to low return rate, low restaurant participation, and high researcher time investment. Under the new strategy, I simply asked restaurant owners to describe their clientele.

**Definitions**

Because of the complexity of ways in which Intervale food can be accessed, I distinguish differences in participation based on access method. I use the following terms, particularly Intervale eater, to refer to the population accessing Intervale foods. As described in Table 3.2, Intervale purchasers and donation recipients may be primary or secondary. Primary purchasers and donation recipients obtain Intervale food directly from farmers via farmers’ market, CSA, or other direct sale. Secondary purchasers and donation recipients access Intervale foods from organizations whose food system role is to distribute food.

**Table 3.2 Definitions**

<table>
<thead>
<tr>
<th>Intervale Eater</th>
<th>Definition</th>
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<tr>
<td></td>
<td>• Anyone who <em>eats</em> Intervale food.</td>
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<tr>
<td></td>
<td>• Intervale Eaters may access Intervale food via a market or a non-market access point.</td>
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<tr>
<th>Intervale Purchaser</th>
<th>Definition</th>
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<tr>
<td></td>
<td>• Subset of Intervale Eater. Anyone who <em>buys</em> Intervale food through a market access point.</td>
</tr>
<tr>
<td></td>
<td>• May be primary (grocery produce department manager) or secondary (grocery store patron).</td>
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<tr>
<th>Intervale Donation Recipient</th>
<th>Definition</th>
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<tbody>
<tr>
<td></td>
<td>• Subset of Intervale Eater. Anyone who <em>receives</em> Intervale food through a non-market access point.</td>
</tr>
<tr>
<td></td>
<td>• May be primary (social service organization) or secondary (social service clients).</td>
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</tbody>
</table>
Nearly all non-market recipients of Intervale foods are secondary consumers because they obtain Intervale foods via an intermediary organization which is the primary donation recipient. The exceptions to this rule are farmers, farm workers, their family and friends, and volunteers who may receive Intervale food as a non-monetary benefit of their work or as a gift. Intervale community gardeners are difficult to classify. They do pay for the right to use plots in the Intervale, but most of the value of the food that they harvest comes through their own labor. In this sense, community garden produce is largely a non-market good. With more than 150 community gardeners active in the Intervale, a large number of people in the community are likely receiving gifts of extra Intervale garden produce. These informal food networks are certainly non-market in nature.

Survey Methods
I chose survey venues from a list of marketing outlets provided by Intervale farmers in June 2003. I asked farmers to name every store, farmers’ market, CSA, and restaurant to or through which they sell their products. I also asked farmers to indicate whether they donate any of their produce and, if so, to whom.

From the compiled list, I chose all Burlington farmers’ markets as survey sites and one Burlington grocery store site. Farmers named two additional grocery stores, located outside of the city; I surveyed customers at those stores too, for a total of three. I distributed surveys at three of 18 restaurants before discontinuing them due to logistical difficulties and a change in research strategy. Finally, I surveyed customers from three of five CSA farms. Farmers indicated that they do not use wholesale or other brokering organizations to sell their products.

Survey questions
I designed a generic 54-question survey and modified the wording of the generic survey to fit each purchasing venue. Intervale eaters completed surveys at three grocery stores, three farmers’ markets, and three CSA farms. The survey consisted of 20 demographic questions
and 34 questions about consumers' produce consumption and familiarity with the Intervale. My survey instruments are included in Appendices A and B.

I administered Grocery and Farmers' Market surveys in person during the last week of July and first two weeks of August, 2003. CSA farmers helped me to administer Community Supported Agriculture surveys from a distance in late fall so that the surveys would coincide with the farms' end-of-season surveys. I conducted telephone interviews with non-market site coordinators (from social service agencies and the community gardens) and restaurant and grocery buyers in February and early March 2004, though I had met and spoken with several of these people face-to-face during the summer while I was in Burlington administering surveys.

**Grocery and farmers' market surveys**

Three store managers, as well as two of three market masters granted me permission to administer surveys on site. I contacted managers and market masters by letter and a follow-up telephone call. The third market master could not approve the survey because of market rules; instead, I collected the surveys from the periphery of the market site.

I set a target survey return rate of 50 surveys per site (Neuman 2000). Due to low customer volume and participation, I reached that target at only one of six sites. Roughly five and a half hours of survey solicitation at the store site with the highest customer volume yielded 54 usable surveys. This time span closely matched the time that I had scheduled for farmers' market surveys: two days/market at about three hours/market day\(^{22}\). In order to balance store-owner and customer patience, researcher time constraints and minimum data needs, I decided to spend five and a half hours at each grocery site as well as at each farmers' market site (aiming for high-volume times), thereby attempting to keep the number of surveys obtained/site in proportion with the number of customers buying Intervale foods at each site.

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\(^{22}\) Scheduling two visits to each market was a reasonable plan. Fewer surveys were gathered during the second visit to each market because many attendees visit the market every week and, therefore, had completed the survey during the first week of the study. I felt that, particularly at the neighborhood markets, I reached the point of saturation in terms of how many people were going to complete the survey.
To gather surveys, I stood behind a small table in front of the store, just inside the doors (after the shopping carts, before the food), or within the farmers' market stall line-up. I displayed a sign saying "Burlington Food System Study, Please participate in this voluntary survey about your food choices and local agriculture!" or "Grocery Stores and Local Agriculture: A Burlington Food System Study. Please take part by filling out a short survey." on the survey table. I asked people who made eye contact with me whether they would be interested in taking the survey. I offered cookies, lemonade, and a chair to survey-takers.

CSA surveys
CSA surveys were administered in October and November to all members of three of five CSA farms. The two remaining CSA farms were left out of the study due to time constraints and the difficulty of communicating with their farmers. However, I expect that the member populations of the un-surveyed CSA farms are similar to those of the other Intervale CSA farms and, therefore, it does not create a bias in the data to have left them out.

For one CSA, the farmer distributed surveys along with the farm's year-end surveys during two successive weeks. For another CSA, the farmer sent the survey to members as an email attachment. (The farmer maintains an email list of 90 percent of the members.) Unfortunately, the farmer was not willing to use the Dillman method (Salant and Dillman 1994); that is, the farmer was not comfortable sending follow-up reminders to members. Finally, I sent surveys to members of the third CSA by mail. I sent a follow-up thank you/reminder postcard one week later.

Survey data organization
I used an SPSS data entry program to record survey answers and then calculated all statistics using SPSS. I could not calculate overall market access point summary statistics because I did not know the relative purchaser volume between market access categories. However, I was able to calculate summary statistics within each market access category.
In order to calculate summary statistics for the CSA farms, I weighted the means and other statistics from each CSA before combining. To do this I multiplied the mean from each individual CSA by the ratio of its membership size to the total membership of all three CSA farms surveyed. Eighty-five percent of all CSA shareholders were asked to complete a survey (that is, the members of the three CSA farms surveyed make up 85 percent of the total Intervale CSA member population). Twenty-two percent of those shareholding households completed surveys; therefore, in total, 19 percent of all Intervale CSA shareholding households responded to the survey. Return rates for the individual CSA farms sampled were 20 percent, 15 percent, and 61 percent. The low return rate from CSA farms one and two reflects the methodological constraints posed by administering surveys at a distance and by the second farmer’s discomfort about communicating with members more than once in regard to the survey.

Farmers’ market and grocery survey data did not require weighting in order to calculate summary statistics because I had collected surveys from each access point in proportion to the sites’ relative customer volume. That is, I spent the same amount of time at each site and aimed to visit each site at similarly high volume times.

**Interview Methods**

**Restaurants**

Because restaurant sales are a central part of Intervale farmers’ business and a significant volume of Intervale produce passes through restaurants, I attempted to gauge the Intervale consumer population at restaurants. However, collecting demographic data from restaurant customers was logistically challenging. Furthermore, most owners were either extremely hesitant or completely unwilling to allow surveys in their restaurants. Therefore, I formed a new strategy: to interview the primary consumers of Intervale produce, the owners and chefs themselves. I asked interviewees about their use of Intervale produce and their clientele’s cognizance about eating Intervale food at the restaurant. I also asked them to describe their clientele. Of 18 Burlington-area restaurant and café owners using Intervale food, seven completed an interview. The restaurant interview guide is included in Appendix C.
Non-market access points

Non-market access points for Intervale food may be divided into two categories: community gardens and social service agencies. I obtained information about community gardeners from Friends of Burlington Gardens, a non-profit organization that works with the city to coordinate the community garden program in Burlington. I collected information about donation recipients from the social service agencies that distribute Intervale food donations.

