THE INFLUENCE OF COLLECTIVE ACTION AND POLICY

IN THE DEVELOPMENT OF LOCAL FOOD SYSTEMS

by

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in

Sociology

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ABSTRACT

The Influence of Collective Action and Policy in the Development of Local Food Systems

by

Lori Porreca, Doctor of Philosophy

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The modern global agrifood system has had significant negative impacts on consumers and producers. This has precipitated the rise of local food systems that are purported to improve the health and livelihoods of consumers and producers. High expectations have led to significant public and private resources dedicated to the development of local food systems. Despite this, there has been little systematic research exploring the social and institutional conditions that facilitate or frustrate local food system development.

Using a comparative case study approach, this study explored the ways local structural conditions, collective action, food system policies, and the political context affect the development of local food systems. Findings suggested truly robust local food system development requires either collective action or public policies and are more
likely to exist and be successful depending on the political climate and the balance of power between land use interests in the community.
# CONTENTS

## ABSTRACT

iii

## LIST OF TABLES

vii

## LIST OF FIGURES

xi

## INTRODUCTION

1

- Growth of the Global Agrifood System ........................................... 1
- Impacts on Farmers and Consumers .................................................. 3
- Rise of Local Food Systems ................................................................. 4
- Profile of Local Food Systems in the United States .............................. 7
- Local Food Systems in the Rural-Urban Interface ................................ 13
- National and Local Programs and Policies
  - Promoting Local Food Systems ......................................................... 16
  - Research Problem ............................................................................ 19

## LITERATURE REVIEW

21

- The Sociology of Agriculture ................................................................. 21
- Rural Geography .................................................................................. 38
- Local Land Use and Agricultural Policy ................................................. 44
- Research Questions ............................................................................. 50

## METHODS

57

- Research Design ................................................................................ 57
- Background: the Agricultural Adaptation Project .................................. 61
- Comparative Case Studies .................................................................. 71
- Case Characterization ........................................................................ 71
CASE STUDY ANALYSIS ........................................................................................................... 79
Cache County, Utah .................................................................................................................. 79
Kent County, Michigan ......................................................................................................... 101
Frederick County, Maryland .................................................................................................. 120
Yamhill County, Oregon ....................................................................................................... 141
Hall County, Georgia ........................................................................................................... 157

CASE STUDY COMPARISONS ............................................................................................... 172
Relative Development of Local Food Systems ................................................................. 172
Impact of Structural Conditions on Local Food System Activity ..................................... 179
Impact of Collective Action, Institutional Arrangements, and Political Landscape .......... 194

DISCUSSION ........................................................................................................................... 212
Research Questions ............................................................................................................. 212
Implications for Existing Research Theory, and Practice ............................................. 226
Limitations and Future Research ....................................................................................... 231

REFERENCES ......................................................................................................................... 234

APPENDICES ........................................................................................................................ 246
A. Key Informant Recruiting List ....................................................................................... 247
B. Interview Protocol .......................................................................................................... 250
C. Landowner Survey .......................................................................................................... 268

Curriculum Vitae .................................................................................................................. 292
LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Contributions of Different Sized Farms to Total U.S. Direct Farm Sales, 2007</td>
<td>12</td>
</tr>
<tr>
<td>2</td>
<td>Percent of Farms, Farmland and Farm Sales by RUI and AI Status, 2007</td>
<td>15</td>
</tr>
<tr>
<td>3</td>
<td>Agricultural Trend Types, 1987-1997 and 1997-2007</td>
<td>64</td>
</tr>
<tr>
<td>4</td>
<td>Agricultural Trends in RUI/AI communities, 1997-2007</td>
<td>64</td>
</tr>
<tr>
<td>5</td>
<td>Interviewees by Positions/Occupation</td>
<td>67</td>
</tr>
<tr>
<td>6</td>
<td>Socioeconomic Profile of Cache County Residents</td>
<td>82</td>
</tr>
<tr>
<td>7</td>
<td>Top Commodities by Sales and Number of Farms, Cache County</td>
<td>84</td>
</tr>
<tr>
<td>8</td>
<td>Distribution of Farm Types by Number of Farms and Acres of Farmland</td>
<td>85</td>
</tr>
<tr>
<td>9</td>
<td>Importance of Dairy and Beef Farming in Cache County, 2002 and 2007</td>
<td>86</td>
</tr>
<tr>
<td>10</td>
<td>Percent of Farmers Using Adaptation Strategies, Cache County</td>
<td>88</td>
</tr>
<tr>
<td>11</td>
<td>Extent of Farmer Participation in the Local Food System, Cache County</td>
<td>93</td>
</tr>
<tr>
<td>12</td>
<td>Comparison Between LFS and Non-LFS Farmers, Cache County</td>
<td>100</td>
</tr>
<tr>
<td>13</td>
<td>Socioeconomic Profile of Kent County Residents</td>
<td>103</td>
</tr>
<tr>
<td>14</td>
<td>Top Commodities by Sales and Number of Farms, Kent County</td>
<td>104</td>
</tr>
<tr>
<td>15</td>
<td>Distribution of Farm Types by Number</td>
<td></td>
</tr>
<tr>
<td>Chapter</td>
<td>Title</td>
<td>Page</td>
</tr>
<tr>
<td>---------</td>
<td>----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>31</td>
<td>Socioeconomic Profile of Hall County Residents</td>
<td>157</td>
</tr>
<tr>
<td>32</td>
<td>Top Commodities by Sales and Number of Farms, Hall County</td>
<td>159</td>
</tr>
<tr>
<td>33</td>
<td>Distribution of Farm Types by Number of Farms and Acres of Farmland</td>
<td>161</td>
</tr>
<tr>
<td>34</td>
<td>Percent of Farmers Using Adaptation Strategies, Hall County</td>
<td>163</td>
</tr>
<tr>
<td>35</td>
<td>Extent of Farmer Participation in the Local Food System, Hall County</td>
<td>166</td>
</tr>
<tr>
<td>36</td>
<td>Comparison Between LFS and Non-LFS Farmers, Hall County</td>
<td>171</td>
</tr>
<tr>
<td>37</td>
<td>Existence of Local Food Systems</td>
<td>173</td>
</tr>
<tr>
<td>38</td>
<td>Extent of Local Food Systems</td>
<td>174</td>
</tr>
<tr>
<td>39</td>
<td>Percent of Farmers Reporting Direct Selling Activity</td>
<td>174</td>
</tr>
<tr>
<td>40</td>
<td>Extent of Farmer Participation in the Local Food System</td>
<td>176</td>
</tr>
<tr>
<td>41</td>
<td>Scale of Local Food Systems</td>
<td>177</td>
</tr>
<tr>
<td>42</td>
<td>Local Food System Activity Ranking</td>
<td>179</td>
</tr>
<tr>
<td>43</td>
<td>Population Change</td>
<td>180</td>
</tr>
<tr>
<td>44</td>
<td>Indicators of Population Density, Case Study Counties, 2000</td>
<td>182</td>
</tr>
<tr>
<td>45</td>
<td>Socioeconomic Profile of Residents, Case Study Counties, 2000</td>
<td>184</td>
</tr>
<tr>
<td>46</td>
<td>Percent of County Land in Various Land Uses, 2002</td>
<td>185</td>
</tr>
<tr>
<td>47</td>
<td>Top Three Most Commonly Raised Commodities in Case Study Counties</td>
<td>187</td>
</tr>
<tr>
<td>Page</td>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>------</td>
<td>--------------------------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>48</td>
<td>Top Three Commodities by Sales</td>
<td>188</td>
</tr>
<tr>
<td>49</td>
<td>Percent of Farms by Farm Type, 2007</td>
<td>189</td>
</tr>
<tr>
<td>50</td>
<td>Percent of County Farmland Operated by Farm Type, 2007</td>
<td>190</td>
</tr>
<tr>
<td>51</td>
<td>Percent of Farmers Using Adaptation Strategies</td>
<td>192</td>
</tr>
<tr>
<td>52</td>
<td>Local Food System Collective Action in Study Counties</td>
<td>195</td>
</tr>
<tr>
<td>53</td>
<td>Local Food System Institutional Arrangements in Study Counties</td>
<td>199</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Importance of Direct Sales to U.S. Agriculture, 1992-2007</td>
<td>11</td>
</tr>
<tr>
<td>2</td>
<td>Conceptual Model</td>
<td>51</td>
</tr>
<tr>
<td>3</td>
<td>Tension that Define Political Landscapes in Modern Rural and Exurban Spaces</td>
<td>61</td>
</tr>
<tr>
<td>4</td>
<td>Location of RUI/AI Counties and Case Study Counties</td>
<td>63</td>
</tr>
<tr>
<td>5</td>
<td>Case Study County Collective Action and Institutional Arrangements</td>
<td>74</td>
</tr>
<tr>
<td>6</td>
<td>Political Landscape in the Case Study Counties</td>
<td>203</td>
</tr>
</tbody>
</table>
Since the 1940s, agriculture and food in industrialized countries has become increasingly globalized in the sense that the production, processing, and distribution of food products now occur across the globe through an integrated chain of large agribusiness firms and food retailers. As a result, it is increasingly uncommon for food to be consumed in the same place that it is produced. Development of the global agrifood system has been associated with significant negative impacts on food quality, healthy diets, and environmental quality (Pollan 2009). Local food systems are often praised as solutions to many of the problems created by the global agrifood industry. While the research literature on local food systems is growing rapidly, most of this literature focuses on describing their diversity, size, scope, and potential benefits. To date, few have seriously investigated the social and institutional conditions that facilitate or frustrate their development. The current research project attempts to fill this gap by examining the role of local collective action and local public sector programs and policies in the emergence and growth of local food systems.

**Growth of the Global Agrifood System**

Throughout the 20th century, U.S. agriculture has become increasingly industrialized as natural production processes, inputs and outputs have been substituted with more industrial-like farm production processes, manufactured inputs, and greater processing of food products (Goodman 2002). Machinery has replaced
most animal and human labor traditionally used in agriculture. Hybrid seeds, chemical fertilizers and pesticides have replaced or modified reliance on natural biological processes and on-farm resources. Many agricultural products also have been replaced by synthetic manufactured products (e.g., nylon for cotton) (Ilbery and Bowler 1998).

As agriculture has become more industrialized, agricultural production and processing has become more concentrated in the hands of fewer farms and businesses. Increased concentration among farmers has led to the domination of production of many important commodities by a small number of very large farms. Meanwhile, concentration in the rest of the agrifood system (e.g., among the firms providing inputs to farmers and those processing and distributing food products) has increased their control over commodity prices, the types and quality of food products, and the location and types of farm production processes (Howard 2006). For example, large food retailers in the US have expanded into Latin America and Asia to the point where they now control roughly 50% of the consumer retail market (Howard 2006). This not only gives retailers control of retail prices, but also over the ways that food commodities are produced, processed, and distributed. For example, Wal-Mart is the world’s largest retailer and is able to dictate the price it will pay to its suppliers. If suppliers want to access Wal-Mart’s large market share of consumers worldwide, they are forced to make changes to their production process, labor arrangements, inputs, etc., to accommodate Wal-Mart’s demands (Fishman 2003).
Impacts on Farmers and Consumers

The impacts of industrialization and consolidation of agriculture on farms and farmers in the US is well documented. First, there are many fewer farms and much larger average farm sizes (Gardner 2002). Farm numbers peaked in 1935 at approximately 6.8 million farms (USDA 2008). This has steadily declined to 2.2 million farms in 2008 (USDA 2008). The total amount of land used for cropland and pasture declined by just 10% between 1945 and 2002, but the average farm size has increased, from 213 to 240 acres, during the same period (USDA 2008). Second, the number of farm operators and agricultural employment has decreased as a share of total employment. Total farm employment declined from 9.9 million in 1950 (USDA 1995) to approximately 3 million in 2006 (Kandel 2008). There has also been an increase in part-time farming. In 1950 about 36% of farm operators worked off-farm and about 21.8% of those worked 100 days or more off of their farm. In 2007, about 54% of farm operators report something other than farming as their primary occupation (USDA 2009). Finally, because they buy and sell from powerful agribusiness firms that control the majority of the agricultural input and commodity markets, farmers in the United States face a growing cost-price squeeze where profit margins are steadily diminishing due to rising costs of production and lower real prices received for their products (Gardner 2003; Guptill 2008b).

There have been many vocal critics of the industrialization and consolidation of the agrifood system. Many have documented negative effects of a more industrialized
agriculture on rural community well being (Goldschmidt 1968; Labao 1990; Lyson 2004, 2007; Panelli 2006; Slack and Jensen 2004), farmers and farm households (Bartlett 2000; Guptill 2008a; Reinhardt and Bartlett 1989; Shiva 2000; Van der Ploeg 2006), farm worker rights and safety (Ladd and Edwards 2002; Moses 1993), and environmental quality (Buttel 2006; Evans, Gaskill, and Winter 2003; Foster 1999; Knight 2007; Shiva 2000).

The consolidation of the agrifood system has also impacted consumers by decreasing consumer choices, making food inaccessible to some people, and reducing health and safety (Hinrichs 2008). For example, recent E. coli and mad cow scares have increased concern about the vulnerability of large-scale agricultural production to food safety and brought attention to the lack of transparency in the agrifood system (Green, Draper, and Dowler 2003). In another example, food store access varies by location and income groups such that rural and central city areas with concentrations of low-income and minorities pay higher prices and have less access to fresh foods (Kantor 2001).

Rise of Local Food Systems

In response to many of these critiques there have been frequent calls for a re-localized, re-socialized agriculture (Lyson 2004, 2007; Ostrom 2007; Stevenson et al. 2007). Scholars have responded by documenting, describing and studying the emergence of various alternatives to the dominant agrifood system, with a particular focus on the development of local food systems. Alternative food systems are often organized around two key ideas: providing labels or traceability that assures consumers
that food is produced in a particular way (called “value-trait food systems”) and providing alternative distribution networks which enable consumers to directly buy food from farmers (called “short-supply chain” food systems).