Based on farmer surveys and discussion with the Intervale Foundation’s gleaning program coordinator, I compiled a list of social service agencies that receive Intervale produce donations. Over 20 organizations receive Intervale food donations. Of those, I interviewed the five most frequent recipient organizations to find out who they serve, which of their clients benefit from Intervale food donations, and how the food is distributed. I also asked about the impact of Intervale food donations on the quality and quantity of foods available to their clients. Finally, I asked the organizations to what degree their clients are aware that the fresh produce that they receive comes from Intervale farms. The interview guide is included in Appendix C.

Presentation of Data

The data collected were not obtained from random samples; in some cases a census of the eater population at a site was taken. For these reasons, inferential statistics cannot be used to compare Intervale eater demographics to the Burlington Census demographics. Rather, results are presented as “eyeball” comparisons, with commentary about how the Intervale eater population appears to resemble or differ from the BUA population as a whole. In order to maintain the confidentiality of CSA farms and grocery stores in regard to the demographics of their clientele, I have aggregated data from these access points in the presentation of results. I have also preserved the confidentiality of restaurant interviewees.

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23 One organization alone receives nearly one half of all the donated produce. The other four organizations interviewed receive produce every week of the season. The remaining 15 or more organizations receive donations infrequently and, therefore, make up a very small proportion of the recipient population.
Some data are presented in regard to the voting ward in which eaters live. Burlington city is split into seven voting wards. Each survey respondent living in Burlington was asked to indicate their voting ward. Wards, rather than street address, were used to measure purchasers' location of residence because 1) it was a less invasive question, 2) the population of each ward is roughly equal, and 3) the boundaries of wards fall roughly along neighborhood lines. A map was available to residents so that they could double-check the number of the ward in which they live (the wards are numbered one through seven, see Figure 4.1).
Chapter 4
Access Point Descriptions and Intervale Eater Results

Community food security activists have realized that it is not enough to ask: Are all people fed? Today, Americans with limited food budgets are often able to fill their stomachs, but unable to afford a nutritious diet. In this situation, the new question is: How well are people fed? Because Intervale produce is likely to be the most healthful food traveling through Burlington’s food system, it is important to ask: “Who eats Intervale food?” From a systems perspective, access to Intervale food could be an indicator signaling the overall quality of people’s diets across the whole community.

Demographic data were gathered about Intervale eaters in five access categories: community supported agriculture (CSA) farms, farmers’ markets, grocery stores, restaurants, and non-market venues. In this chapter I describe the access points, present demographic results about Intervale eaters, and explain the degree to which they are conscious of their connections to the Intervale.

A description of access points
Understanding who eats Intervale food requires a clear understanding of the places in which it is available: where access points are located, how the food is advertised, and at what prices it is sold. Through observation and interviews I gathered information about the geographical availability of Intervale produce, the visibility of Intervale food, and the settings of each access point.

Geography of access
Access points for Intervale foods cluster in the center of Burlington and radiate outward (see Figure 4.1). The farmers’ market and the grocery store that distribute the greatest amount of Intervale food, and the restaurant that serves the greatest volume of Intervale food are all located in the center of downtown. The highest-volume CSA farm distributes its produce within the Intervale itself – under a pole barn on the farm. The non-market site distributing
the highest volume of Intervale foods is located between downtown and the Intervale, within the Old North End.

Figure 4.1 Market access points within Burlington, shown by ward
This map is adapted from the US Census map of the Burlington Urbanized Area (BUA). It shows Burlington's seven voting wards and market access points for Intervale food. In addition to the access points shown on the map, 14 restaurants are located in ward 3, one is located in ward 4, another is located south of the BUA, and two are located in the northern portion of the BUA. One additional grocery access point is located in the southern portion of the BUA (Shelburne). (Map is roughly ten miles across).
Visibility of Intervale foods through their life cycle

Intervale foods are visible to Burlington area residents during the production phase – if residents visit the Intervale. Except in midsummer (because bushes obscure the view), nearly every farm is visible from the public road/bike path that runs through the Intervale. Few farms welcome casual visitors into their fields, but residents who walk or bike along the path can see vegetables growing, and farmers and farm hands working if they pass through during the work day. An extensive area of community garden plots is located along the road as well; the gardens are open to anyone who wishes to walk through them.

An Intervale food’s provenance is less clear in the distribution and consumption phases of its life cycle. When Intervale foods are labeled with only the name of the farm where they were grown, consumers may not connect the farm with its location (the Intervale).

In the three grocery stores, Intervale foods are normally labeled by farm name. City Market, located in downtown Burlington, proudly features local vegetables in its spacious produce section at the front of the store. Locally-grown produce is clearly marked, using a color-coding system and extensive labeling. Farm name and location are listed on the price sign for each local produce item. For Intervale produce the phrase “Burlington Intervale” or “Intervale” is used as the location name. Additionally, a large bulletin board at the store entrance is dedicated to providing customers with information about local farms; much of the focus falls on Intervale and its farms. Photographs and profiles of local farms are also posted in the Local-Organic section of the produce department.

Healthy Living, a natural foods grocery store located in South Burlington, also takes care to clearly advertise local produce. Labels for local produce indicate the name of the farm that grew the food. According to the produce manager, a map with the farm names on it is located at the front of the store so that customers can match farms with their locations. While both City Market and Healthy Living use labeling and posters that connect the names of Intervale farms with their locations, it is ultimately up to consumers to read the signs and make the connections in their own minds. At Shelburne Supermarket, located at the southern
tip of the urbanized area, Intervale produce is generally not labeled by farm name or location unless the farmers label their own packaging (as one farm does on its bagged carrots).

In restaurants, as in grocery stores, the local origin of produce may be advertised, but it is up to the eater to take note. About half of the 18 restaurants that use Intervale foods advertise the names of the farms where the food is grown at least some of the time.24 Additionally, in 2003 the Intervale Foundation listed restaurants that use Intervale produce on its website.

At farmers’ markets, most Intervale farms display signs indicating their name. Of those, about half indicate their location (the Intervale).

Four of five social service agency interviewees indicated that they do inform recipients that the produce they are receiving is grown in Burlington’s Intervale. However, two of the four feel that few of their recipients pay attention to or understand that information. The other two indicated that recipients are very much aware of the Intervale and its role as the provider of the produce that they are given.

**Settings of Intervale produce access points**

The settings for access to Intervale produce vary widely from a youth-run farm stand, to upscale restaurants, to a cooperative grocery store. Because of donations by Intervale farmers and the Foundation, refugees being resettled in Chittenden County may find a bag of fresh Intervale-grown vegetables when they arrive in their new home.25 I describe the settings of access points in order to give the reader enough context to appreciate why the demographics of Intervale eaters may vary by site.

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24 As one restaurateur noted, it is only possible to include farm names or locations on printed menus when the source is consistent for a period of months. Produce offerings are rarely consistent enough. For this reason, advertisement of local produce use – with the farm name and location noted – is usually done on a sign that can be changed daily or by way of servers announcing the availability of items with local ingredients. Several restaurant and café owners responded that their frequent customers know of the establishment’s commitment to buying locally whenever possible, but that visitors may not be aware. This is because details about the food served – like its origin – are more commonly shared through conversation than via labeling.

25 The Vermont Refugee Resettlement Program (VRRP) delivers one day’s worth of food to the homes of new refugee arrivals to tide them over until they can go grocery shopping for themselves. VRRP is a weekly recipient of gleaned Intervale food; the organization passes the food directly on to new arrivals.
Grocery Stores

The three grocery stores that sell Intervale produce do not serve the bulk of Burlington Urbanized Area (BUA) residents. It is clear that large chain supermarkets like Price Shopper, Hannaford, and Shaw's are doing that. Rather, the stores that sell Intervale food are small independent stores, owned and managed by local residents. City Market and Healthy Living are similar in their contemporary, chic look and central location, but their ownership is organized differently. One is under private ownership; the other is a consumer-owned cooperative. Shelburne Supermarket is located in an older building at the southern edge of the BUA. It looks like a small, conventional chain grocery store, but it is independently owned by three men who work in the store daily and live nearby. Unlike the other two stores, Shelburne Supermarket does not feel expensive or trendy, but it does offer products that could classify it as such, like specialty yogurts, local organic meat, bulk tofu, and gourmet salad dressings.

City Market, the largest of the three stores, is a cooperative grocery located in the heart of downtown Burlington. In 1999, Onion River Cooperative (which runs the store) prevailed in the public bid for Burlington's downtown supermarket space; a Price Chopper had previously been located in the downtown but went out of business in that location. Onion River's previous storefront, established in 1981, was located in a small building in the Old North End. A much larger building has been occupied at the new, downtown site. As Burlington's only downtown grocery store, City Market is expected to serve downtown and other nearby residents of all income levels. One of the concerns expressed about the coop during the participatory selection process was the perception among residents that the price of basic groceries would be expensive at the cooperative store relative to prices at conventional grocery stores.26 As a result, City Market has had to work hard to show that it indeed offers competitive prices and carries a greater variety of items now that its original store did,

making it a store where anyone can do their weekly shopping, regardless of their budget or food tastes.\textsuperscript{27}

Despite the charge that City Market may not serve all downtown residents’ shopping needs, City Market is clearly a neighborhood grocery store. Ninety-six percent of respondents live in the BUA; of those, 73 percent live in Burlington city. Over half of respondents (55.1 percent) live in wards (one, two, three, and six) which immediately surround the store.

Healthy Living describes itself as a “natural foods market.” It is located in South Burlington. Like City Market, it is located within a larger shopping district and along a bus line, making it a relatively convenient store for customers to reach. Like City Market, Healthy Living feels trendy and expensive.

Shelburne Supermarket is located seven miles south of Intervale, within the BUA, in the affluent town of Shelburne. The store has been in business for over 25 years. Although the store stocks a number of gourmet items, Shelburne Supermarket feels like a regular, small grocery store. The interior is much older and more conventional than that of the other two stores. Shelburne Supermarket primarily serves residents in the village. This was evident during the survey period; the owners and department managers know many customers by first name, and many people appear to come into the store multiple times each week.

\textit{Farmers’ Markets}

Burlington consumers support three farmers’ markets.\textsuperscript{28} Two of the markets, Old North End and Ethan Allen, are neighborhood-focused, each operating on a weekday afternoon with two, sometimes three, vendors; the third is the much larger Saturday downtown market which attracts visitors as well as residents from the greater Burlington area. All produce sold

\textsuperscript{27} In conversation with the store’s marketing manager, I learned that the store had recently done a market basket survey and found that, indeed, consumers could shop as affordably at City Market as at large chain groceries in the BUA. The selection, of course, is still more limited than at a big conventional grocery store.

\textsuperscript{28} One additional market is located on King Street, just south of downtown. The market is made up of one small stand staffed by youth who participate in the Intervale Foundation’s Healthy City program. The youth sell produce that they have grown in the Intervale.
in Burlington farmers’ markets is local. At the downtown market, about half of the available produce comes from Intervale farms. At the two neighborhood markets, all produce is from Intervale farms; in fact, the Intervale Foundation runs one, the Ethan Allen market. Both of the neighborhood markets are low-key affairs; in contrast, the Saturday downtown market organizers take their market very seriously and achieve a big-event atmosphere every week.

The Saturday downtown farmers’ market located in City Hall Park is the most publicly-visible display of Intervale food during its distribution phase. The market supports about ten fruit and vegetable vendors and several more farmer-vendors selling flowers, meat, or dairy products. In contrast to the neighborhood markets, the downtown market appeared to attract many people interested in just looking, not buying. The market is a crowded and festive place to be on Saturday morning. In 2003, an artists’ market was established next to the farmers’ market, adding to the festival-like feel. Many more people appear to attend in couples than at the other markets. Fewer children are present than at the weekday markets.

The Old North End Farmers’ Market (ONEFM) has a completely different feel. The ONEFM was begun in 1987 as an initiative of the Old North End Community Food Project (CFP) (Rabimovitch 2003). The 1987 announcement/newsletter for the CFP explains that it was designed to “develop ‘food security’ for the Old North End. We believe that people have a right to healthy, affordable, locally-grown food.” The ONEFM was intended to serve as a means to that end. In 2003, the market had three farms vending: all organic, all from the Intervale.

The ONE market is supported by grants and organized by Chittenden Community Action’s (CCA) nutrition educator. As a result, Old North End residents who receive food stamps and other assistance through CCA are encouraged to attend the market; the nutrition educator is normally present on market days and acts as a resource and a familiar face for clients. Most ONEFM customers are neighborhood residents. Over half of market-goers live in the Old
Interestingly, twelve percent of market-goers live in Colchester; one Colchester couple explained that the ONEFM is a convenient stop on their way home from work on Tuesday nights and is easier to shop at than the Saturday market downtown.

The farmers’ market at Ethan Allen Park in the New North End is still in its establishment phase, 2003 being only its second season. Customer volume at Ethan Allen is much lower than for either of the other markets. The Intervale Foundation initiated the market in hopes of reaching more residents of the New North End with their food. Unfortunately, the New North End area does not lend itself to neighborhood markets like the older neighborhoods of Burlington do. Attendance has been low both years of its operation; the Foundation attributes this to the lack of a good location as well as to its newness (Davis 2004). The market is also extremely small, with only two produce vendors and one, sometimes two, pre-prepared food vendors.

As hoped, the Ethan Allen market does serve New North Enders. All customers surveyed at the market live on the far north side of town, two-thirds of them in the same neighborhood as the market. In contrast to the other markets, Ethan Allen is visited almost exclusively by women. The downtown market ratio was about 60 percent women to 40 percent men, ONEFM was 75:25 (similar to grocery stores), and Ethan Allen was about 95:5.

Restaurants

The 18 restaurants that use Intervale food are all locally-owned and managed. They range from Bohemian cafes and juice bars to fancy restaurants. Almost half of the restaurants serve breakfast, half serve lunch, and half serve dinner. Many serve the downtown business crowd at lunch. Some cater to students as well. About half of the restaurants are family-friendly. Most of the offerings, even when served cafeteria-style, are fairly sophisticated; none of the restaurants could be called delis or diners.

29 Fifty-six percent of ONEFM shoppers live in the voting wards that make up the Old North End neighborhood: 35.3 percent live in ward two, 14.7 percent live in ward three, and 5.9 percent live in ward seven. Most of the ONE is contained within wards two and three; a small portion is part of ward seven.

30 The New North End is lower density residential, car-oriented, and lacks small neighborhood parks conducive to hosting a market.
**Non-market**

A variety of social service agencies in Burlington receive weekly donations of Intervale produce. Most of these organizations offer the food to their clients fresh on the day it is donated. Others incorporate the produce into prepared meals that are served on site or delivered to clients' homes. One site uses donated produce to make salads with the clients at lunch time and also incorporates the fresh produce into its nutrition and introductory cooking class. As the interviewee from this agency recalled, Intervale kale was the first food that one of her clients cooked – a feat that made him very proud. She reported that all of her clients enjoy eating and preparing the Intervale produce that they receive.

**CSA**

Less public than the other settings for Intervale food distribution are the CSA farms’ pickup sites. Of the five CSA farms based in the Intervale, only one farm offers on-farm pickup exclusively. The other farms deliver directly to members’ homes or workplaces or to central pickup sites in town.

**Intervale eaters by demographic characteristics**

The demographic parameters used in this study are the basic terms by which populations are commonly described. Intervale eaters reside throughout the Burlington Urbanized Area. The BUA is home to people of diverse ages, occupations, household compositions, incomes, levels of educational attainment, and countries of origin. I compare my survey results to US Census data with this question in mind: Is the full diversity of Burlington residents accessing Intervale food or is only a certain subset of the population eating it?

**Location of residence**

I gathered information about location of residence in order to learn how geographically-dispersed the Intervale-eating population is: Do they all live in one part of town? Do more Intervale eaters live inside of Burlington or outside of it? Respondents were asked to list the town where they live and, if a Burlington resident, their voting ward. Data about location of residence were obtained for grocery, farmers’ market, and CSA purchasers.
Survey results revealed that the three categories of market access points (farmers’ market, grocery, and CSA) draw their clients from different parts of the BUA. Farmers’ markets draw their customers most strongly from the city. Seventy-seven percent of farmers’ market purchasers are Burlington city residents (see Table 4.1). In contrast, less than two-thirds of Intervale CSA farms and grocery purchasers live in the city itself. All eaters who access Intervale food through non-market points reside within Chittenden County; no more specific residential information was available from interviewees at the agencies that distribute donations.