Examples of value-trait foods that are important to consumers in alternative food chains include the use of specific production practices, including organic, natural, free-range, or sustainable farming techniques. They also include food produced by farms with particular organizational characteristics (e.g., small or mid-sized farms; family owned and operated farms, non-industrial farms, etc.). Finally, they might include foods that were produced in particular geographic regions (either because those regions are famous for producing quality products, or because foods are produced from the state, region, or community in which the consumer lives). Value-trait foods have become a significant component of the U.S. food market over the past decade. Government estimates suggest that the organic food market alone has grown at roughly 20% per year and exceeded $21 billion in sales in 2008 (Dimitri and Oberholtzer 2009; Greene et al. 2009). Interest in natural and sustainable foods more broadly is considered to be one of the most important trends in the food sector.

Short-supply chain (SSC) food systems usually involve direct sales of farm products by producers to consumers. SSCs are designed to increase the economic returns captured by farmers (by eliminating intermediate processors and distributors) and also to improve levels of trust and transparency between consumers and farmers (Conner, Campbell-Arvai, and Hamm 2008). For farmers and consumers, the depth and
quality of relationships with one another can be a key element of why they choose to buy or sell their food products locally (Hinrichs 2000).

Most short-supply chains are market-based distributive institutions in which consumers and producers buy and sell agricultural products (or processed foods) through normal competitive retail markets. Examples can be simple market transactions between individuals, such as purchases made at roadside farm stands or from vendors at regularly scheduled farmers’ markets. In the case of community supported agriculture (CSA) arrangements, the consumer becomes a ‘member’ in a collective enterprise and makes an upfront payment (a ‘membership share’) in exchange for regular delivery of farm products throughout the growing season. Many producers also sell food through wholesale markets under longer-term contract arrangements, such as the sale of food to local restaurants, schools and hospitals, or sales through local health food, specialty, or grocery stores (Bagdonis, Hinrichs, and Schaft 2009; Watts, Ilbery, and Maye 2005).

By contrast, some examples of short supply chains distribute food through non-market based local food institutions. Examples include backyard or community gardens where local residents can raise their own food and community food security programs designed to make local food available to disadvantaged populations at below market rates (Correia 2005; Guthman, Isaacs 2003; Kantor 2001; Morris and Allen 2006).

Multiple forms of SSCs tend to develop in tandem in single communities so that it is possible to talk about them collectively as local food systems. These food systems
are typically distinguished from conventional food systems by the short food supply chains between producers and consumers.

In practice, most local food systems also involve providing ‘value-trait foods’ to consumers. This is because most consumers who care about buying from local producers are also motivated to buy foods that are perceived as healthier, raised with more environmentally beneficial practices and that also support local farm families. While most SSC food systems embrace value-trait foods, it is increasingly common for value-trait food markets to be absorbed into the mainstream global industrial agrifood system. For example, the organics sector has become consolidated in the same ways as conventional commodity agriculture described above (Bonanno and Constance 2008; Guptill 2008b; Howard 2006). In this research, I will use the phrase local food systems to refer to short food supply chains that limit the distance between the sites of production and consumption. Local food includes small-scale agricultural production of agricultural products and services that do not travel great distances to markets such that the majority of distribution is geographically close to the producer with either face-to-face contact between producers and consumers, or spatially proximate contact between producers and consumers (Sage 2003). Although local food systems may also possess some value-trait such as organic or natural, the key feature of a local food system is the short food supply chain.

**Profile of Local Food Systems in the United States**

Two of the most common forms of SSCs are farmers’ markets and community
supported agriculture arrangements (Gillespie et al. 2007). Farmers’ markets can be organized by producers, civil society groups or local government staff, and typically involve designating a specific time and space for vendors to set up stalls and sell various products. Most farmers’ markets hire a market manager to allocate space at markets, make arrangements for public parking and facilities, and enforce rules about the types of vendors that can participate or products that can be sold. For example, it is common for some markets to require that vendors only sell products that they themselves produced, or that products must come from within a specified geographic area surrounding the market. Many markets offer combinations of raw farm products, processed food and drinks, and art or craft items.

The number and scale of farmers’ markets has increased dramatically in recent years. According to the most recent USDA study on farmers’ markets, from 2000 to 2005 farmers’ markets have increased 43% from 2,863 to 4,093. About 30% of all farmers’ markets are less than five years old (Raggland and Tropp 2009). Farmers’ market sales have increased annually by 2.5% since 2000, from about $888 million in 2000 to more than $1 billion in 2005. Additionally, the average number of vendors per market site has increased from 27 in 2000 to 31 in 2005 (Raggland and Tropp 2009).

Farmers’ markets can contribute significantly to local and state economies in terms of income and employment (Gillespie et al. 2007). For example, Henneberry et al. (2008) found that total gross sales for a single season in Oklahoma farmers’ markets was $3.3 million with a total of $7.8 million in impacts on the state’s economy. In a study by
Varner and Otto (2008) farmers’ markets’ sales totaled more than $21 million in a season, which they estimated to be a total economic impact of $31.5 million to the state of Iowa. Most producers at farmers’ markets have small sales, averaging around $5,000; indicating participation in farmers’ markets is a part-time or partial income source (Brown and Miller 2008).

Another type of SSC is a Community Supported Agriculture (CSA) group. CSAs consist of individuals who commit to sharing the risks and benefits of food production by local farmers by paying an upfront fee and/or providing ongoing labor during the growing season to receive a portion of the food produced. CSAs emerged in the United States in the late 1980s with two CSA operations in New England (National Research Council 2010). According to Local Harvest, a website for the dissemination of information about local food systems, there are almost 3,000 CSAs registered, operating in all 50 states (Local Harvest 2009). However, the 2007 Census of Agriculture included a question about participation in CSAs for the first time. According to this more than 12,000 farms report direct involvement in a CSA (USDA 2009).

CSA farms can be an important source of income for local farmers. In one recent national study, CSA farmers reported an average gross income of $15,000, which, while low, is higher than the average U.S. farm (Ostrom 2007). Although many CSA operators are dissatisfied with their income they are very satisfied with their quality of life (Ostrom 2007).

Rather than significant economic gains, farmers’ participation in both farmers’
markets and CSAs appears to be motivated as much by a desire to have direct personal relationships with their consumers than as a way to increase profits (Brown and Miller 2008; Ostrom 2007). Consumers report both economic and non-economic benefits from participating in local food systems, including saving money and encouraging healthier eating habits (Ostrom 2007).

Another important type of SSC is the sale of local foods to local institutional buyers, such as local schools, restaurants, universities, and hospitals. Spurred by national legislation, farm-to-school programs are one of the most rapidly growing institutional buying schemes (Bagdonis et al. 2009). These programs typically involve schools buying fresh produce, meat, dairy and other products from local farmers. In some cases, schools have incorporated farm visits into nutrition education to educate kids about food production and rural livelihoods (Bagdonis et al. 2009). There are 2,051 farm-to-school programs in 43 states serving 8,943 schools (Farm to School 2009).

Although other forms of institutional buying have not been as well documented, the USDA is actively promoting farm-to-healthcare and farm-to-college initiatives (USDA 2009). Additionally, there are two high profile institutional buying programs initiated by federal agencies that may generate more activity in the future. The USDA cafeterias in Washington, DC and the California Environmental Protection Agency’s food service in Sacramento, CA purchase food for their cafeterias from local producers (National Research Council 2010).
Data on the overall economic importance of each of these different types of short supply chains in the U.S. is not readily available, but the U.S. Census of Agriculture has collected information about the frequency and scale of direct farm sales – measured as the “value of agricultural products sold directly to individuals for human consumption” (USDA 2009). The results of the most recent Census of Agriculture suggest that there are 136,817 U.S. farms reporting $1.2 billion in direct sales to consumers in 2007, three times the value reported in 1992 (Figure 1). While significant, direct sales remain a small percentage (roughly 0.4%) of total U.S. farm sales, which exceeded $276 billion in the same year.

Figure 1. Importance of Direct Sales to U.S. Agriculture, 1992-2007
These census data also suggest that most farms reporting direct sales are much smaller than typical commercial farms in the U.S. Table 1 shows the number and percent of farms with direct sales by the size of farm. A larger share of the smallest farms is participating in direct sales. Ninety-seven percent of farms involved in direct sales in 2007 included farms making less than $50,000 annually (Table 1). Despite this medium and large farms are still generating the largest share of direct sales income. In 2007, 58% of total direct sales came from farms making more than $50,000 annually (Table 1).

**Table 1. Contributions of Different Sized Farms to Total U.S. Direct Farm Sales, 2007**

<table>
<thead>
<tr>
<th>Gross Farm Sales Class</th>
<th>Total Amount Farms with Any Direct Farm Sales</th>
<th>Dollar Value of Direct Farm Sales ($1,000)</th>
<th>Percent of U.S. Total Farms with Any Direct Farm Sales</th>
<th>Dollar Value of Direct Farm Sales</th>
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<tr>
<td>$1 to $499</td>
<td>35,440</td>
<td>$7,217</td>
<td>26</td>
<td>1</td>
</tr>
<tr>
<td>$400 to $999</td>
<td>20,547</td>
<td>$14,013</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>$1,000 to $4,999</td>
<td>49,957</td>
<td>$113,960</td>
<td>37</td>
<td>9</td>
</tr>
<tr>
<td>$5,000 to $9,999</td>
<td>13,060</td>
<td>$88,174</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>$10,000 to $24,999</td>
<td>10,032</td>
<td>$151,063</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>$25,000 to $49,999</td>
<td>3,903</td>
<td>$133,328</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>$50,000 or more</td>
<td>3,878</td>
<td>$703,515</td>
<td>3</td>
<td>58</td>
</tr>
<tr>
<td>All Farms</td>
<td>136,817</td>
<td>$1,211,270</td>
<td>100</td>
<td>100</td>
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*Source: US Census of Agriculture*
While concerns about social justice and increasing access to healthy affordable food in underserved communities are important to many local food system advocates, progress on these goals has been relatively slow (Allen and Hinrichs 2007; Hinrichs 2000, 2003). Most of the customers that participate in market-based local food systems tend to be wealthier and more highly educated than typical local residents. Many of the local food institutions listed above are not available in places with low-income or disadvantaged groups (Kantor 2001). Also, many local food institutions are incompatible with government nutrition assistance programs. For example, many recipients of federal nutrition programs make large purchases once a month when their benefits become available (Kantor 2001). Once a month purchases are incompatible with the weekly cycle and seasonality of many markets and CSAs. Also, many disadvantaged groups do not have money to invest in CSAs, community gardens or other institutions that require up-front payments for membership.

**Local Foods Systems in the Rural-Urban Interface**

CSAs and farmers’ markets are concentrated in approximately 10-15 states (Brown and Miller 2008; Kantor 2001). There are a number of factors that might affect the development of local food systems. Obviously, it helps to be proximate to large concentrations of potential customers who are both interested in and able to pay for locally produced foods. A favorable biophysical environment (like long growing season, good climate, and productive soils) and the size and diversity of local farms appear to be related to the likelihood of producers participating in local food systems (Barlas et al.).
2001; Jussaume and Kondoh 2008). Some producer’s ability to participate in local food markets can also be limited by the availability of local businesses able to process their products (Jussaume and Kondoh 2008). Jarosz (2008) found transportation costs and market membership fees prevented some producers from participating in farmers’ markets. Additionally, some small-scale farmers cannot compete on price with larger farms from outside the community that sometimes provide products to local food markets.

Because of these factors, local food systems are most common and most well developed at the rural-urban interface (RUI) – especially in areas where significant agricultural production capacity is located in or near urbanized areas (Jackson-Smith and Sharp 2008). RUI communities are typically in the midst of a transition from rural to urban population densities, land uses, economic activities, cultures, and landscape aesthetics. While population and rural housing development can create challenges to some forms of commercial agricultural production, population growth also creates the potential for a concentrated base of local consumers that might be interested in and supportive of local food systems. Many RUI residents value the aesthetic qualities and open spaces associated with working agricultural landscapes. Local food systems are an important way for the non-farming community to interact with and support their area farmers.

Data from the Census of Agriculture confirms the importance of the RUI for agricultural production (in general) and value-trait and short-supply chain food systems
(in particular). In fact there is a subset of RUI counties that are considered agriculturally important (AI). These counties are in the top quartile of agricultural sales or counties that are in the top quartile for sales per acre of farmland and cropland (Inwood 2008).

**Table 2.** Percent of Farms, Farmland and Farm Sales by RUI and AI Status, 2007

<table>
<thead>
<tr>
<th></th>
<th>Percent of U.S. Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RUI + AI</td>
</tr>
<tr>
<td>Farms</td>
<td>24.8</td>
</tr>
<tr>
<td>Farmland</td>
<td>15.4</td>
</tr>
<tr>
<td>Farm Sales</td>
<td>40.7</td>
</tr>
<tr>
<td>Farms with Direct Sales</td>
<td>31.9</td>
</tr>
<tr>
<td>Direct Sales ($)</td>
<td>48.6</td>
</tr>
<tr>
<td>Farms with Organic Sales</td>
<td>41.7</td>
</tr>
<tr>
<td>Farms with Organically Certified Land</td>
<td>41.0</td>
</tr>
<tr>
<td>Acres of Organically Land</td>
<td>32.9</td>
</tr>
<tr>
<td>Dollar Value of Organic Farm Sales</td>
<td>71.4</td>
</tr>
<tr>
<td>Counties</td>
<td>16.1</td>
</tr>
</tbody>
</table>

*Note:* RUI = Rural Urban Interface, AI = Agriculturally Important  
*Source:* US Census of Agriculture Data 2007

Table 2 shows the percent of farms, farmland, and farm sales in RUI/AI counties in 2007. Only 16% of all counties are considered RUI/AI, but the majority of agricultural activity occurs in these counties. In 2007, 40.7% of farm sales occurred in RUI/AI counties.