Table 4.1  Purchasers' location of residence, by access category

<table>
<thead>
<tr>
<th></th>
<th>CSA</th>
<th>Farmers' Market</th>
<th>Grocery</th>
<th>BUA Adult Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burlington city</td>
<td>57.2</td>
<td>76.8</td>
<td>43.3</td>
<td>39.4</td>
</tr>
<tr>
<td>Ward 1</td>
<td>11.4</td>
<td>5.6</td>
<td>1.8</td>
<td>14.1</td>
</tr>
<tr>
<td>Ward 2</td>
<td>6.6</td>
<td>33.8</td>
<td>28.6</td>
<td>15.3</td>
</tr>
<tr>
<td>Ward 3</td>
<td>17.0</td>
<td>14.1</td>
<td>28.6</td>
<td>14.9</td>
</tr>
<tr>
<td>Ward 4</td>
<td>20.6</td>
<td>18.3</td>
<td>8.2</td>
<td>12.7</td>
</tr>
<tr>
<td>Ward 5</td>
<td>25.3</td>
<td>12.7</td>
<td>18.4</td>
<td>14.1</td>
</tr>
<tr>
<td>Ward 6</td>
<td>13.8</td>
<td>8.5</td>
<td>10.2</td>
<td>16.5</td>
</tr>
<tr>
<td>Ward 7</td>
<td>5.2</td>
<td>7.0</td>
<td>2.0</td>
<td>12.4</td>
</tr>
<tr>
<td>Urbanized Area</td>
<td>32.0</td>
<td>15.8</td>
<td>40.2</td>
<td>60.6</td>
</tr>
<tr>
<td>Non-local</td>
<td>11.8</td>
<td>7.4</td>
<td>15.6</td>
<td>NA</td>
</tr>
</tbody>
</table>

Right-justified numbers are within-category percentages. All other percentages are based on the total population accessing Intervale food in the category listed. BUA Adult Population figures are provided for comparison.

Within Burlington, Intervale purchasers live mostly in wards two, three, four and five.32 The greatest number of CSA households are located in wards four and five, the greatest number of farmers’ market households are located in the wards that host neighborhood markets (two and four), and the greatest number of grocery households are located at the center of town.

31 The numbers in this row are for the Burlington Urbanized Area minus Burlington city.
32 For wards’ proximity to the Intervale and locations of access points, see Figure 4.1 on p.31.
(wards two and three). Few survey responses came from purchasers living in wards one, six, or seven.

Location of residence data also indicate that people beyond the BUA (7-16 percent of purchasers) are buying Intervale food. For example, residents from the surrounding towns of Grand Isle, South Hero, Hinesburg, Richmond, Westford, and Bristol completed the survey. In addition, restaurant interviewees indicated that they serve many tourists during the summer months.

While Intervale food may be reaching people all over the BUA and a few people beyond, it’s not reaching much of the population in absolute terms. Because the CSA member population is discrete, it is possible to estimate the actual number of people who ate Intervale food through CSA farms in 2003. During the 2003 season, 665 Intervale CSA memberships were sold. With a weighted average of 2.36 eaters per share, CSA memberships fed about 1570 people. This means that 2.3 percent of the Burlington population ate Intervale food through a CSA. Roughly 1 percent of the urbanized area population (excepting Burlington) ate Intervale food through a CSA.

**Age**

Intervale purchaser households are young in comparison to the BUA population. Of the three market categories, Intervale grocery purchaser households most closely mirror the BUA population in terms of their age distribution (see Table 4.2), but they diverge in the 65+ years old category. This under-representation of older residents points to the importance of non-market distribution in helping to fill empty niches in Intervale consumption. Meals on Wheels, which feeds roughly 300 elderly and disabled Chittenden County residents per day, receives weekly donations of Intervale food during the summer months. It is a significant force for getting Intervale food into the homes of Burlington’s older residents.\(^3\) Two other

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\(^3\) According to the director of Burlington Meals on Wheels, senior citizens make up 70-75 percent of the organization’s client population. Fresh vegetables from the Intervale are consumed within one day; they are primarily used for making salad. Meals on Wheels cannot afford to buy fresh vegetables for its program.
agencies that receive frequent Intervale donations also serve elderly residents, but in much smaller numbers than Meals on Wheels.

How do restaurants contribute to the age distribution of the Intervale eater population? According to interviewees, the restaurants that serve Intervale food cater to people of all ages. Though none have a significant clientele of senior citizens, some do attract older customers. About a quarter attract families with young children. Roughly a third of the restaurants serve sophisticated evening meals targeted toward adults. Almost half of the restaurants and cafes have a busy lunch hour; they typically serve downtown business people and a few college students. Several of the cafes rely on a core clientele of 20 and 30-something customers.

Table 4.2 Age distribution of purchaser households, by access category

<table>
<thead>
<tr>
<th></th>
<th>CSA</th>
<th>Farmers' Market</th>
<th>Grocery</th>
<th>BUA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults age 18-64</td>
<td>67.2</td>
<td>71.8</td>
<td>77.7</td>
<td>68.1</td>
</tr>
<tr>
<td>Children age 0-4</td>
<td>14.3</td>
<td>11.5</td>
<td>3.4</td>
<td>5.5</td>
</tr>
<tr>
<td>Children age 5-17</td>
<td>16.4</td>
<td>14.6</td>
<td>15.3</td>
<td>16.1</td>
</tr>
<tr>
<td>Adults age 65+</td>
<td>2.1</td>
<td>2.1</td>
<td>3.7</td>
<td>10.4</td>
</tr>
<tr>
<td>Average age of purchaser</td>
<td>43</td>
<td>40</td>
<td>45</td>
<td>No data</td>
</tr>
</tbody>
</table>

Household composition
The average size of BUA households is 2.36 people. Intervale purchaser households are larger, on average, than BUA households (see Table 4.3).
Table 4.3 Average size of purchaser households, by access category

<table>
<thead>
<tr>
<th></th>
<th>CSA</th>
<th>Farmers' Market</th>
<th>Grocery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults age 18-64</td>
<td>1.84</td>
<td>2.26</td>
<td>2.12</td>
</tr>
<tr>
<td>Children age 0-4</td>
<td>.39</td>
<td>.36</td>
<td>.09</td>
</tr>
<tr>
<td>Children age 5-17</td>
<td>.48</td>
<td>.46</td>
<td>.42</td>
</tr>
<tr>
<td>Adults age 65+</td>
<td>.03</td>
<td>.06</td>
<td>.11</td>
</tr>
<tr>
<td>Total</td>
<td>2.74</td>
<td>3.14</td>
<td>2.74</td>
</tr>
</tbody>
</table>

Country of origin

In the BUA, 6.9 percent of the population is of foreign birth (see Table 4.4). Among Intervale CSA farm members, 5.6 percent are foreign-born. The percentage of foreign-born residents accessing Intervale foods through farmers’ markets is also nearly equal to the percentage of foreign-born residents in the BUA population (6.4 percent versus 6.9 percent BUA). In contrast, Intervale purchasers at grocery stores were found to be only 3.3 percent foreign-born.

Table 4.4 Percent of purchasers of foreign birth, by access category

<table>
<thead>
<tr>
<th></th>
<th>CSA</th>
<th>Farmers' Market</th>
<th>Grocery</th>
<th>BUA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign-born</td>
<td>5.6</td>
<td>6.4</td>
<td>3.3</td>
<td>6.9</td>
</tr>
<tr>
<td>US-born</td>
<td>94.4</td>
<td>93.6</td>
<td>96.7</td>
<td>93.1</td>
</tr>
</tbody>
</table>

Nearly all foreign-born survey respondents were from European countries. Asian-born immigrants make up 31 percent of Burlington’s foreign-born population, but the data suggest that they generally do not shop at markets that sell Intervale produce.

The Burlington Food Shelf and the Vermont Refugee Resettlement Program (VRRP) distribute Intervale produce to recent immigrants. Non-market access points could be an important mechanism for reaching foreign-born residents in closer proportion to their
presence within the BUA population. However, the Food Shelf and VRRP report that, as I found at the market access points, most of the immigrants who use the non-market services are of European origin. Likewise, immigrant community gardeners in the Intervale are of European origin. According to the coordinator for Friends of Burlington Community Gardens, about 20 percent of all Intervale community gardeners are immigrants.

Education

In general, Intervale purchasers are more highly educated than the general population. Among the BUA population, “some college, no degree” is average\(^{34}\) (see Table 4.5). In contrast, CSA members are particularly well-educated. Ninety-three percent of CSA members have a bachelor’s degree or greater; only 40 percent of the BUA population has attained that level of education. The educational attainment of Old North End market-goers most closely resembles that of the Burlington city population. Downtown Burlington Farmers’ Market shoppers, like CSA members, are a highly educated group. All downtown market respondents had attended at least some college; 45 percent hold graduate or professional degrees.

| Table 4.5 Educational attainment of purchasers in each access category, by percent |
|------------------------------------|-----------------|-----------------|-----------------|-----------------|
|                                    | CSA | Farmers’ Market | Grocery | BUA |
| Some HS                            | 0.0 | 2.2             | 2.5     | 9.9  |
| HS                                 | 0.0 | 6.5             | 3.3     | 23.3 |
| Some College                       | 5.0 | 18.3            | 18.3    | 17.3 |
| Associate’s degree                 | 2.1 | 2.2             | 4.2     | 9.1  |
| BA/BS                              | 31.5| 36.6            | 33.3    | 25.0 |
| Grad or professional               | 61.3| 34.4            | 38.3    | 15.4 |

Residents who receive Intervale food by donation help to balance the educational scales. At one donation site the highest level of education among recipients is a high school degree. At

\(^{34}\) Educational attainment data pertains to that segment of the population which is over 25 years of age.
another, 35 percent of adult recipients have no more than an 8th grade education; an additional 20 percent have completed some high school but have not graduated.

Employment and occupation

The high employment rate (see Table 4.6) of Intervale purchasers is probably a reflection of their young age. The unemployment rate for each access point population is very close to that of the BUA.

Because Burlington is home to several colleges and the state university, many residents are full-time students and are not employed. This may explain Burlington’s low employment rate paired with a very low unemployment rate. However, few full-time students completed the survey. Among Intervale CSA members, only 3.3 percent are full-time students. It is likely that low participation among students is partly due to seasonality of residence and partly due to financial constraints.

Table 4.6 Occupation of employed purchasers in each access category, by percent

<table>
<thead>
<tr>
<th>Employment Rate</th>
<th>CSA</th>
<th>Farmers’ Market</th>
<th>Grocery</th>
<th>BUA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive, professional, and technical</td>
<td>87.6</td>
<td>65.0</td>
<td>73.5</td>
<td>42.7</td>
</tr>
<tr>
<td>Sales and Office</td>
<td>11.9</td>
<td>9.1</td>
<td>13.3</td>
<td>26.9</td>
</tr>
<tr>
<td>Service</td>
<td>0.4</td>
<td>23.4</td>
<td>4.7</td>
<td>14.0</td>
</tr>
<tr>
<td>Farming, fishing, and forestry</td>
<td>0.0</td>
<td>1.3</td>
<td>3.6</td>
<td>0.2</td>
</tr>
<tr>
<td>Construction, extraction, and maintenance</td>
<td>0.0</td>
<td>1.3</td>
<td>2.4</td>
<td>5.9</td>
</tr>
<tr>
<td>Production, transportation</td>
<td>0.0</td>
<td>0.0</td>
<td>2.4</td>
<td>10.3</td>
</tr>
</tbody>
</table>

The occupation distribution of Intervale purchasers is out of sync with that of the BUA population. The occupation range of CSA purchasers is particularly skewed in comparison

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35 The Census calculates employment rate for all adults age 16 and over. Therefore, people of retirement age are counted. As described earlier, little of the Intervale Purchaser population is of retirement age.
to the BUA. Of members who are employed, 87.6 percent make their living in management, professional and related occupations compared to 42.7 percent of the BUA population. Most remaining CSA shareholders (11.9 percent) earn their living in sales and office occupations. Twenty-seven percent of the BUA population does the same. Fourteen percent of the BUA population works in the service sector, and 10.3 percent work in production, transportation, and material moving occupations; it appears that workers within those occupation sectors are not participating in Intervale CSA farms and are eating Intervale food in only small numbers via the other market categories (with the exception of service workers who shop at farmers’ markets, particularly the two neighborhood markets).  

**Household income**

Households of all income levels are purchasing Intervale food (see Table 4.7). The household income distribution of Intervale purchasers at grocery stores is more similar to the BUA income distribution than is the income distribution of purchasers in the other two market categories (see Figure 4.2). In contrast, CSA-member households’ incomes are skewed to the high end. The household income distribution of farmers’ market shoppers is bimodal (see Figure 4.3).

No data were gathered in regard to the household income of restaurant patrons. However, affordability for different income classes can be inferred based on menu prices and selection. While none of the restaurants that use Intervale produce offer “cheap” meals, several offer their food cafeteria-style, which may help customers control the price of their meal. About half of the restaurants offer lunch or breakfast which, for residents on a limited income, may be more affordable than eating out at dinner.

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36 Only one person from each member household completed a survey for this research. It is possible that some bias occurred because of this. For example, it may be that household members in managerial or professional occupations were more able to fill out surveys than household members with other occupations. There could also be an occupational-gender bias. However, by using a gender analysis, it is clear that member households do differ substantially from the general population. Men constituted 20 percent of employed survey respondents. Of those men, all are employed in management, professional, and related occupations. In the general BUA population only 38.7 percent of men are employed in this area. Surveys showed that 85 percent of employed female respondents work in a management, professional or related occupation compared to 39.8 percent of the employed BUA female population.
### Table 4.7 Income of purchaser households in each access category, by percent

<table>
<thead>
<tr>
<th>Income Level</th>
<th>CSA</th>
<th>Farmers' Market</th>
<th>Grocery</th>
<th>BUA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $10,000</td>
<td>0</td>
<td>8.3</td>
<td>7.1</td>
<td>7.8</td>
</tr>
<tr>
<td>$10,000 to $14,999</td>
<td>3.3</td>
<td>11.9</td>
<td>9.8</td>
<td>5.4</td>
</tr>
<tr>
<td>$15,000 to $24,999</td>
<td>5.1</td>
<td>21.4</td>
<td>8.9</td>
<td>12.4</td>
</tr>
<tr>
<td>$25,000 to $34,999</td>
<td>10.1</td>
<td>15.5</td>
<td>14.3</td>
<td>13.2</td>
</tr>
<tr>
<td>$35,000 to $49,999</td>
<td>18.7</td>
<td>7.1</td>
<td>16.1</td>
<td>17.6</td>
</tr>
<tr>
<td>$50,000 to $74,999</td>
<td>29.0</td>
<td>15.5</td>
<td>14.3</td>
<td>20.6</td>
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<tr>
<td>$75,000 to $99,999</td>
<td>17.7</td>
<td>9.5</td>
<td>10.7</td>
<td>12.1</td>
</tr>
<tr>
<td>$100,000 to $149,999</td>
<td>12.5</td>
<td>7.1</td>
<td>8.9</td>
<td>7.4</td>
</tr>
<tr>
<td>$150,000 or more</td>
<td>3.5</td>
<td>3.6</td>
<td>9.8</td>
<td>3.6</td>
</tr>
<tr>
<td><strong>Median Income</strong></td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
<td>$44,113</td>
</tr>
</tbody>
</table>

### Figure 4.2 Income distribution, by category, of grocery purchaser households versus BUA households
Cross-category purchasing of Intervale food
Survey respondents were asked to identify all of the market venues through which they had purchased Intervale food in the preceding month. It is clear that CSA members are more conscious of their Intervale food purchases than purchasers in other categories (see Table 4.8). Many of the grocery purchasers who responded “don’t know,” were the same shoppers who were unsure whether they normally buy Intervale food at the grocery store.