Studies of agricultural activity in RUI counties have found that the industry is often extremely productive and can be distinguished from agricultural activity that occurs in more rural counties in several important ways (Table 2). First, farms are typically smaller and host more land intensive rather than land extensive operations.
For example, in 2007 about 15% of US farmland is found in RUI/AI counties compared to the 40% of farmland found in non-RUI/non-AI counties, but there are approximately the same number of farms in both RUI/AI and non-RUI/non-AI counties (24%). Specialty crops such as vegetables, fruits, nuts, nursery and greenhouse crops, and large-scale hog and poultry operations are more common in RUI counties, whereas, row crops, grain, and beef cattle are more common in rural areas where a greater amount of land is available at lower cost (Jackson-Smith and Sharp 2008). Second, a larger percentage of all RUI counties participate in urban-oriented marketing compared to non-metro counties. For example, 48.6% of direct sales took place in RUI/AI counties compared to 9.7% in non-RUI/AI counties, in 2007. Additionally, since the U.S. Census of Agriculture has tracked this information, approximately 75% of organic sales and direct sales to consumers are accounted for in RUI counties (Jackson-Smith and Sharp 2008). Some have suggested that these characteristics are indicators of the development of a local food system and present the best potential for the continued persistence of agriculture in the rural-urban interface.

**National and Local Programs and Policies Promoting Local Food Systems**

A wide range of interest groups at the local and national level have organized to promote more local food systems in the United States. These include consumer groups concerned about the nutritional quality and safety of food produced by large-scale industrial agriculture because of potentially dangerous chemical inputs, biological
These groups argue that local food is safer, fresher, and has higher nutritional value because the food does not travel far to market (Renting, Marsden, and Banks 2003). Environmental groups are concerned with the negative impacts of industrialized agriculture on land, waterways and wildlife. They have argued that local food systems are more likely to consist of smaller-scale, less intensive and more-diversified farming systems that are better adapted to local climate and topography. Social justice advocates concerned with food insecurity for many poor and minority residents of communities have worked with local farmers and local food markets to increase access to fresh and healthy food for these disadvantaged groups. People concerned about the impacts of rapid population growth and development on open space have supported local agriculture as a way to protect traditionally rural landscapes.

At the national level, the growing interest in local food systems has led to a wide range of new federal programs and policies designed to encourage value-trait and short-supply chain food systems. These include programs designed to promote development of local food markets, including the Federal-State Market Improvement Program (FSMIP), the Farmers Market Promotion Program (FMPP), the Farmers Market Nutrition Program (FMNP), the Seniors Farmers Market Nutrition Program (SR FMNP), the Community Food Security Act – community food grants (CFSA), and the Hunger Free Communities (HFC) program, which supports integrated projects linking community gardens, CSAs, and other markets for local farmers in underserved or disadvantaged
communities. Combined, these programs received over $40 million in federal appropriations in the 2008-2009 fiscal year (FY09) (National Sustainable Agriculture Coalition 2009). A new federal block grant program to support local food initiatives would add almost $50 million more to that total if approved for the 2010 fiscal year. Federal efforts also include programs designed to help facilitate more on-farm processing of farm products through the Value-Added Producer Grant program, which received almost $19 million in 2009. Since the creation of a National Organic Farming Program in 1990, federal support for organic certification, marketing, and production reached almost $5 million in 2008, and an additional $22 million is slated to be spent on helping farmers transition to certified organic production in the present fiscal year.

Similar coalitions of groups have encouraged development of local programs and policies to support local food systems at the city, county, or state level. For example, many communities have organized food policy councils that view local food systems as a way to simultaneously support local farmers and address local food security challenges. Some communities have created agricultural advisory boards and other groups to develop programs or policies to increase opportunities for local farmers and assist in development of new markets for local products. Recognizing that many farmers lack the necessary marketing and business skills, or are too busy to do the work necessary to create local markets and promote their products, many have argued for public investments to help coordinate local efforts to get new local food markets off the ground (Barlas et al. 2001; Conner et al. 2007; Gellynck and Viaene 2002). Some state
agricultural extension systems and local economic development offices have created paid staff positions to help link farmers to local individual and institutional food customers. For example, Frederick Maryland has an Agriculture Economic Development Specialist who works with local farmers to develop new enterprises and products, coordinate real and virtual farmers’ markets, and overcome production challenges in urban-oriented farming sectors (e.g., agritourism, specialty crops, and hobby farming).

At the same time, local laws may restrict some forms of local food sales. For example, dairies are limited in their ability to participate in small local markets because of laws requiring licensed processors and laws prohibiting raw milk sales in some states (Guptill 2008b). In other cases, restrictive land use ordinances can make it difficult for farmers to set up food processing or retail sales facilities on their farms. For example, agricultural zones in many counties do not allow temporary farm stands or require setbacks from highways that make visibility difficult (Somers 2009).

Research Problem

In the previous sections, I have discussed the characteristics of local food systems. I have described their importance to a variety of actors for both economic and non-economic reasons. I have discussed their importance to communities, particularly in the RUI. I also have described the considerable resources dedicated to their development. Despite all of the importance ascribed to local food systems, and the considerable efforts devoted to their promotion and development, there has been little systematic research on the social and institutional conditions that facilitate or frustrate
their emergence and growth. Given this the current study poses the following inter-related research questions:

1. How important are structural opportunities and constraints as drivers of variation in local food systems?
2. Is market oriented collective action by producers and consumers necessary for the emergence of local food systems?
3. Is policy-oriented LFS collective action required to create LFS-oriented policies/programs?
4. How do local land use struggles and politics influence the emergence of local food systems?
5. Are institutionalized LFS-oriented policies and programs helpful in the emergence and growth of local food systems?

In the following chapter I review the theoretical and empirical literatures from sociology, geography, and land use policy research to provide a framework for thinking about the relationship between collective action, local institutions and local food systems. In the third chapter, I describe the methods used to address these questions in the current study. The fourth chapter presents detailed case studies of the five RUI/AI study counties. The fifth chapter compares and contrasts the case study results and identifies patterns and relationships among the core variables. Finally, in chapter 6 I discuss implications of the research findings and directions for future research.
CHAPTER 2

LITERATURE REVIEW

There are several research literatures that touch on important theoretical and empirical issues that are relevant to the study of local food systems. The sociology of agriculture provides a theoretical framework focused on the relative influences of structure and agency in agricultural change. Rural geography provides an important focus on local land use politics in rural-urban communities. Finally, land use and agricultural policy research makes a case for the importance of policy in the persistence of agriculture in the face of population growth and urbanization in RUI communities.

The Sociology of Agriculture

The sociology of agriculture has long sought to explain the social, economic and institutional conditions that affect patterns of change in the farm sector. One persistent tension in this literature is a debate over the relative influences of structural economic forces versus autonomous human agency. This debate has several important implications for a study of local food systems. First, it is clear that structure matters: economic forces and institutional conditions are important drivers of the trajectories of agriculture in advanced industrialized societies. Second, it is also true that human actors have a range of choices available to them within the opportunities and constraints presented by these larger structures. Third, human agents are likely to act from a variety of economic and non-economic motivations that will produce diverse
agricultural trajectories. Finally, the presence or absence of collective action and social organizations can influence the configuration of markets and policies, and also affect the ability of individual producers to pursue different paths.

**The structure of agriculture**

The sociology of agriculture (as a subfield) emerged amidst debates over the dynamics of structural change in the agricultural economy. Specifically, although Marx and others predicted the imminent demise of non-capitalist forms of production in the late 19th century, historical trends suggested that the farm sector was unusually resistant to traditional capitalist social relations, and peasant or family farm producers remained key players well into the late 20th century. Debates around the persistence of non-capitalist farms took center stage among U.S. sociologists of agriculture in the 1970s and 1980s, as scholars rediscovered the early Marxist literature and applied these ideas to contemporary patterns of agrarian change in advanced industrial societies (Buttel, Larson, and Gillespie 1990c).

Scholars in this new sociology of agriculture adopted a wide range of theoretical stances. Some focused on exploring ways that family farm persistence could be made consistent with the broader Marxist approach to understanding dynamics of capitalist societies. For these scholars, several types of explanations were common. Initially, some argued that because agricultural production is dependent on biological processes and environmental conditions, it is an unattractive sector for investing scarce capital and precludes normal modes of exploitation of labor. Mann and Dickinson (1978) were
first to identify the disjuncture between production time and labor time in agriculture, and argued that this "creates a barrier to the routinization of the labor process and makes agriculture less profitable than other branches of industry" (Buttel et al. 1990a: 80). As labor creates surplus value and there are interruptions to the labor process, the ability to exploit surplus value via capital investment is restricted. While mechanization may replace labor with capital, it cannot eliminate natural crop or livestock growth and maturation periods (Reinhardt and Bartlett 1989). Thus it is not always possible to appropriate natural processes for more efficient technological processes in order to maximize capital accumulation (Bunker 1989; Goodman 1991). Additionally, agricultural production is much more risky than industrial or manufacturing processes. Not only are farms vulnerable to weather or pests, but also agricultural products are perishable and sometimes need to be stored for significant amounts of time.

A second form of explanation popular among neo-Marxist scholars was that the family character of many agricultural production units created the possibility of “self-exploitation”, particularly during periods of market downturns when family farmers can reduce consumption or pay themselves below market rates to survive. Friedmann (1981) argues that family farms have historically shown an ability to compete with or even outcompete capitalist farms in global grain markets. She argues that during the periods of biological maturation of crops and livestock, family farms can persist because they do not have to earn a profit to remain in business. Family farmers only need to
subsist to remain in business, whereas capitalist farms must earn a normal rate of return on their capital to avoid being forced from the market.

A third perspective argues that capitalist relations of production have actually deeply penetrated the family farm sector, but have done so indirectly through a number of channels. First, the willingness of small-scale producers to exploit their own and family members’ labor to remain on the farm can be seen as a way to reduce the cost of food, and hence lower the cost of social reproduction for industrial workers. Hence capital might find it more attractive to leave the farm sector to family producers since this reduced the wages they needed to pay industrial workers. Capitalist exploitation of family farmers was also accomplished through increasing farmers’ reliance on input and credit markets, where family farms have become increasingly dependent on purchased inputs and borrowed capital from capitalist firms in mainstream sectors of the industrial economy (agribusiness and banking). Similarly, the consolidation of the food processing and distribution sectors (discussed above) creates a situation in which independent family-scale farms are easily exploited when they are forced to sell their products to highly integrated and oligopolistic firms in the rest of the agrifood system.

De Janvry (1980) has also argued that public policies regarding state subsidies of research, labor and immigration policies, and farm commodity subsidy programs each serve to improve the relative competitiveness of industrial or capitalist farms relative to small scale family farms. Depending on the level of mechanization, the availability of an exploitable hired labor force, and the ability to control the labor process, certain
commodity sectors are more prone to capitalist development than others (Friedland 1991).

While scholars in the sociology of agriculture have struggled to apply conventional Marxist structuralist explanations to the dynamics of agriculture in capitalist society, they have demonstrated ways in which structural features of the agricultural production process, state policies, and the consolidation of larger agricultural input and output sectors contribute to the gradual demise of traditional family-labor farms. However, changes in the structure of agriculture vary by commodity, by market and labor conditions, by the types of policies and programs guiding production, and by the biological and environmental characteristics of different types of agricultural production.

_Agricultural change in the RUI_

Several scholars have argued in the structuralist tradition that the specific conditions associated with the RUI result in a distinctive pattern of agricultural adaptations. Specifically, scholars have argued that population growth and density, proximity to urban centers, income, biophysical conditions, farm size and structure, and commodity mix affect the ability of farmers to adapt in the RUI (Alig and Healy 1987; Bowler and Illbery 1987; Bryant 1973, 1981; Bryant and Russwurm 1982; Sinclair 1967). For example, Sinclair (1967) found that the value of agricultural land increases by increasing competition between different land uses in the urban fringe which leads to more intensive and profitable forms of production locating closer to cities and land-
extensive and lower net value crops farther away. Bryant (1973) found that farms growing different commodities have different responses to urban development and only certain types of agricultural production respond negatively by exiting agriculture. Bryant and Russwurm (1982) argued that metropolitan conditions that are specific to the RUI (the availability of off-farm income, urban development pressure, proximity to markets, and increased living standards) could lead to the persistence of farming in the RUI. They also suggest that the biophysical environment (soil quality) influences farmers’ decisions to leave or remain in farming. It should be noted that some of these factors might also influence the development of local food systems.

*From structure to agency*

While neo-Marxist scholars ultimately argue that the ability of producers to make decisions is fundamentally constrained by larger structural forces within a capitalist society, a second strain of thought in the sociology of agriculture adopted a more agency-centered model of agricultural change that highlights the role of producers in directing their own path. This work highlights the fact that most producers have a variety of economic and non-economic motivations that shape their decisions and result in a variety of agricultural outcomes. Additionally, this perspective argues that human agency and the actions of individuals and groups are important ways that social and institutional structures are produced and reproduced. To the degree that the logic of social action extends beyond capitalist imperatives, the possibility exists that policies, markets, and other institutional arrangements can reflect multiple objectives.
Arguing from a neo-Weberian position, Mooney (1988) asserts that farmers are actors that can choose from several options that might avoid a process of pure capitalist transformation (e.g., either being forced from agriculture or becoming hired agricultural laborers). Those options include tenancy, contract farming, part-time farming with the addition of off-farm income, and acquiring debt. Although these options do result in exploitation of the farmer by some capitalist interests, many farmers might prefer these options since they maximize the non-economic benefits of farming, or reflect the dominance of substantive rationality over instrumental rationality. Whatmore and Munton (1987) argued that the degree of agency by farm families depends on the organization of the farm enterprise, including ownership, control of the farm capital, labor, land and management, and the balance between family and hired labor. As long as farmers control most of their means of production, they might be free to pursue multiple strategies to continue farming including off-farm work, minimizing debt, and or – importantly for this study -- direct marketing of high-value crops or livestock products to consumers outside of conventional agrifood channels (Buttel et al. 1990d).