Table 4.8 Percent of purchasers who buy Intervale food in multiple access categories

<table>
<thead>
<tr>
<th>Also a Purchaser at</th>
<th>CSA</th>
<th>Farmers' Market</th>
<th>Grocery</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSA</td>
<td>--</td>
<td>7.5</td>
<td>19.7</td>
</tr>
<tr>
<td>Farmers' Market</td>
<td>34.7</td>
<td>--</td>
<td>48.5</td>
</tr>
<tr>
<td>Grocery</td>
<td>86.4</td>
<td>40.3</td>
<td>--</td>
</tr>
<tr>
<td>Don't Know</td>
<td>0.0</td>
<td>8.0</td>
<td>24.6</td>
</tr>
</tbody>
</table>
Eaters' relationships with the Intervale

Frequency of visits and familiarity with the place

Not all grocery store and farmers' market shoppers who buy Intervale produce are familiar with the Intervale and its resources. Ten percent of farmers' market shoppers and 8 percent of grocery shoppers who completed surveys indicated that they had not heard of the Intervale. Nearly all of the responses came from Burlington-area residents, not from visitors or people new to town.

Of those respondents who were familiar with the Intervale, 97 percent of CSA members, 92 percent of farmers' market shoppers, and 81 percent of grocery shoppers had visited the area. About 60 percent of grocery and farmers' market respondents visit the Intervale one to six times per year. In contrast, 65 percent of CSA members (even if they do not pick up their vegetables in the Intervale) visit more than once per month – most of those visiting once a week on average. So, we can conclude that, overall CSA members have a more direct, conscious connection to the Intervale as a place where their food is grown. Interestingly, based on short-answer responses, the Intervale does not seem to be any less meaningful to people with less direct, personal connections to the place.

Importance to quality of life

Respondents were asked, "How important is the Intervale to your quality of life?" The Intervale is "important" or "very important" to 81 percent of Intervale consumers who have heard of the Intervale. It is at least "somewhat important" to 96 percent. CSA members answered with a stronger positive response than did people who access Intervale food through farmers' market and grocery stores. Sixty-five percent of CSA members indicated that the Intervale is "very important" to their quality of life. Fewer grocery store (52 percent) and farmers' market (47 percent) purchasers gave the same response.

About 60 percent of respondents took time to explain the importance (or lack thereof) of Intervale to their quality of life. Many referenced the importance of having agriculture within the city, often commenting that it makes them happy and/or is beautiful. Respondents
made reference to the Intervale’s positive contribution to the Burlington community as a whole as well as to their own personal health. In reference to their own health they frequently noted that it provides fresh, organic food and open space for recreation. As one grocery and farmers’ market customer commented, “[The Intervale] is an absolute treasure to Burlington. Organic, local produce, trails for walking, it’s a place that I’m very proud of when visitors/family come to town.”
Chapter 5
Discussion and Conclusion

The goal of this research has been to learn who eats Intervale produce and to determine how the Intervale eater population compares to the general population of the Burlington Urbanized Area. From a systems perspective it is not enough to know, simply, that people in Burlington are consuming Intervale food. Who consumes the food and how those people gain access to it are important aspects to consider when assessing the impact of local food in a city food system.

Survey data showed that households from all parts of the urbanized area are eating Intervale food. Within the city, more people in ward two, adjacent to the Intervale, than in any of the other six wards, are accessing the food. Adults with a high degree of education and households from all income ranges are accessing the food. Provision of Intervale food via non-market access points appears to be an effective vehicle for broadening access across educational classes, occupational classes, and age.

The results of this research point to the synergies that are possible between achieving a more sustainable agriculture and a more food-secure, well-nourished community. They also make apparent the degree of coordination and system-level vision needed to implement urban agriculture projects that will benefit both eaters and farmers simultaneously – not to mention the biophysical environment of the city. The Burlington Municipal Planning Department recognizes the Intervale as an important natural area and as an important economic development center, but the Intervale also impacts community nutrition, social interaction, and economic development beyond the physical boundaries of the floodplain. Those benefits could be intensified if greater planning attention were directed to them.
Who does not eat Intervale food?

It is not enough to simply identify who is eating Intervale food. From a community food security perspective it is as important to identify those people who are not eating local food as it is to identify those who are. The demographic data make it clear that few senior citizens are accessing Intervale food via market venues. Households with construction, extraction and maintenance and production and transportation occupations are underrepresented in all three market access categories.

As expected from other research (Hinrichs 2000), I found that CSA participation is particularly narrow. Data show that a large cross-section of the population does not or cannot access Intervale food via CSA. In regard to occupation, income, and education the CSA population is concentrated in the upper brackets. The Foundation’s lack of success in trying to help CSA farms integrate lower-income households into their programs points to finding new ways to engage these households rather than trying to fit them into a distribution system that may be ill-suited to their situations.

In regard to the likely benefits of eating Intervale produce (in contrast to eating non-local, conventional produce), we can ask ourselves: Who would benefit most by the provision of this food? In general it is not the physically, economically, and educationally privileged of Burlington who would benefit most. Rather, it is the sick, the under-nourished, the young and the elderly. For this reason, donations to local social service agencies that serve these populations are particularly important. Many times, for the donation recipient population, Intervale food is more than a substitute for non-local conventional produce; it is the only fresh produce that they eat. The Intervale’s gleaning program is clearly improving the diets of these populations.

The results about who eats Intervale food through market venues makes clear the important role that city planners could play in achieving strategic placement of farmers’ markets and other access points. Neighborhood markets appear to attract low income households in
greater numbers than the grocery store and CSA farms do.\textsuperscript{37} With careful attention to market placement, an increase in successful markets may be possible.

Without more research, Burlington will not know how many people would like to eat Intervale food but are not. Their barriers to access are still unknown. More exploration of how much Intervale food production the urbanized area could support, how to distribute it, how to label it, and the full impact of the Intervale on the quality of local diets is needed in order to better understand the full social-consumer implications of the Intervale. Additional research could also investigate the social and economic effects of Intervale for farmers who participate.

Where is Intervale food not available?

In regard to market access points, we can ask: Where does Intervale food not go? Intervale farmers have tapped all of the alternative market-garden sales points. The major venues that have not been tapped are more conventional: mainstream (chain) grocery stores and institutions.

If Intervale farmers are not in need of new market venues, what would be the use of tapping them?\textsuperscript{38} One use would be to open them for future Intervale farmers as well as for peri-urban local farmers who may be looking for markets in Burlington. Assuming that more residents would consume local, organic food given greater access to it (that is, they would replace purchases of non-local organic or conventional produce with purchases of local produce), entering the conventional grocery market could pave the way for a greater proportion of area produce sales to go to local farmers.

\textsuperscript{37} Interestingly, this result contrasts to Kolodinsky and Croom's (2003) finding that Vermont's low-income shoppers buy local food at grocery stores more than they do through farmers' markets.

\textsuperscript{38} My inquiries into the use of conventional markets for the sale of Intervale-grown produce stem primarily from a conversation I had with an Intervale farmer in August 2003. The farmer expressed dissatisfaction at reaching eaters only through alternative markets, which seemed to that farmer to be limiting the demographic range of people who eat the farm's food. The farmer had recently been in conversation with other Intervale farmers about the implications of entering or not entering conventional markets. The question was not one of finding new markets because the alternative markets were saturated. The farmers were struggling with the question of who has access to their food and how closely the farmers interact (or not) with the people who access it.
Making Intervale food available in conventional grocery stores would also signal that Intervale food is food for the average person. It would complete the task of putting Intervale food on the shopping route of all Burlington residents. While it is likely that many consumers would pass up the opportunity to buy city-grown foods in favor of cheaper, non-organic alternatives, having them on the shelf would put Intervale food into the mainstream. Conventional grocery stores in the Burlington area are already carrying local non-organic produce and non-local organic produce. In visits to five major stores in or very near to Burlington, I found that all were featuring locally grown summer squash and sweet corn. It is clear that all the stores make an effort to offer organic produce, though none source it locally at this time.

At the same time I think that it’s important to appreciate just how far Intervale food already goes, despite its absence in conventional stores, and to express caution when suggesting a move into conventional markets. For example, it could hurt the local SA and CFS efforts if Intervale farmers’ use of the conventional distribution system diminished consumers’ patronage of farmers through alternative distribution points. As explained in Chapter 2, Guptill and Wilkins (2002) suspect that the promotion of local foods in mainstream outlets may “weaken the capacity of local food flows to empower regular citizens to shape the local economy.” Using mainstream outlets for local food distribution may lead to dependence on those outlets for its distribution, which would shift power back into the hands of the mainstream retailers and out of the hands of regular consumers and local farmers.