*From producers to consumers – the consumption turn*

Beginning in the late 1980s and continuing through the early 2000s there was a major shift in the sociology of agriculture from a focus on the sphere of agricultural production to a focus on the importance of food consumption. A number of researchers
have argued that a key driver of patterns of change in agriculture might be changes in the preferences, buying habits, or political demands of food consumers. One indicator of this shift is the renaming in the late 1990s of the major specialty area group within the Rural Sociological Society to the Sociology of Agriculture and Food Research and Interest Group (SAFRIG).

Early research leading to the focus on consumption began by analyzing agriculture through an analysis of farm commodity chains, particularly in the context of the globalized agrifood system that links production (of both farm commodities and food) with consumption (Buttel et al. 1990b; Friedmann 1991; Friedmann and McMichael 1989; Heffernan, Hendrickson, and Gronski 1999). National agricultural production systems have been transformed into modern international ‘food regimes’ or ‘commodity complexes’ in which transnational corporations control specific sectors of agricultural production through a process of both vertical and horizontal integration. These trends have been linked to national and international policies including the General Agreement on Tariffs and Trade (GATT), and development policies of the International Monetary Fund (IMF), the World Bank and the U.S. Agency for International Development (USAID) (Friedmann 1982, 1991; Friedmann and McMichael 1989). Thus in addition to the penetration of capital into the sphere of farm production through the substitution of industrialized products for raw materials and the appropriation of various parts of the production process by scientific and technological changes, agriculture is being transformed through its integration into long commodity
chains with global reach. In many sectors, inputs for modern farming systems might come from one country, actual farm production might occur in a different country, value-added food products might be manufactured in a third place, and marketing, distribution and consumption in still other places around the world. One implication of the growth of global agrifood chains is that farmers have received increasingly smaller portions of the retail value of food products.

Once sociologists recognized the integrated aspects of global food commodity chains, a logical step was to propose a shift in focus from production to consumption entirely (Fine 2004). Several scholars have noted that shifts in consumer preferences appear to reverberate down these new commodity chains and have created new rewards and incentives for farmers who are able to produce products that meet consumers’ needs. The most common evidence for a consumption-centered approach is the rapid rise of consumer demand for organic or natural foods, and the corresponding restructuring of parts of the agrifood system that are aimed to satisfy these emerging markets (Goodman and DuPuis 2002). Consumption-oriented theories argued that the influence of Marxist-theories in the early sociology of agriculture blinded analysts to the possibility that human agency outside of the sphere of production could be important (Lockie and Kitto 2000). Goodman and DuPuis (2002) argue for a dialectical approach that privileges neither consumption nor production. Instead they argue that production and consumption are linked through food knowledge systems that are created simultaneously by consumers, producers,
agribusiness, and other actors in the global agrifood system.

The introduction of consumption (and consumers) into the sociology of food and agriculture has led to a proliferation of studies regarding the possibilities and limitations of consumer social action – such as shifts in purchasing patterns – as a source of fundamental change in the organization of agrifood systems (Wright and Middendorf 2008). Research on consumption and consumer agency has focused on local and alternative food systems, and the degree to which local food consumers may play a role in changes to the dominant industrial agriculture system through their individual and collective actions within geographically bounded locations. Within this literature, two central questions have received considerable attention. First, what kinds of consumer actions might constitute examples of agency capable of changing the structure of agrifood systems? Second, what impacts have consumer actions had on the development of mainstream and alternative agrifood networks?

There are at least two main forms of social action by food consumers. First, individuals may act as independent, autonomous actors that express their preferences within markets, either by refusing to buy food products that were produced in industrialized or global agrifood chains, or by choosing to buy foods produced with certain attributes (e.g., the value-trait foods discussed above). Consumers have the power to make choices about food that demonstrates the values they hold such as environmental health, farm worker rights, food safety, etc. Although directed at the market, this kind of reflexive consumption is considered by some to be a social and
political act even if it is not part of organized social movement (Goodman and DuPuis 2002; Miele 2006). If sufficiently large in scale, individual consumer actions may serve to create economic incentives for structural change within agriculture toward more sustainable farming practices or food production systems.

A key question is whether uncoordinated individual consumption-based action qualifies as true social or political agency and is an effective way to change the structure or operation of the mainstream agrifood system or the continued dominance of powerful capitalist actors (Buttel 2006; Buttel and Goodman 1989). Schreck (2008) argues that individual producer and consumer actions can be considered effective agency if "survival under oppressive and exploitive conditions is in and of itself an act of resistance" (132). In her study of fair trade food networks, she argues that there are three types of actions that are effective: nonparticipation in conventional markets; decisions by consumers or producers to use fair trade channels, purchase fair trade products, or incorporate fair trade principles into policy because of the redistributive effects; and radical actions that are explicitly transformative. She concludes however, that the degree to which individual consumer or producer actions can be considered transformative depends on the degree to which those actions depend on the capitalist structure or consumerist ideology (Schreck 2008).

A second form of consumer action reflects the emergence of collective and organized social movements around sustainable farming and ‘good food’ issues (Wright and Middendorf 2008). Initially, it is important to consider whether social activism
around food constitutes a real social movement. According to Stevenson et al. (2007), social movements are "consciously formed associations with the goal of bringing about change in social, economic or political sectors through collective action and the mobilization of large numbers of people" (35). A large literature in political sociology suggests that the success of social movements depends on at least three factors: the availability of political opportunities, success in creating mobilizing structures, and framing processes (MacAdam, MacCarthy, and Mayer 1996; Stevenson et al. 2007; Tarrow 1989).

Political opportunities refer to the structure of political opportunities and constraints facing the movement as a result of interaction between the movement and institutionalized politics. For example there may be more opportunities in one community to create local food policy because of a strong alliance between local food collective action and dominant institutional interests. In other cases political opportunities can arise when dominant interests are in crisis or when the legitimacy of dominant interests are in question. So in a community in which traditional agricultural has lost power, local food system interests may find space in the public agenda to gain support and develop. In either case opportunities and constraints are the result of the specific political context in which the movement is embedded and therefore shape the form of the movement (MacAdam et al. 1996). Political opportunities are openings for change within social structures and institutions and shape the likelihood of the social movement contributing to long-term structural change (Tarrow 1989).
Mobilizing structures refer to informal and formal groups, organizations, and networks through which people can organize and engage in collective action (MacAdam et al. 1996). In terms of local foods, these might be groups operating outside of the state in civil society and can include non-profits, networks of producers, community groups, or other groups with an interest in local food. Mobilizing structures also refer to the mobilization processes groups use to engage in collective action and enact social change. Mobilizing processes reflect the ability of groups to access resources in order to push their agenda. Resources can include knowledge, money, media, labor, legitimacy, as well as external and internal support from powerful elite (MacAdam et al. 1996). Again, in terms of local foods this can include things such as initiating a buy local label and campaign, using the media to increase public awareness of local food issues, using the political position of producer groups to influence a policy decision-maker, etc.

Framing processes refer to discourses or the shared meanings and definitions that describe social problems, identify causes of problems, suggest solutions and mobilize people (Tarrow 1989). Frames used in food movements include environmental sustainability, economic justice for farmers, community food security, and health and food safety (Stevenson et al. 2007).

So, in what ways are local food systems the product of effective social movements? Efforts to create local food systems may be social movements to the degree that they frame issues in salient ways to mobilize resources and utilize political opportunities that challenge the perceived hegemony of the global agrifood system.
(Bonanno and Constance 2008; Hendrickson and Heffernan 2002; Hinrichs and Kremer 2002; Lyson 2004; Stevenson et al. 2007; Wright and Middendorf 2008). They may also be perceived as movements to the degree that they frame issues, mobilize resources and utilize political opportunities to effect local changes in policy, politics and markets.

In most cases, groups working on alternative agrifood systems have worked to create public policies and programs in which consumer practices and habits designed to systematically change market conditions can be encouraged and facilitated (Miele 2006). The effectiveness of collective consumer action has been evaluated in terms of the degree to which it challenges the structure of capitalist agriculture and addresses social injustice. Some scholars conceived of consumer agency as having the potential to be counter-hegemonic to the degree that consumers choose intentionally to resist conventional markets through non-participation, use of alternative markets, and/or some other radical actions that bring producers and consumers closer together (Schreck 2008). However, others argue that consumer actions can never be effective agency because they are based on the capitalist ideology and structure, which preferences individual economic gain over public and non-economic goods (Johnston 2008). For example, as certain sectors of alternative agriculture have become profitable, such as organics, they have been quickly co-opted by agribusiness firms (Guptill 2008b). In this case, consumer demand and individual consumption has not led to significant change in the structure and injustices of the agrifood system (Hinrichs and Allen 2008).
Generally speaking, solely consumer-driven social movements have had little effectiveness at changing the larger economic and political structures guiding the dominant global agrifood system (Friedland 2008; Hess and Winner 2007; Hinrichs and Allen 2008; Johnston 2008; Millen and Holtz 2000; Moses 1993). However, they are believed to have been moderately effective in changing markets for particular food commodities and encouraging the development of local food systems in individual communities. Guptill (2008a) describes how activists and farmers in Puerto Rico developed local food systems that failed to challenge the structure of the Puerto Rican agrifood system overall, but did lead to the creation of important social networks and relationships of activists that get continuously renewed through market transactions, meetings, etc. Hinrichs (2000) found that farmers’ markets do not normally forge sufficiently close relationships between producers and consumers to generate momentum toward broad-scale change in agrifood systems. Rather, farmers’ markets were most successful at creating modest changes in the quality of community, encouraging the formation of new social networks, and increasing collaboration among vendors, producers, and consumers. Meanwhile, buy-local campaigns are seen as an effective consumer-driven social movement that lends to the development of local food systems (Allen and Hinrichs 2007; Hinrichs and Allen 2008; Kantor 2001).

Overall, it would appear that both autonomous and collective consumer action is limited. Consumer actions oriented toward value-trait foods (e.g., organics, natural foods, etc.) are more easily co-opted by the conventional agrifood system than efforts
to develop alternative short-supply chain systems. Local food systems are defined by
direct connections between consumers and producers and thus (unlike organic foods)
cannot easily be integrated into large-scale national or global agrifood systems (Lyson
2004). Also, collective action involving both producers and consumers has shown to be
effective in changing local community conditions, increasing the strength and quality of
community networks through local food markets (Guptill 2008a; Hinrichs 2000).

**Producer-driven collective action**

Most of the literature on alternative agrifood systems (including local food
systems) has emphasized the role of autonomous consumer action and consumer social
movements in the development of alternative farming and agrifood systems. However,
there is significant reason to believe that small- and medium-sized farmers have both
economic and non-economic reasons for preferring local food systems. Much of the
critique of the global agrifood system demonstrates how these types of farmers are not
well positioned to capture the economic benefits associated with large-scale agrifood
commodity chains. Considering that these producers would receive significant benefits
from the expansion of local food systems, it seems unusual that there has been
relatively little focus in the sociology of agriculture literature on the role of producers in
consumption-oriented social movements surrounding alternative food issues.

As with consumers, producers can ‘act’ as both autonomous market actors or
through organized social movements and collective action. As independent agents, they
might decide to improve the economic viability of their farm by taking steps to
participate in short-supply chain and value-trait food markets. Without producers interested in serving these markets, it is impossible to create a critical mass of suppliers ready to satisfy consumer demand. However, the creation of alternative marketing channels often requires more time, energy, and coordination than individual producers are capable of providing. As such, producers may need to act collectively to create new markets, but also to use local political and organizational institutions to remove barriers or create more incentives for the development of local food systems.

It can be argued, in fact, that producers are in a unique position to frame issues around local food systems that are salient for both producers and consumers, and to mobilize private and public resources necessary to create local food systems. For example, most consumer action is directed at the market by creating demand for products with different values. However, most consumers have little time or interest in creating the institutional arrangements necessary to create new markets. By contrast, producers would be expected to care both about the goal of developing alternatives to global agrifood systems, have a deep personal stake in the success of new market outlets, and have greater familiarity with and access to local government officials and institutions that might influence the development of new local food markets. Producers may well be more likely to harness their collective political clout to influence local rules and institutional arrangements that guide land use, economic development, and infrastructure development at the community level. Considering the role of producers in both the market and political spheres, it would make sense to bring the producer
back into the study of local food systems and local food collective action.

**Rural Geography**

*Productivist and post-productivist landscapes*

Distinct from the sociology of agriculture, rural geographers have long been concerned with explaining spatial and economic dimensions of changes in agricultural landscapes, particularly as a consequence of urbanization (Clark 2008, 2009; Vandermeulen et al. 2006) and industrialization (Ilbery and Bowler 1998; Marsden 1998; Van derPloeg 2006). Much of the literature on agriculture in rural geography parallels the sociology of agriculture debates discussed above (though there is remarkably little cross-referencing of the two literatures).

In recent years, a central contribution of rural geography has been to recognize the transition of the rural countryside from a so-called “production” to a “consumption” landscape (Ilbery and Bowler 1998; Marsden 1998). A production landscape refers to the traditional use of land for production (most commonly the production of agricultural commodities). In contrast, a consumption landscape refers to the fact that rural landscapes have come to be valued by rural residents and society for attributes other than agricultural production, such as aesthetics, biodiversity, environmental health, rural lifestyles, recreation, etc. In essence, the consumption of these rural landscape attributes by rural residents (both farmers and non-farmers) is argued to have become a central economic and social driver of many rural or exurban communities.

The transition to post-productivism in the US and Europe began in the 1970s and
continues to the present time (Ilbery and Bowler 1998). As a societal phenomenon, it is often characterized at the national level by decreased food output, the withdrawal of state subsidies for traditional farm commodity production, and rising concern over environmental issues (Marsden 1998). At the local level, it is related to a rural renaissance or “counter-urbanization” trend found in most advanced industrial societies, in which there has been significant net migration from urban to rural areas, and a related increase in demand for rural land for low-density housing development (Beyers and Nelson 2000).

National and local policy

The shift from productivist to post-productivist landscapes is mirrored in the evolution of rural and agricultural policies in most advanced industrial nations. Specifically, traditional farm commodity subsidy programs and public research and extension programs were oriented toward improving agricultural output and technical efficiencies, with the goal of improving the competitiveness of national agriculture on international markets. In recent decades, many countries have adopted new programs and policies designed to address some of the social, economic, and environmental problems that have been linked to the modern global agrifood system. In Europe, these policies are built on a recognition that agricultural activities have a “multifunctional” character – that produces not only food, fuel, and fiber, but also can be used to maintain open space, rural landscape aesthetics, wildlife habitat, water and air quality, and other “non-productivist” outcomes (Durand and Huylensbroeck 2003). An elaborate set of
national rural and agricultural policies have been developed in the European Union to reward farmers who manage their lands to maximize non-production multifunctional outputs.

While the connections are not always made in the literature, it is apparent that local food systems share positive qualities with many multifunctional farming systems or post-productive landscapes. Indeed, Watts et al. (2005) explicitly define multifunctional agriculture to include efforts to reduce the distance between producers and consumers and give consumers better information about agricultural production processes. They also believe that multifunctional farming will inevitably take place on small-scale farms that produce a diverse array of products, many of which are processed to add value before sale to local consumers. Early research on post-productivism focused on the effects of national-level policy and extra-local actors on the development of multifunctional agriculture (Barlas et al. 2001; Gellynck and Viaene 2002; Ilbery and Bowler 1998) arguing generally that state-level policies do not go far enough to fully develop multifunctional agriculture as a rural development tool. More recent research has focused on the importance of local actors, local networks, local social dynamics, and competing interests in the development of multifunctional agriculture (Batterbury 2002; Fonte 2008; Marsden 1999; Panelli 2006; Sonnino and Marsden 2006; Vandermeulen et al. 2006). The general conclusion is that the applicability of multifunctional policy is dependent on the social and political conditions of each place. For, example Marsden (1999) argues that single-sector policies are no longer applicable in places where
multiple demands are made of the landscape.

Research has also shown that local land use and agricultural policies are not created and do not exist in vacuums. The local context determines how policies are shaped and which policies are adopted. Competing interests and discourses that struggle for dominance exist in all places (Potter and Tilzey 2005). Policy is the institutionalization of such struggles, but these struggles result in contradictory, overlapping and uneven policies. Rarely does one discourse completely dominate the policy field. Policies come to existence in a variety of ways, sometimes through a formal policy-making process, and in other cases through ad hoc decision-making that becomes institutionalized later (Gilg 1998). Therefore it is important to understand that the socio-cultural context not only says something about the effectiveness of policy, but also the processes leading to the existence of certain policies. And as policy is the result of competing interests, many studies acknowledge the importance of public or stakeholder support (Alterman 1997; Bengston, Fletcher, and Nelson 2004; Daniels 2000).

*Stakeholders in local post-productivist politics*

The transition from rural to urban land uses has been linked to greater conflict over local land use and development interests, and increasing competition between productivist and post-productivist interests over different visions for how agricultural production should be organized at the local level (Durand and Huylensbroeck 2003; Ilbery and Bowler 1998). In many cases, there has been increased environmental regulation
and local land use governance in an attempt to manage both the structural and cultural changes occurring in rural communities (Ilbery and Bowler 1998).

Marsden (1998) has suggested that balance between productivist and post-productivist interests in different rural landscapes has led to the emergence of at least four distinct “ideal types” of rural communities: the preserved countryside, the contested countryside, the paternalistic countryside and the clientist countryside. Places that fit the definition of “preserved countrysides” have been so dominated by post-productivist actors that their local political scene is oriented toward addressing interests in preserving open space, rural aesthetics and environmental quality. A contested countryside refers to places where traditional agriculture combines with pro-development interests to dominate local politics, though as the name suggests, there is an organized group of post-productivists that contests their domination of local decisions. The idea of a paternalistic countryside refers to places where large farms and estates dominate the landscape, but where landed interests are beginning to become invested in the sale or leasing of their land for residential development. There is typically far less conflict and debate over land use decisions in these paternalistic communities, in part because they are at an earlier stage in the transition process. A clientist countryside refers to more remote rural areas where traditional agriculture and associated institutions dominate land use and local government, and where conventional commodity production is still heavily dependent on global agrifood markets and state farm subsidies. Marsden describes change between these types as a
linear progression from the clientist to the preserved countryside.

There are two general conclusions that we can draw from this body of literature. First, there is a growing tension between policies that support traditional agricultural production and land use and those that support the development of multifunctional agriculture, local food systems, and post-productivist landscapes. Second, land use politics and battles between pro- and anti-development groups define much of the political agenda. Taken as a whole, tension between policy types and land use interests help define the local political structure in many post-productivist landscapes and communities. The balance of power between these interests will shape the ability of local food collective action groups to act, the policy environment and ultimately land use change.

From the rural geography literature we can conclude that local land use struggles and debates between commodity and multifunctional agriculture are important elements of communities at the rural-urban interface. What is not clear is how local food system advocates intersect with these other stakeholder groups. In many ways, local food systems share many features of multifunctional agricultural systems, and they are also likely to appeal to post-productivist rural residents. One goal of the current research is to determine how the balance of power between these stakeholder groups influences the development of collective action, policy, and ultimately, outcomes for local food systems.
Local Land Use and Agricultural Policy

In Europe and the United States, a considerable amount of local government policy has been developed to plan for and manage the effects of population growth and urban development. Over the last few decades in the U.S. a wide range of land use and agricultural programs and policies have been implemented in towns, cities, counties and state governments.

Exurban population growth and local policy

The United States has experienced several periods of rapid population growth in rural and exurban areas since the 1970s. Particularly in the 1970s and 1990s, when there was net migration into rural areas from urban centers, the pressure to accommodate new urban residents in rural landscapes has been a defining feature of local politics in many parts of the country. Rapid population growth in rural areas adjacent to or in close proximity to metropolitan areas spurred a range of local land use and agricultural policies intended to control or limit development in rural areas, especially on farmland or other lands considered sensitive to development or important to preserve (Gilg 1998). These policies have been most typically directed at managing land use change and growth or facilitating agricultural development.

Land use policies include incentive-based, regulatory, and government control policies. Incentive-based policies are voluntary and involve either positive or negative economic or non-economic incentives (or disincentives) to change landowner behavior (Bengston et al. 2004). Incentive-based policies are implemented at the local level, but
often require the authority of, or coordination with the state. Examples of typical incentive-based policies used to manage urban growth and protect agriculture in RUI communities include use-value tax assessment; impact fees and exactions; purchase or transfer of development rights; conservation easements; infill, redevelopment and brownfield development incentives; agricultural districts; and capital gains tax on land sales (Bengston et al. 2004; Duke and Lynch 2003). Most negative incentive-based policies do not prohibit land use decisions. Rather they attempt to mitigate some of the impacts by transferring the cost of development to developers. Positive incentive-based policies work in the reverse by providing tax breaks or protection from development to landowners who promote desired land uses. For example, transfer of development rights involves the purchase of the development rights of farmland and their transference to a location that is more desirable for development such as within an urban boundary.

Regulatory policies are obligatory and often backed by the threat of negative sanctions. Regulatory policies to manage rapid population growth and urbanization are developed and implemented mostly at the local level. Examples of common regulatory policies to manage urban growth and protect agriculture in RUI communities include agricultural protection zoning; agricultural use zoning; right-to-farm laws; urban growth and service boundaries; state executive orders; cluster development zoning; development moratoria; rate of growth controls or growth phasing; adequate public infrastructure ordinances; minimum density zoning; greenbelts; large lot zoning;
exclusive agricultural or forestry zoning; development guidelines presented in comprehensive or master plans; and mitigation ordinances (Bengston et al. 2004; Duke and Lynch 2003). Generally, regulatory policies attempt to cap development or control the rate and/or pattern of development by dictating allowable land uses.

Public or government control policies involve the protection of public goods and services that are not protected by the market. Public ownership of land to manage urban growth and protect agriculture includes the acquisition of parks, recreation areas, forests, wildlife refuges, nature preserves, wilderness areas, greenways and green infrastructure (Bengston et al. 2004). Specific public acquisition policies include eminent domain; fee-simple sale and purchase; right of first refusal; and land banks (Duke and Lynch 2003). This approach has a long history of use at the national, state, and local levels.

Agricultural economic development policies have not received as much attention in the literature as the other types of policies for at least two reasons. First, local agricultural economic development policies have not been in use at the local level for the length of time that local land use policies have been. Historically in the United States, agricultural policy was made primarily at the federal level, particularly through the Farm Bill. Within the last two decades there has been increasing devolution of authority and policy from federal to state and local governments. At the same time, there have been growing calls by local stakeholders for more active efforts to promote positive agricultural economic development as a way of encouraging local farmers.
Second, as was noted in the rural geography section above, rapid population growth in RUI communities has brought increasing focus on the alternative, non-economic, non-agricultural (i.e., post-productivist) values provided by some rural landscapes. For many advocates of rural places, perhaps especially non-agricultural residents in RUI communities, the most pressing concern has been preserving open space for a variety of competing uses and quelling or controlling population growth and development. Preserving agricultural productivity has been less of a focus in these places than simply preserving the land base. As discussions have progressed, however, there is increasing interest in finding ways to preserve rural land by making some desired forms of local agriculture more economically viable.

There are several categories of local agricultural economic development policies including agricultural business development programs and staff, programs to increase local value-added and processing capacities, sector-specific programs, and programs to develop local food systems and direct sales. Agricultural business development programs aid commercial farmers by cultivating business management skills and/or facilitating access to credit and markets. Typical programs include farm business management training, programs to facilitate access to farm credit, and beginner farm programs. In addition communities may hire staff dedicated to agriculture economic development and/or develop an agricultural advisory committee that can collectively advocate for policies and programs that increase the economic viability of agriculture.

Value-added and local processing programs are intended to increase the local
capacity of farmers to do on-farm processing of raw agricultural products (e.g., processing milk into cheese), or develop independent local processors that operate at small scales. Some examples include programs to develop a biofuels plant, a dairy processor or co-op, small-scale meat processors, and incubator kitchens that farmers can use to develop new value-added products.

Sector-specific programs are tailored towards farmers who specialize in certain crops or livestock. These programs are intended to either help producers to transition to new production techniques, diversify production or build-up particular sectors. Some sector-specific examples include programs to support crop diversification and alternative production techniques, programs to develop nursery/greenhouse industry, programs designed for hobby farmers, and programs to promote agritourism.

Programs and policies to develop local food systems and direct sales are a subset of agricultural economic policies that involve building the market capacity for local foods by either creating places for local selling or changing laws to facilitate local selling. Examples include adopting local ordinances to facilitate on-farm sales or farmers’ markets, publishing a directory of local food producers, helping develop farmers’ markets, establishment of programs to promote direct sales of local farm products, development of local food labels, linking farmers to local institutional buyers, and formation of local food policy councils to work on food security and access.
The uniqueness of agricultural economic development policies

It is important to understand that land use policy in many RUI communities ultimately affects farmers and local food systems, but the land use and agricultural economic development policies described above may have different impacts on the development of local food systems. For example, many farmland protection policies are concerned with preserving the land base. Research suggests that maintaining a critical mass of affordable land is essential to preserving agriculture (Daniels 2000; Daniels and Friedman 1999). While many conventional agriculturalists require large expanses of land, many local food producers – CSAs, small-scale farmers and gardeners – produce food on much smaller plots of land. While land must still be affordable, local food suppliers are more easily incorporated into residential and urban landscapes. Acre, half-acre, even quarter-acre plots or smaller can be used by local food producers. Expansion is not necessarily a requirement or goal for small-scale producers. Therefore, policies that preserve large amounts of land may not address the needs of small-scale producers. Local food producers may be more concerned with proximity to markets and therefore more interested in policies that allow small-scale agricultural production to be integrated with other land uses.

Some research has also cited a sense of permanence as an important precondition for farmers to invest in their operations (Daniels 2000). While this may be true for local food producers as well, the loss of large expanses of farmland may not be the condition that triggers a sense of impermanence and the subsequent unwillingness
to invest in their operations. For smaller producers, a sense of impermanence may be created by a lack of local markets in which to sell their products (which may change for the better with the onset of intense urban development). Therefore policies that focus on the establishment of local markets and a local food culture may be more important sources of support for local food systems than generic farmland preservation policies. It is important to consider how the unique characteristics of agricultural economic development policies affect local food systems. What has worked for farmland preservation may not work for the promotion of local food systems.

**Research Questions**

As discussed in the introduction, there is a great deal of activity surrounding the development of local food systems, particularly in RUI communities. Both consumers and producers may be actively engaged with local community leaders to develop programs or policies to expand local food systems. At the same time, these efforts may be linked to local political discussions surrounding programs designed to assist traditional commodity farmers, to manage patterns of residential growth and development, and to protect local open space or environmental quality. This dissertation explores the conditions under which local efforts to promote local food systems serve to frustrate or facilitate the development of local food systems. Specifically, it will seek to document the effectiveness of local collective action and local policies and programs designed to encourage local food systems. Figure 2 is a conceptual depiction of how I expect structural conditions, collective action and
institutional arrangements to influence the development of local food systems in RUI communities. There is likely some degree of autonomous and uncoordinated local food system market activity that develops as a result of the appropriate structural conditions (growing urban population, increased population density, higher incomes, the right commodity mix, a decline of traditional agriculture, an abundance of small farms and part-time farmers, etc.) and without the intentional efforts of the civil society collective action groups or from the policies and programs developed by the state. I also expect that in some cases civil society groups will have successfully generated local food markets through market-oriented collective action. This includes all private sector efforts to create or grow local food markets working directly with producers and consumers. Further, I expect that in some cases civil society groups will have successfully developed the local food system via their efforts to advocate for public programs and policies that facilitate LFS development. Finally, I also expect that some policies and programs will have a negative effect on local food systems.