On the other hand, also noted in Chapter 2, there may be risks to the Intervale’s success if its food remains exclusively alternative. For example, it could develop a reputation as being primarily for highly-educated, upper-income families who shop in alternative markets and join CSA farms. More data are needed about consumer interest in buying Intervale foods, barriers to access for those not currently buying it, and whether a greater volume of Intervale food could be grown and sold. It may be that the current access points are not yet saturated with Intervale food. There may be other, less risky, mainstream markets that have not been
tapped by farmers that should be investigated before a move into conventional stores is made.

One such market is institutional food service. Intervale food could reach a broader cross section of the Burlington population if it were available through institutional dining services. Incorporating Intervale food into senior center, retirement home, and nursing home facilities would broaden its reach. In addition, Intervale food could be offered in school dining halls. There is an active farm to school program in several states, including Vermont, which could help get this done. The Burlington Food Council is currently researching this possibility. The Intervale Foundation did sell food to Burlington’s Fletcher-Allen Hospital for several years through its Green City Farm venture. That venture ended in the late 1990’s, but it is now an experience to be learned from when forging future institutional relationships.39

Greater marketing efforts may be needed in order to sell Intervale food through mainstream markets, particularly in stores. In surveys, as well as in conversations with purchasers, disconnection between the Intervale as a concept, a place, and a provider of locally-available food was striking. This circumstance suggests that work needs to be done to better connect – to make more clear – the reach of Intervale food into the Burlington food system. This issue may be relevant not only in the Intervale case but in other local food programs as well.

I learned that, in many cases, if consumers knew where to find Intervale produce it was only in a general sense – that Intervale farmers sell at farmers’ markets, through CSA, at the natural foods stores, and to some restaurants. It was surprising to find that, particularly in grocery stores where the food is well-labeled, people are unsure of whether they buy Intervale produce or not. Many of these people expressed enthusiasm about the Intervale as being a great feature of Burlington, yet they had not paid attention to their own shopping

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39 While not an easy market to serve, institutional food service is recognized as an important market for local food. “Farm to school” programs are being initiated in many states; the Community Food Security Coalition leads a national effort in this area. Practical Farmers of Iowa and the Leopold Center for Sustainable Agriculture (Ames, Iowa) have worked on or funded institutional buying programs and research since the mid-1990’s (Pirog 2002). Though it may be a difficult process to get local food into institutions, these organizations believe that it is worth the effort.
habits and learned whether they, in fact, actually purchase any Intervale food in the grocery store or at farmers’ market.

**Intervale food’s visibility: Marketing needed?**

It appears that something needs to be done to alleviate this disconnect on the part of consumers. One possible intervention would be an Intervale food marketing campaign – creating an Intervale “brand” that is quickly and easily identifiable, trusted, and valued by local residents. It’s no surprise that such an idea would come to mind: it’s exactly what so many Sustainable Agriculture organizations and state departments of agriculture are attempting to do with their “Buy Fresh, Buy Local” and other campaigns. As explained in Chapter 2, the risk is that identifying products according to place favors what appears to be the consumers’ bias in attention to details of a certain set: freshness and support of the local economy. Place labeling does not encourage a nuanced reading of produce based on farm or brand name. Farm or brand-name labeling would, theoretically, inform the consumer about specific labor standards and production practices used to grow the food. In short, “grown locally” labels may compound the tendency toward perceiving “local” as “always good” (Hinrichs 2003, Allen 1999).

Creating an Intervale brand would mask the individuality of farms in another way too: drawing attention away from their diversity in terms of organization, for example some are owned by their members, others by the farmer-laborers, and others by a farmer who hires additional laborers. An alternative marketing campaign could draw attention to Intervale food’s presence within the local food system simultaneously with a campaign advertising the names and natures of individual farms.

**Conclusion**

Knowing who is, and who is not, participating in the Intervale part of the Burlington food system is important to understanding the Intervale project from a systems perspective. The success of SA and CFS depends not only on people’s recognition of good farming practices – as Burlington residents do recognize about the Intervale – but in their cognizance of their
own role in the food system as potential eaters of what is produced. Burlington residents need to know when they are eating Intervale food so that they will know the extent of their own participation in the project of making Burlington’s food and agriculture system sustainable.

In short, what DeLind (2002) calls civic agriculture and what Hassanein (2003) terms food democracy are quite likely the next steps needed in order to achieve a sustainable and just food and agriculture system in Burlington. Making food system policy a part of the local Planning process would be one way to achieve more democratic, civic activity around SA and CFS concerns.

These conclusions suggest several avenues for further research. For one, the farmer-eater interface in Burlington could be examined – a particularly fascinating topic because in very few other cities do residents live side-by-side with full-time farmers. Along a different vein, it was outside the scope of this research to investigate 1) the volume of produce that actually passes through the different access categories for Intervale food and 2) the relative amount that goes into households who access the food differently (in particular market access versus non-market access). Volume data would help to make the demographic data collected in this project more meaningful. Farmers and social service agencies, in particular, find it difficult to keep track of how much food they are growing or receiving. Even the Intervale Foundation has difficulty keeping consistent records on the amount of produce it is donating each week. More assistance is needed with these tasks if the efforts of Intervale growers and donators are to be fully appreciated and well-distributed.

The Intervale Foundation aspires to incubate successful models of sustainable food, fuel, and fiber production technologies for cities. Their every effort, and the city’s too, toward improving the food system of Burlington will be a help in moving other cities – perhaps in Iowa – toward sustainability. Greater documentation of their work and program outcomes – particularly from a systems-based, interdisciplinary perspective – will only help this cause.
Appendix A

Farmers' market and grocery survey

The wording of the grocery survey differs from the farmers’ market survey on only one question. On page 2, in the question beginning “Do you currently use...,” the phrase “Senior or WIC Farmers’ Market Nutrition Program Stamps” is replaced by “food stamps.”

Burlington Food System Study
Farmers' Market Survey

Your completion of this survey is voluntary.
To maintain anonymity, please do not write your name on the survey.

Have you heard of the Burlington Intervale?
No → If no, please skip to page 2.
Yes → If yes, how often do you visit the Intervale? ________

Have you bought Intervale produce in the past month? Yes No Don't know
If yes, how have you obtained Intervale-grown food? (circle all that apply)
Grocery Stores Farmers' Markets
Restaurants CSA Other ________

In the summer, what percent of the produce that you eat comes from the Intervale? ____ %

In general, when you buy Intervale produce does it replace or add-to the volume of produce that you would normally eat? Replace Add-to

How important is the Intervale to your quality of life?
Very Important Important Somewhat Important Not Important
Please explain:
When choosing between fresh produce items, how important are the following factors in your decision of what to buy?

<table>
<thead>
<tr>
<th>Factor</th>
<th>Very Important</th>
<th>Important</th>
<th>Somewhat Important</th>
<th>Not Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Quality</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Organic</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Location of production</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Brand/Farm name</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

On average, how often do you buy fresh produce? (please circle your answer)

- Almost never
- Weekly
- Less than once a week
- More than once a week

Do you currently use Senior or WIC Farmers’ Market Nutrition Program checks for your farmers’ market purchases?  Yes  No

What percent of the produce that you buy at the store goes bad before you eat it? _____ %  ......When produce goes bad, what is the cause?

(for instance: I don’t use it quickly enough, it is cut or bruised when I buy it)

Do you consume more produce when it is in season locally than during other times of the year?  Yes  No  I don’t know

What factors, if any, limit your purchases of fresh produce at the market?

(for instance: my food budget, the products I want aren’t available, my appetite)
Have you ever been a member of a Community Supported Agriculture (CSA) farm?  Yes  No  

Are you currently a CSA member?  Yes  No

How often do you check a label for the origin of your fruits or vegetables?  

Never  

Sometimes  

Often  

every time that I shop

Are you growing any of your own food this year?  Yes  No

If yes, do you grow it at your home?  Yes  No

If not at your home, where is the garden?