Figure 2. Conceptual Model
The core of sociology of agriculture is a debate over the relative influences of structural economic forces versus autonomous human agency. This debate has several important implications for a study of local food systems. Certain conditions in RUI communities may support the development of local food systems independently of intentional efforts to develop local food systems. Specifically, increased population and population density, proximity to urban centers, higher values crops, small diversified farms, and a long growing season could influence the ability or desire of local producers to take advantage of local food marketing opportunities. As a result, this study begins with the following question.

1. How important are structural opportunities and constraints as drivers of variation in local food systems development?

This question attempts to understand the influence of certain structural conditions of the RUI on the development of local food systems. Although many characteristics of RUI communities would suggest that agriculture should decline, certain conditions such as population growth and density, proximity to urban centers, commodity mix, farm size and the biophysical environment may actually influence producers to take advantage of local food opportunities. Therefore I expect that communities that have growing populations, are close to urban centers, have an abundance of small farms with a diversity of high value crops, and a long growing season are likely to have more local food activity.
Meanwhile, the most recent literature in the sociology of agriculture and rural geography looks to consumers or post-productivist non-farming rural residents to be engines of change in favor of local food systems. However, there are reasons to believe that producers could play a significant role. There are two ways in which we can conceive of producer’s role in the development of local food systems. First, local food system development is the result of autonomous actions by producers to provide goods and services to willing pools of consumers. Second, producers can be collective actors either as part of informal farmer networks that facilitate the development of local food markets, or as part of formal social movement or advocacy organizations that seek to influence local food policy. To date, there is little research on the locally oriented collective actions of producers intended to develop local food systems. To that end, this dissertation seeks to answer the following two questions which attempt to understand if collective action directed at the market or state are essential to develop local food system markets and policies:

2. Is market oriented collective action by producers and consumers necessary for the emergence of local food systems?

3. Is policy oriented local food system collective action required to create LFS-oriented policies/programs?

Although the role of producers in the development of local food systems has not received as much attention recently, a review of the sociology of agriculture suggests we should expect several results. First, producers have both economic and non-
economic interests in maintaining their farms and they have traditionally been well organized into commodity groups and other organizations that influence both the market and political institutions guiding agriculture. This places farmers in the unique position to favor local food systems and have the capacity to drive their development. Second, the general consensus is that collective action is more effective than autonomous action in creating change in the agrifood system. Finally, collective action that effectively mobilizes resources, takes advantage of existing political opportunities, and successfully frames local food issues in ways salient to decision-makers and supporters should be able to effectively create local food markets and influence policy. Therefore, I expect that in cases where local food producers are more organized, have successfully mobilized resources, framed issues and taken advantage of existing political opportunities there will be a more well developed local food system and set of local food system policies.

A review of the rural geography literature and the land use policy research reveals that land use struggles and local food institutions (defined as a collection of public sector programs, policies, and personnel designed to support the emergence and development of local food systems) are important but there are some limitations in the research that need further exploration. There is a distinction between the institutional arrangements and interest groups that support conventional agriculture, land use and growth management, local foods, and non-agricultural business, real estate and development. The struggle between interest groups and the tension between different
types of policies may result in a variety of outcomes for local food systems.

Considering this, the proposed project will ask the following two questions.

4. How do local land use struggles and politics influence the emergence of local food systems?

5. Are institutionalized local food system policies and programs helpful in the emergence and growth of local food systems?

The fourth research question seeks to understand how the balance of power between various land use interests affects the development of local collective action and institutional arrangements that favor local food systems. Specifically, I will be looking at the influence of LFS collective action and institutional arrangements relative to other interests such as pro-development, antidevelopment, preservationist, and traditional agricultural interests.

Based on a review of the rural geography, I expect that the influence of local food interests will likely depend on the balance of power with other interests in communities. Therefore, I expect in cases where local food interests are dominant, or have been aligned with other dominant interests, there will be a well-developed local food system and these interests will have played a significant role in that development. Alternatively, in cases where the political power of the dominant land use interests has declined or is in crisis it is possible for local food interests to gain space in the public agenda. Aside from this, there is little known about the intersection of various land use interests with local food interests and the resulting impact on the institutional context
and the development of local food systems. Therefore, I expect this analysis to uncover previously unknown dimensions of these relationships.

The fifth research question attempts to understand if local food system policies are important for the development of local food systems or if local food systems can develop in their absence. Based on a review of the land use and agricultural development policy research, I expect that there are some unique characteristics of local food systems that may conflict with many land use and traditional agricultural policies designed to preserve agricultural land, control growth or develop commodity agriculture. Therefore I expect local food system-specific policies to be important in the development of local food systems.
In this chapter I describe the methods that were used to undertake this study. First, I describe a mixed method research design using several different types of data. This is followed by a description of the data and data collection techniques. Following this I describe the steps I followed to do a comparative case study.

**Research Design**

I used a multi-method triangulation approach to assess the impact of the presence or absence of collective action and institutional arrangements on local food systems. I used a comparative case study approach to provide depth and strong internal validity to the analysis of the research questions.

I focus on counties as the unit of analysis for this research. Although an imperfect reflection of the concept of community, I am interested in the development of local food systems within a bounded geographic region. The county as the unit of analysis is a logical choice, for at least two reasons. First, there is a significant amount of agricultural data available at the county level. Second, many of the institutional arrangements that affect local food systems and land use dynamics exist at the county level.

There are four core concepts that I focus on in this research: local food system, collective action, institutional arrangements, and political landscape. Local food system
is defined as a short food supply chain (SSC) that limits the distance between the sites of production and consumption. Local food includes small-scale agricultural production of agricultural products and services that cannot travel great distances to markets such that the majority of distribution is geographically close to the producer with either face-to-face contact between producers and consumers, or spatially proximate contact between producers and consumers.

Although local food systems may also possess some value-traits such as organic or natural, the key feature of a local food system is the short food supply chain. Sage (2003) describes three types of short food supply chains. First he describes a face-to-face food supply chain in which consumers purchase directly from the producer or processor and a relationship is established. Second he describes a spatially proximate food supply chain in which products are sold in a region by people who have expertise in the product and regard for the seller’s knowledge is established. These third party food experts often act as mediators for the producers. Third he describes a food supply chain that is spatially extended in which products are sold to consumers outside the region but information about the origin of production and producers is integrated into the product aesthetic and transmitted to consumers. I focus only on the first two types of food supply chains because my definition of local food system involves the link between the production and consumption of agricultural products and services in a geographically bounded area. Spatially extended consumption increases the distance between the sites of production and consumption and the relationship between
producers and consumers is based more on the value-trait of the food rather than the relationship between the two parties.

Collective action is defined as civil society groups, such as food and agricultural groups, environmental groups, policy advocacy groups, non-profits, etc., that act formally or informally to frame issues, mobilize resources and take advantage of political or market opportunities to effect change. There are several categories of collective action depending on the focus issue of particular groups. For example there are environmental collective action groups that work to affect changes in the market or in policy that benefit environmental causes. Or there are land use collective action groups that advocate for land use policies that parallel their particular interests. In terms of local food collective action there are two general types: market-oriented collective action and policy oriented collective action. Market oriented collective action can include producer and consumer groups, non-profits, community foundations, etc., that try to nurture and coordinate local food markets without government support. Policy oriented collective action can include advocacy groups, farm organizations, environmental groups, etc., that work towards creating or changing policy and influencing political decision makers. Once identified, collective action groups were categorized by the type of group and the intent of their actions.

Institutional arrangements are defined as local public sector programs, policies, ordinances, and other rules that affect patterns of land development, economic development, local foods, and environmental quality. Local institutional arrangements
are inevitably the result of political struggles among various interest groups in a community. As with collective action, there can be several categories of institutional arrangements depending on the purposes toward which they are directed and the type of interests they support. For example, institutional arrangement can include policies and programs that are intended to guide the development of residential communities such as a residential zoning ordinance. Alternatively, institutional arrangements can include policies and programs that are intended to be favorable to local foods such as a farmers’ market ordinance or mixed use agricultural and residential zoning in urban centers.

Political landscapes reflect the balance of power between different interest groups that are contesting for control of local governments. Following Marsden (1998), landscape types include the preserved countryside, the contested countryside, the paternalistic countryside and the clientist countryside (as described above). In my own work, I modify this typology to reflect two distinct tensions: one between productivist versus post-productivist agricultural interests, and the other between pro-development versus preservationist interests. Moreover, rather than accept a linear process of evolution from a clientist to a preserved countryside, this new characterization allows for potential movement in four directions depending on the outcomes of the two kinds of struggles. Figure 3 represents the direction of movement between interests in RUI communities that are associated with land use change.
Figure 3. Tensions that Define Political Landscapes in Modern Rural and Exurban Spaces

Background: The Agricultural Adaptation Project

This research comes out of a larger research project entitled “Agricultural Adaptation at the Rural-Urban Interface: Can Communities Make a Difference?” (Funded by the USDA NRI Rural Development Project Grant #2005-35401-15272). The goal of this project was to understand the range of variations in agricultural adaptation given the RUI context and how community-level factors influence those trajectories.

The focus was on agriculturally important RUI counties. Agriculturally Important (AI) is defined as “counties that have a well-developed commercial farm sector relative to both the regional and national average when controlling for the size and quality of the resource base” (Jackson-Smith and Jensen 2009). RUI counties were defined using the USDA's Economic Research Service Urban Influence Codes (UIC) (Parker 2003). These codes were used to distinguish those agriculturally important counties that are
under urban influence. Intersecting these two categories identified 619 counties in the U.S. that meet both AI and RUI criteria (Clark 2008).

There were three stages of the original project on which the current research is based. In the first stage, agricultural census data were analyzed for all 619 AI/RUI counties to determine the overall trajectory of the agricultural sector in each place. Trends in the number of farms, sales, and acres of farmland were combined to categorize each of the 619 counties into one of five farming trajectory classifications: growth, intensification (growth in sales per acre), stable, de-intensification (decline in sales per acre), and decline.

Case studies

In the second stage, eight counties in six states were selected from the original 619 AI/RUI counties to conduct in-depth case studies (Figure 4). The case study counties included: Frederick County, Maryland; Yamhill County, Oregon; Cache County, Utah; Kent County, Michigan; Forysth and Hall Counties in Georgia; and Spencer and Shelby Counties in Kentucky. These counties were chosen as research sites because they were considered agriculturally important and were located within the rural-urban interface as defined above. Additionally each county was chosen as a case study county because it represented different types of agricultural trends that are dominant in various regions of the United States. Two paired counties were selected in Georgia and Kentucky.
Figure 4. Location of RUI/AI Counties and Case Study Counties

because they presented examples of contrasting trajectories in neighboring RUI/AI counties.

Trajectories of change in the farm sector of each county were classified for two agricultural census periods from 1987 to 1997 and from 1997 to 2007. Table 3 shows the agricultural trends in each of the case study counties for these two periods. A county with each possible agricultural trajectory was included in order to uncover the underlying dimensions that might capture differences in agricultural trends in RUI/AI counties. Table 4 shows the incidence of different agricultural trajectories among the total sample of 619 AI/RUI counties as a benchmark to evaluate the representativeness of the selected cases. According to these data, the majority of RUI/AI counties (56.8%)
were intensifying during the 1997-2007 period. Almost 20% of the RUI/AI counties were stable between 1997 and 2007. The smallest percentage of RUI/AI farms were de-intensifying (4.7%). The study counties were chosen based on the 1987-1997 trends to represent the dominant agricultural trends in each region of the United States. Despite this the case study counties are fairly representative of the dominant trends in RUI/AI counties.


<table>
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<td>Cache County, UT</td>
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</tr>
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<td>Frederick County, MD</td>
<td>De-intensify</td>
<td>Stable</td>
</tr>
<tr>
<td>Forsyth County, GA</td>
<td>Decline</td>
<td>Decline</td>
</tr>
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<tr>
<td>Kent County, MI</td>
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<td>Intensify</td>
</tr>
<tr>
<td>Shelby County, KY</td>
<td>Decline</td>
<td>De-intensify</td>
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<tr>
<td>Spencer County, KY</td>
<td>Decline</td>
<td>Decline</td>
</tr>
<tr>
<td>Yamhill County, OR</td>
<td>Growth</td>
<td>Intensify</td>
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</tbody>
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Table 4. Agricultural Trends in RUI/AI communities, 1997-2007

<table>
<thead>
<tr>
<th></th>
<th>RUI + Al</th>
<th>RUI/Not Al</th>
<th>Not RUI + Al</th>
<th>Not RUI/Not Al</th>
<th>Total</th>
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<td>24.6</td>
<td>3.8</td>
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<tr>
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<td>21.2</td>
<td>3.5</td>
<td>18.6</td>
<td>14.8</td>
</tr>
<tr>
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<td>15.4</td>
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<td>21.7</td>
<td>62.8</td>
<td>35.6</td>
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</tr>
<tr>
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<td>10.5</td>
<td>10.6</td>
<td>14.4</td>
<td>11.9</td>
<td>11.7</td>
</tr>
</tbody>
</table>

There were several sources of data collected for the case studies. Secondary data from the U.S. Census of Population and the U.S. Agricultural Census were used to develop fuller demographic and agricultural profiles of each county. Websites were used to collect background information about each county and to identify key informants to interview. Field visits were made to each county by a team of researchers to interview key informants, make observations about agriculture and land use change in each place, and to collect policy documents and other important print material related to agriculture and land use. Finally, a random sample mail survey of farmland owners and commercial farmers was conducted in each case study county.

Interviews

Approximately sixty potential key informants were identified in each county through a snowball sampling technique. One researcher began by contacting an agricultural extension agent and/or a planner in each county to request help identifying possible participants that would fall within each of several categories. These categories included institutional generalists, community-based landscape activists, growth generators, agriculture service providers, non-agriculture service providers, and farmers. These individuals were included because of their perceived role in land-use, agriculture, and development in the county. For a complete list of the types of people recruited for the study see Appendix A.

One researcher then called each potential participant and scheduled interviews with one of our research team members. From the initial 60-person list, the research
team interviewed approximately 20 people in each site. In total, 169 participants were interviewed across the eight counties.

The most participants, 36, were interviewed in Frederick County. Twenty-five individuals were interviewed in Yamhill. Twenty-one individuals participated in Kent County, twenty people in Spencer County, eighteen people in Hall County, sixteen in Forsyth County, thirteen people in Shelby County. Twenty individuals were interviewed in Cache County.

Interviews were semi-structured. An interview protocol was developed based on previous relevant research and the research team’s experience. The interview protocol was used as a loose guide for the researchers. It was intended to remind the researcher to touch on all of the included topics. However, researchers and participants were not restricted to the interview protocol. Researchers pursued alternative and related topics as they emerged in conversation with the participants.

Additionally, the researchers required the flexibility of the semi-structured format and open-ended questions because of the variation of interview participants. Each participant had a unique role and perspective in regards to land-use and agricultural change. To access each participant’s unique knowledge it was necessary to probe beyond the structured questions. See Appendix B for a copy of the interview protocol. Interviews were conducted in-person and lasted between thirty minutes and two hours. All interviews were recorded and additional notes were taken during the interviews. Each researcher typed up a summary of their field notes aided by digital
audio recordings. The interviews summaries were then used to produce a case study narrative profile for each county.

Characteristics of interview participants

Participants were asked to describe their dominant occupation or role in the county. Often two distinct roles were provided for a single person. This information was divided into primary role and secondary role, as described by participants. Thirteen different general role classes were identified including: farmer, elected official, USDA employee, planner, community organizer, media employee, vet, surveyor/real estate/developer, employed in economic development at the city or county level, law enforcement, member of a local elected board or member of a local citizen organization or nonprofit. Table 5 shows the percent of informants in each role type.

Table 5. Interviewees by Positions/Occupation

<table>
<thead>
<tr>
<th>Informant Roles</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cache</td>
</tr>
<tr>
<td>Farmer</td>
<td>45.0</td>
</tr>
<tr>
<td>Elected Official</td>
<td>15.0</td>
</tr>
<tr>
<td>USDA, Extension, etc.</td>
<td>5.0</td>
</tr>
<tr>
<td>Planner</td>
<td>10.0</td>
</tr>
<tr>
<td>Community Organizer</td>
<td>5.0</td>
</tr>
<tr>
<td>Media</td>
<td>0.0</td>
</tr>
<tr>
<td>Vet</td>
<td>0.0</td>
</tr>
<tr>
<td>Surveyor/Real Estate/Dev.</td>
<td>5.0</td>
</tr>
<tr>
<td>Economic Development</td>
<td>5.0</td>
</tr>
<tr>
<td>Local Boards</td>
<td>5.0</td>
</tr>
<tr>
<td>Local Organizations</td>
<td>5.0</td>
</tr>
</tbody>
</table>

Source: Interview Data
The majority of participants in every county were farmers, ranging from 34.3% in Frederick to 76.9% in Shelby. USDA employee and planner were the next most frequently cited roles in all of the counties except for Frederick and Kent County, which had larger numbers of community organizers (17.1% and 20%, respectively). Frederick County also had a larger percentage (17.15) of economic development participants. Hall, Shelby and Spencer counties all had larger percentages of surveyor/real estate developers (16.7%, 15.4%, and 40%).

In specific counties certain role gaps can be identified among participants. There were no elected officials interviewed in Forsyth, Shelby, or Spencer, counties. No community organizers were interviewed in Hall County. In Yamhill, Kent and Forsyth counties, no surveyor/real estate/developers were included. No individuals involved in economic development participated in Kent and Spencer counties. There were no members of local boards included in Forsyth, Hall, Shelby, Spencer, and Frederick counties. And only in Cache, Yamhill and Kent counties were individuals of local organizations included. In some cases these role gaps indicate the absence of that role in the community. In other cases, the research team was unable to secure interviews with every potential key informant. To address these role gaps in the current study I gathered additional data about local boards, elected officials, community organizations and economic development efforts through Internet research, local newspapers and phone calls to individuals and organizations in each county.
**Farm characteristics of the interview participants**

Among the key informants who cited themselves as farmers or owning farms, livestock was the dominant primary commodity across all counties except in Yamhill, where crops were cited as the dominant primary commodity. In Kent County, crop and livestock were equally cited. Frederick and Kent counties had the most local food farmers with five each. In Yamhill County there were four local food farmers represented in the interview participants. There were three local food farmers in Cache and Shelby counties. There were two local food farmers in Hall County. There was one local food farmer in Spencer County. There were no local food farmers represented among the interview participants in Forsyth County.

**Landowner and commercial farmer survey**

A mail survey of landowners and commercial farmers was conducted in each of the eight case study counties (See Appendix C). The samples for each group were drawn from two types of sampling frames. First the research team obtained from county tax assessment offices the complete lists of landowners who owned parcels of agricultural land at least five acres in size in the county. Second, local agricultural extension agents and local commodity groups provided the research team with mailing lists of known commercial farming operations that raised commodities that are particularly important in our study counties. Local food system farmers were oversampled in Kent, Yamhill and Frederick counties. For logistical reasons, no commercial farmer lists were used in Cache and Spencer counties.
Approximately 300 potential respondents (combined from the two sample frames) were sampled in each county. Overall 2,176 surveys were sent to randomly selected owners of agricultural parcels in the landowner samples across the eight counties. These sample points represent an unbiased and representative pool of owners of more than five acres of farmland. Because many of these landowners are also active farmers, the landowner sample frame serves as the best source for estimating population characteristics of the farm enterprises present in each county.

The research team also randomly sampled from the “supplemental” lists of commercial farms provided by agricultural extension agents, local farmer associations, or other expert sources in six of the eight counties. This produced a supplemental sample of no more than 100 commercial farms per county. In total, 475 surveys were sent to targeted commercial farms in five of the eight counties.

Standard mail survey administration procedures followed guidelines outlined in Dillman (2000). Overall, the landowner sample response rate was 48.9% of eligible respondents. Response rates varied by county and state. The best response rate (62.5%) was achieved in Cache County, Utah. Response rates were over 50% in Frederick, MD and Yamhill, OR. Response rates were particularly low in the two Georgia counties (34.2% in Forsyth and 39.4% in Hall). Overall, the response rate for the commercial farmer sample was 51.1% of eligible respondents. The highest response rate was found in Frederick County (59.3%), while the response rate for Hall County, GA was extremely low (16.7%). Most of the other county-level response rates were close to
Comparative Case Studies

The current research uses data from narrative summaries of key informant interviews, the results from the landowner survey, data from population and agriculture censuses, information gleaned from websites and internet sources, and documents obtained during field visits to address the proposed research questions. First, the eight case study counties were characterized using the four key concepts described above: local food systems, collective action, institutional arrangements, and political landscape. Five case study counties were selected and analyzed in depth using all of the data described above. Following this, a cross-case analysis was done to compare patterns of collective action, institutional arrangements and local food system development.

Case Characterization

I began by characterizing local food system development by the existence, extent and scale of local food systems. The existence of local food system activities includes the presence or absence of key local food system markets such as farmers’ markets and CSAs. Existence was measured with data about both individual farmer outlets and cooperatively managed local food markets. The extent of local food system development is indicated by the proportion of farmers participating in local food system activities. The scale of local food system development was estimated by the dollar value of direct sales in the county. Indicators of existence, extent and scale of local food
systems came from several data sources including the landowner survey, the agricultural census data, the key informant survey, field observations, and website listings of local food markets.

Collective action includes civil society groups and actions operating outside of the public sector. In practice it was sometimes difficult to find a clear distinction between civil society and public sector groups. For this study I choose to classify groups acting in any way under the authority of a local or state government as an institutional group and therefore outside of civil society. I used several sources of data including websites and newspapers, key informant interviews, the landowner survey, and the key informant survey. To identify collective action, I looked for evidence of the presence of civil society groups including food and agricultural groups, environmental groups, policy advocacy group, non‐profits, etc. I also looked for evidence of these groups’ abilities to mobilize resources, raise money, the ability to frame issues to gain support, the level of producer participation or representation, ability to influence policy, develop LFS programs, and/or collaborate with the public sector.

Institutional arrangements include the policies and programs, individuals and groups that are part of the public sector or operating with the authority of the state. Institutional arrangements were characterized using several data sources including websites and official policy documents, key informant interviews, and landowner/farmer surveys. I looked for evidence of programs and policies created and operated by the public sector for the development of local food systems. I also looked
for evidence that local food system development is a part of official county planning or economic development. This includes evidence of staff or committees who have responsibility, as part of their job, for LFS development and/or planning documents intended to guide LFS development.

I characterized the political landscape using a modified version of Marsden’s (1998) community typology: the preserved countryside, the contested countryside, the paternalistic countryside, and the clientist countryside. I modified this typology to express two sets of binary tension between production versus post-production, and development versus preservation. This more accurately reflects the type and position of land use interests and the resulting development of the case study communities. The political landscape was characterized using data from several sources including websites and newspapers, the key informant interviews and the key informant survey.

Shelby and Spencer counties were eliminated from further analysis because neither was an AI county as described earlier in the methods section. Forsyth was eliminated from selection because agriculture is simply not part of the local political discussion. Land use debates center around open space preservation for exurban residents, while agriculture has literally been zoned out of the county. The remaining five case study counties represent different configurations of local food system collective action and institutional arrangements. Figure 5 shows the remaining case study counties on a continuum from low to high according to the two key independent variables: local food system collective action and institutional arrangements.
Figure 5. Case Study County Collective Action and Institutional Arrangements

Frederick County appears to have a high degree of institutional development related to local food but a relatively low amount of local food system collective action. While Frederick is known for a high degree of collective action related to land use development and preservation and a significant amount of collective action related to local foods at the state level, there was really no local food system collective action identified within the county.

In contrast, Kent County has a high degree of local food system collective action happening county level, but very little public sector support for local food systems. Cache County has a moderate degree of local food system collective action and a
moderate amount of public sector development related to local foods.

Finally Yamhill and Hall counties both have little to no local food system collective action or public sector development, but opposite outcomes for local food system activity. Hall was found to have virtually no local food system activity according to any of the measures used: existence, extent, scale. By contrast Yamhill County has a moderate amount of local food system activity despite little to no local collective action or institutions to support its development.

The details of the information used to classify each county will be elaborated in each case study narrative beginning with Cache County in the next chapter.

Landowner survey

The landowner survey data, described above, was used in two ways in the current study. First, these data were used to help quantify the extent of LFS activities. Second, they were used to compare the differences between counties in behaviors, membership in groups and perceptions about policy and institutional support among farmers. Third, these data were used to compare the differences between LFS and non-LFS farms in each county in terms of adaptive behaviors, membership in groups, and perceptions about the level of local institutional support for agriculture.

To compare differences between local food system farmers and non-local food system farmers within counties I selected a sub-set of cases from the original landowner survey dataset that farm any of the land they own in the county. Next, I identified farms that were engaged in local food system activity. If a farm sold directly to customers
from a farm, at a Farmers’ Market or CSA, or to a local institution or business, then that case was considered a Local Food System (LFS) Farm. If a farm did not participate in any of these three activities then that case was considered a non-LFS farm.

There were several questions in the survey that measured farmers’ perceptions about the degree of local institutional and community support for farming. I examined the proportion of farmers in each county that felt they were supported by different types of organizations in the county, including the county government, the city government, economic development organizations, the Farm Bureau, the general public, and local environmental organizations. The original answers to these questions in the NRI survey were coded from 1 (not at all supportive) to 5 (very supportive). I collapsed these original categories into two: 0 (not supportive) and 1 (supportive). I then compared perceptions of organizational support between LFS and Non-LFS respondents. I also estimated Pearson’s chi-square and Fisher’s exact tests on each of these cross tabulations to see if differences between LFS and Non-LFS respondents were statistically significant. Those results are reported in the case study analysis chapter.

The landowner survey included a question about whether local agricultural economic development policies have positively or negatively affected their farm. Agricultural economic development policies were defined as local food system policies such as farmers market programs, on-farm processing ordinances, etc. I used these items to estimate the percent of farmers that perceived a positive impact from LFS institutional arrangements. To do this I recoded the original variable into two new
variables. The original variable had a range of possible answers including “Policy does not exist,” “Strong negative impact,” “No impact or mixed impact,” and “Strong positive impact.” First I created one variable to measure whether farmers thought the policy did not exist. To do this, categories 1 through 5 were collapsed and coded as 0, and category 0 (policy does not exist) was coded as 1.

I created a second variable based on this question to look at the perception of farmers that thought agriculture economic development programs support agriculture. To do this I collapsed the negative and no impact categories (1, 2, and 3) into 0 and the positive impact categories (4 and 5) in to 1. The 0 category (policy does not exist) was re-coded as “system missing”. I then ran several cross tabulations to look at the relationship between LFS farms and perceptions of LFS policy. Again, I estimated Pearson’s chi-square and Fisher’s exact tests on each of these cross tabulations to determine if differences between LFS and Non-LFS respondents were statistically significant. Those results are reported in the case study analysis chapter.

There are several questions in the landowner survey that ask farmers about changes they have made to their operations that increased their participation in the local food system in the preceding five years (or about similar changes they plan to make in the next 5 years). I computed two variables to look at the percent of farms that increased their direct farm sales to consumers over the last five years or who expect to increase direct sales over the next five years. In the original questions, respondents were asked if they increased or were intending to increase sales of products directly to
consumers. Answer choices ranged from “decreased a lot” to “increased a lot.” I collapsed the answer categories coding the negative and neutral options (1, 2, and 3) as 0, and the positive options (4 and 5) as 1. I created two additional variables to look at the percent of farms that made changes to their marketing strategies or crops and livestock in order to access local markets in the last five years. I examined the extent of LFS activity and change LFS and Non-LFS farms in each county. I also ran Pearson’s chi-square and Fisher’s exact tests on each of these cross tabulations to test the statistical significance of these relationships. Those results are also reported in the case study analysis chapter.