Does the food that you grow contribute significantly to your diet?  Yes  No

Do you live in Burlington or an adjacent town?  Yes  No

If yes, please circle your neighborhood or indicate your town's name:

Ward 1  

Ward 2 (Old North End)  

Ward 3 (Downtown)  

Ward 4 (New North End)  

Ward 5 (South End)  

Ward 6 (King St. Area)  

Ward 7 (Riverside Area)  

town: __________________

How long have you lived in the Burlington area? ___ year(s)

What is your highest level of educational attainment? (circle your answer)

Some H.S., no diploma  

H.S. diploma (or GED)  

Some college, no degree  

Associate's degree  

Bachelor's degree  

Graduate or Professional degree  

Were you born as a U.S. citizen?  Yes  No

If no, what was your nationality at birth? __________________

In what year were you born? _________  

Are you:  Female  Male
What is your employment status? (circle all that apply)

Employed  Unemployed  Retired  Homemaker  Full-time  Student

If you are employed, what is your primary occupation? ___________________

What is your household income? (From all sources. Please circle your answer.)

- Less than $10,000
- $10,000 to 14,999
- $15,000 to 24,999
- $25,000 to 34,999
- $35,000 to 49,999
- $50,000 to 74,999
- $75,000 to 99,999
- $100,000 to 149,999
- $150,000 or more

How many adults ____ and minors ____ does the above income support?

In addition to yourself, how many people live in your household full time?

- Other adults age 18-65 .......... 0 1 2 3 4 5+
- Other adults age 65+ ............. 0 1 2 3 4 5+
- Children ages 0-4 ................... 0 1 2 3 4 5+
- Children ages 5-17 ................. 0 1 2 3 4 5+

Are you the primary food shopper in your household?  Yes  No

If not, who is; or, with whom do you share shopping responsibility?

(Please specify husband, housemate, etc. Do not write the person's name.)

Thank you for your help!

If you have any questions or comments about this research please write in the space above or contact: Emily Neuman and Betty Wells, Ph.D. * Iowa State University Graduate Program in Sustainable Agriculture * Ames, IA 50011 * 515-294-1104
Appendix B

CSA survey (email version)

The following questions were written at Iowa State University for Masters' thesis research in the area of Sustainable Agriculture. The data that you provide will be used to determine who is eating Intervale-grown foods and how people use Intervale food in their homes. Your participation in this research is voluntary and your answers will be kept confidential. Please do not write your name on the form.

INSTRUCTIONS: Click or type into the gray boxes next to your answers, save the document, and return as an email attachment to ekn@iastate.edu. Thank you!

1. How often do you visit the Intervale, including Gardeners' Supply and the Compost Project?
   - Never ........................................... 1
   - 1-2 times/year ................................. 2
   - 3 times/yr to once a month .................. 3
   - More than once a month .................... 4
   - More than once a week ...................... 5

2. Other than what you get through the CSA, have you bought local produce in the past month?
   - Yes .............................................. 1
   - No .............................................. 2
   - Don't know .................................... 3

   If yes, how have you obtained local food? (Check all that apply.)
   - Grocery Stores
   - Other CSA
   - Restaurants
   - Farmers' Markets

3. In the summer, what percentage of the produce that you eat is grown in the Intervale? __%

4. In general, does your CSA share replace or add-to the volume of produce that you would normally eat?
   - Replace ........................................ 1
   - Add-to ........................................ 2

5. How important is the Intervale to your quality of life?
   - Very important .............................. 1
   - Somewhat important ........................ 3
   - Important .................................... 2
   - Not important ................................ 4

   Please explain:

6. When choosing between fresh produce items at the a store or farmers' market, how important are the following factors in your decision of what to buy?

<table>
<thead>
<tr>
<th>Factor</th>
<th>Very Important</th>
<th>Important</th>
<th>Somewhat Important</th>
<th>Not Important</th>
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<tbody>
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<td>Price</td>
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<td>Brand/Farm name</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

7. Do you consume more produce when it is in season locally than during other times of the year?
   - Yes ........................................ 1
   - No ........................................ 2
   - I don't know ............................ 3
8. What percentage of the produce that you buy goes bad before you eat it? ____%

When produce goes bad, what is the cause?

9. Outside the CSA, how often do you check a label for the origin of your fruits or vegetables?

- Never ................................ 1 □
- Sometimes .................................. 2 □
- Often ......................................... 3 □
- Every time that I shop ................. 4 □

10. Are you growing any of your own food this year?

- Yes ......................................... 1 □
- No .......................................... 2 □

If yes, do you grow it at your home?

- Yes ........................................... 1 □
- No ........................................... 2 □

If not at your home, where is the garden?

Does the food that you grow contribute significantly to your diet?

- Yes ........................................... 1 □
- No ........................................... 2 □

11. Do you live in Burlington?

- Yes ......................................... 1 □
- No .......................................... 2 □

If yes, please place a check next to your neighborhood:

- Ward 1
- Ward 2 (Old North End)
- Ward 3 (Old North End)
- Ward 4 (New North End)
- Ward 5 (South End)
- Ward 6 (Hill Section)
- Ward 7
- Other

If no, where do you live?

How long have you lived in the Burlington area? ____ years
12. What is your highest level of educational attainment?
   - Some H.S., no diploma ........................................ 1 □
   - Associate’s degree .......................................... 4 □
   - H.S. diploma (or GED) ....................................... 2 □
   - Bachelor’s degree ........................................... 5 □
   - Some college, no degree ..................................... 3 □
   - Graduate or Professional degree .......................... 6 □

13. Were you born a U.S. citizen?  Yes ……1 □  No ……2 □
   If no, what was your nationality at birth?

14. In what year were you born?  15. Are you  Female........1 □  Male........2 □

16. What is your employment status? (Check all that apply.)
   - □ Employed  If you are employed, what is your primary occupation? ______
   - □ Unemployed
   - □ Retired
   - □ Homemaker
   - □ Full-time student

17. What is your household income? (From all sources.)
   - Less than $10,000 ............................................. 1 □
   - $10,000 to $14,999 ......................................... 2 □
   - $15,000 to $24,999 ......................................... 3 □
   - $25,000 to $34,999 ......................................... 4 □
   - $35,000 to $49,999 ......................................... 5 □
   - $50,000 to $74,999 ......................................... 6 □
   - $75,000 to $99,999 ......................................... 7 □
   - $100,000 to $149,999 ...................................... 8 □
   - $150,000 or more ........................................... 9 □

18. How many adults_ and minors_ does the above income support?

19. In addition to yourself, how many people live in your household full time?
   - Other adults age 18-65 .............. 0 □  1 □  2 □  3 □  4 □  5+ □
   - Other adults age 65+ ................ 0 □  1 □  2 □  3 □  4 □  5+ □
   - Children ages 0-4 ..................... 0 □  1 □  2 □  3 □  4 □  5+ □
   - Children ages 5-17 ................... 0 □  1 □  2 □  3 □  4 □  5+ □

20. Are you the primary food shopper in your household?
   - Yes ......................................................... 1 □
   - No ......................................................... 2 □
   - Shared .................................................... 3 □
   If not, who is; or, with whom do you share shopping responsibility?
   (Please specify husband, housemate, etc. Do not write the person's name.)

Thank you for your help!
If you have any questions or comments about this research, please write to us in your return email or at:
Emily Neuman and Betty Wells, Ph.D. * 303D East Hall * Iowa State University
Ames, IA 50011 * (515) 294-1104
Appendix C

Interview guides

Non-market

Non-market Interview Guide

1. How do you distribute the produce donations that you receive from the Intervale?

2. How many people (or households) per week benefit by the Intervale produce donation? How long does each donation last (how long before it has all been distributed)?

3. Who receives the produce?
   Age: Range, mean
   Household composition
   Place of residence
   Household income: Range, median, mean
   Employment and Occupations
   Educational attainment of heads of household
   Country of Origin

4. How does Intervale produce contribute a) to your services and b) to the diets of those who receive it?

5. Do you receive food donations from other farms or organizations? Do you receive fresh produce from other farms or organizations?

6. Are recipients aware that the fresh produce that they receive comes from the Intervale?

Restaurant

Restaurant Interview Guide

1. What percent of your produce is coming from the Intervale (local farms) in season?

2. What role do Intervale foods play in your menu and in your kitchen?

3. Are your customers aware that you use Intervale food? (local food?)

4. Please describe your clientele.

5. Do you advertise your use of Intervale food? How? Why or why not?

6. Do you advertise your use of local food in general? How? Why or why not?

7. What phrases do you use to advertise your use of Intervale food? (local food?)

8. How long have you bought food from Intervale farmers?
References Cited