The landowner survey included several questions about membership in organizations. I looked at the percent of LFS farms and total farms that belonged to a farm organization (e.g., Farm Bureau), a farm commodity group, a property rights group, a smart growth/land-use group, and a local farm group. I also ran Pearson’s chi-square and Fisher’s exact tests on each of these cross tabulations to test for statistical significance. Those results are also reported in the case study analysis chapter.
CHAPTER 4
CASE STUDY ANALYSIS

In this chapter I describe each case study county. I begin with a description of
the general structural conditions of each case, emphasizing the culture, geography,
demographics, economy, the general agricultural context, and land use characteristics
and how these conditions affect the demand for or the supply of local foods. Then I
describe the local food system, LFS collective action, and LFS institutional arrangements
in each county. Following this I describe the links between LFS collective action, LFS
institutional arrangements and the local food system.

**Cache County, Utah**

Cache County, Utah is located in the Intermountain West. As is true of most of
the communities in the Intermountain West, Cache began as a rural agricultural land-
based community. Mormons primarily coming the Midwest and northern Europe in the
mid 1800s settled the county. The culture is religiously and politically conservative, with
little public support for a strong role of government in local affairs. Although there has
been significant growth in the non-Mormon population mostly due to the presence of
Utah State University, The Church of Latter-day Saints (LDS) dominates the local
political, economic, and social life. In particular many of the social services provided by
government or community groups in non-Mormon communities elsewhere are provided
by the LDS church in Cache County. In regards to local foods, there is a strong gardening
and food-sharing ethic among LDS residents. According to interview participants, much of the excess produce from home gardening is given to local LDS churches and distributed to members in need. These kinds of activities are largely confined to members of the LDS church however, and do not reach non-LDS members of the community. This may ultimately limit the participation of LDS consumers and LDS small-scale gardeners in a broader community local food system. Additionally, the politically conservative culture could limit the degree to which government officials and decision-makers view agriculture economic development as their responsibility.

**Geography**

Cache County is located in Northern Utah extending to the Idaho border and including the surrounding mountains. The county has a total of 1,173 square miles. According the 2002 Natural Resource Inventory (NRI) land use characteristics 49.7% of the land in Cache County is public (National Resource Inventory 2002). Although the public land is used for agricultural grazing, the majority of the agricultural activity for the county occurs in the valley on the privately owned land between the Bear River Mountains on the eastern edge and the Wellsville Mountains on the western edge of the valley. According to the NRI, of the private land, 4.5% is in developed uses, a little less than a quarter of the land is in crops (24.2%), 16.0% is in forest, and 5.6% is in pasture. The majority of local food system activity occurs on these smaller tracts of private land in the valley.
Demographics

As of 2007, the population was estimated as being 108,887. There are 26 towns and cities in Cache County. The overall population density is 78 people per square mile but the density outside the urbanized areas is 13 people per square mile. Such a low population density outside of the urbanized areas suggests that there is still a significant amount of contiguous land for traditional agriculture. About 83% of the population resides in the urbanized areas, the majority of which is concentrated in the cities and towns around Logan, the largest city. Although this is the smallest metro area of the five case study counties, the population increased a total of 30.2% from 1990 to 1999 with an average of 2.7% per year. Population increased 19.1% with an annual average of 2.5% per year from 2000 to 2007. Both the population growth and the concentration of population in and around Logan could contribute to the development of local food system activity.

Income

Cache County is a working class community and has the lowest income profile of any of the case study counties. Table 6 shows the income characteristics for Cache County according to the US Census. The median income was $39,730 in 2000, which is actually the lowest for any metropolitan area in the United States. The poverty rate was 13.5% and the percent of households with income over $100,000 was 9%. Local food research indicates that people with higher incomes are more likely to buy local foods. So more residents with higher incomes can increase demand for local food. The lower
median income and higher poverty rate in Cache County could indicate lower amounts of local food consumers.

Table 6. Socioeconomic Profile of Cache County Residents

<table>
<thead>
<tr>
<th>Income Characteristics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Median Income ($)</td>
<td>39,730</td>
</tr>
<tr>
<td>Poverty Rate (%)</td>
<td>13.5</td>
</tr>
<tr>
<td>Percent of Households with Incomes over $100,000</td>
<td>9.0</td>
</tr>
</tbody>
</table>

*Source: US Census 2000*

**Economy**

Cache County was for many years a rural agricultural county but this has been changing with rapid population growth in the 1990s and 2000s. The three industries that employ the majority of residents today are education, health and social services (26%), manufacturing (22.7%), and retail (11.8%). Only 1.6% of employed residents claim their occupation as farming and 2.8% of the total population is employed in the agricultural industry (Bureau of Labor Statistics 2007).

Interestingly, the non-farm food-processing sector is a major local industry, with two large cheese-processing plants and a ConAgra-owned cattle-slaughtering facility located in the valley. Regional assessments suggest that roughly 5% of county employment and 25% of gross economic output comes from industrial-scale food processing, though much of the raw material (milk and cattle) is imported from other areas. Virtually all of the processed dairy and livestock products are exported out of the valley.
Agriculture

Traditionally agriculture has been an important industry and land use in the county. At one time, sugar beets, along with tomatoes, corn, and peas were the primary commodities in the valley. According to interview participants, consolidation in the vegetable and sugar industries resulted in the closure of these processing factories. These crops were replaced with dairy farms followed shortly by three dairy processing plants in the 1960s. Initially processors received the majority of their milk from within Cache County, but more recently the number of dairy farms declined in the valley as these plants expanded and modernized and began to source more of their milk from regional dairy cooperatives, primarily from Southern Idaho. Today the three primary agricultural products and commodities coming from Cache County are milk, cheese products and beef (Utah State Extension 2006).

Agricultural Census data indicate that the influence of traditional agriculture on land use and the local economy has declined in the past several decades. There have been declines in the number of farms, the land in farms, and farm sales from 1997 to 2007. The number of farms has declined from 1,363 to 1,195. This represents a loss of 12.3% of farms during that period. Land in farms has declined from 271,632 acres to 251,500 acres, which is a loss of 7.4% of the land in farms. There has also been a slight decline (0.2%) in the amount of farm sales during this period. When these trends are combined, sales per acre of farmland increased from $389 in 2002 to $541 in 2007 suggesting some intensification.
Table 7 shows the distribution of the top commodities for Cache County by sales and number of farms. According to the 2007 Agricultural Census, the majority of farms are raising forage (64.4%) and cattle (44.5%). The majority of gross farm sales are generated by the sale of dairy products (39.1%), followed by cattle (29.4%). Although a large percentage of sales come from dairy, only 9.8% of farms milk cows. This suggests the dairy industry is very concentrated in comparison to cattle, which are raised on a larger percentage of farms.

Table 7. Top Commodities by Sales and Number of Farms, Cache County

<table>
<thead>
<tr>
<th>Percent of County Farm Sales</th>
<th>Percent of County Farms Raising</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle and calves</td>
<td>29.4</td>
</tr>
<tr>
<td>Dairy</td>
<td>39.1</td>
</tr>
<tr>
<td>Combine Acres for Wheat, Sorghum, Barley and Oats</td>
<td>N/A</td>
</tr>
<tr>
<td>Forage</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*Note: N/A = not available.*

*Source: US Census of Agriculture 2007*

The Census of Agriculture also classifies farms based on size and the primary occupation of the operator. The resulting farm typology includes categories ranging from limited resource small family farms to nonfamily farms. Table 8 shows the distribution of farm types in Cache County by number of farms and acres of farmland. Approximately, 78% of farms are considered small farms (with under $250,000 in annual sales), which are then subdivided into several groups: limited resource, retirement, residential/lifestyle, and higher sale farms. Limited resource farms are those which rely on farming for their income, but which generate under $100,000 in gross farm sales.
Retirement farms are small farms where the operator has retired from another occupation. Residential/lifestyle farms are those on which the operator has a primary occupation other than farming. Higher sales farms are full-time farms with sales between $100,000 - $250,000. All told, small farms in Cache County manage 50.4% of total farmland acres. In comparison, 8.4% of farms are large and very large family farms, and these farms operate almost 28% of farmland in the valley. Another 5.4% of farms are organized into nonfamily businesses (usually nonfamily corporations). These farms manage 11.1% of county farmland.

Table 8. Distribution of Farm Types by Number of Farms and Acres of Farmland

<table>
<thead>
<tr>
<th>Farm Type</th>
<th>% Farms</th>
<th>% Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Small Family Farms ($&lt;250,000)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited resource</td>
<td>11.6</td>
<td>3.9</td>
</tr>
<tr>
<td>Retirement</td>
<td>18.8</td>
<td>12.7</td>
</tr>
<tr>
<td>Residential/lifestyle</td>
<td>45.3</td>
<td>23.5</td>
</tr>
<tr>
<td>Higher sales</td>
<td>2.3</td>
<td>10.3</td>
</tr>
<tr>
<td><strong>Total small</strong></td>
<td>78.0</td>
<td>50.4</td>
</tr>
<tr>
<td><strong>Large Family Farms ($250,000+)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large ($250,000-$499,000)</td>
<td>4.2</td>
<td>10.6</td>
</tr>
<tr>
<td>Very large ($500,000+)</td>
<td>4.2</td>
<td>17.1</td>
</tr>
<tr>
<td><strong>Total large and very large family</strong></td>
<td>8.4</td>
<td>27.7</td>
</tr>
<tr>
<td>Nonfamily Farms</td>
<td>5.4</td>
<td>11.1</td>
</tr>
</tbody>
</table>

*Source: US Census of Agriculture 2007*

Overall, these data indicate that the majority of farms in Cache County are small family and hobby farms, which research has shown are more likely to participate in some local food activities than traditional large and very large farms.

As described in the methods section, trends in farm numbers, farm sales, and farmland acreage can be combined to create ‘trajectory’ classes that define the overall
trends in the aggregate county farm sector. Specifically, Census of Agriculture data were used to classify each county as agriculturally intensifying, growing, declining, de-intensifying, or stable during two intercensal periods (1987-1997 and 1997-2007). Using these methods, Cache County was classified as a intensifying in the first period and stable in the second.

While the aggregate trends reflect intensification or stability, there appears to be a great deal of variation within the county. Table 9 shows the changes in the percent of sales and farms associated with dairy and cattle production in 2002 and 2007. The results suggest that there has been a decrease in dairy production and a subsequent increase in cattle production from 2002 to 2007. This suggests that some traditional fulltime dairy farmers have switched to production of less labor- and capital-intensive commodities like beef, and perhaps are now farming part-time. Other indicators suggest that some segments of Cache County agriculture have been deintensifying in recent years. For example, there has been an increase in amount of land in hay production from 35,196 acres in 2002 to 58,310 acres in 2007.

Table 9. Importance of Dairy and Beef Farming in Cache County, 2002 and 2007

<table>
<thead>
<tr>
<th></th>
<th>Percent of Sales from Dairy Sales</th>
<th>Percent of Sales from Cattle and Calve Sales</th>
<th>Percent of Farms Raising Dairy</th>
<th>Percent of Farms Raising Cattle and Calves</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>46.0</td>
<td>28.2</td>
<td>11.7</td>
<td>40.5</td>
</tr>
<tr>
<td>2007</td>
<td>39.1</td>
<td>29.4</td>
<td>9.8</td>
<td>44.5</td>
</tr>
</tbody>
</table>

Our landowner survey provides additional data on patterns of agricultural adaptation and change on individual farms. Specifically, landowning farmers were asked about changes they’ve made to their farms in the past five years. Several of these questions provide information about agricultural growth, intensification, decline or de-intensification strategies used by individual farmers. Information about the adaptive strategies used by farmers reflects county-level trends in the agricultural trajectory. Table 10 shows the percent of respondents using de-intensification, decline, intensification and growth strategies. It is apparent that Cache County farmers engage in growing and intensifying activities as well as declining and de-intensifying activities on a single farm. The most common strategy reflects intensification activities (used by 59.5% of farmers). Over 25% have shifted to crops or livestock that generate more sales per acre. This could indicate that some local food system activity in Cache County is attributable to individual producers compensating for changes in traditional commodity markets by shifting to higher value products that can be sold for more money locally. More farmers report increasing investments and acres operated over the last five years than reported declines.

*Land use, regulation, and development*

Behind these agricultural land use changes is a relatively relaxed land use regulatory environment, moderate land values, and a strong private property ethic. The unincorporated areas of Cache County have had a historical pattern of agricultural land use and until recently there has been little interest in this land for anything other than
agriculture. Like many formerly rural counties, Cache was not prepared to manage the rapid population growth of the 1990s and 2000s with even basic land management tools such as zoning to control the placement, pattern and density of development.

**Table 10.** Percent of Farmers Using Adaptation Strategies, Cache County

<table>
<thead>
<tr>
<th>Indicators of De-intensification</th>
<th>Percent of Farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decreased capital investment in buildings</td>
<td>9.7</td>
</tr>
<tr>
<td>Decreased investment in equipment</td>
<td>10.0</td>
</tr>
<tr>
<td>Increased land in conservation programs</td>
<td>7.3</td>
</tr>
<tr>
<td>Decreased sales while land remained same</td>
<td>9.5</td>
</tr>
<tr>
<td>Idled or left fallow some farmland</td>
<td>16.2</td>
</tr>
<tr>
<td><strong>Used any de-intensification strategy</strong></td>
<td><strong>34.5</strong></td>
</tr>
<tr>
<td>Indicators of Decline</td>
<td></td>
</tr>
<tr>
<td>Decreased farmland owned</td>
<td>12.1</td>
</tr>
<tr>
<td>Decreased farmland rented</td>
<td>14.0</td>
</tr>
<tr>
<td>Decreased livestock sold</td>
<td>21.8</td>
</tr>
<tr>
<td>Decreased value of gross sales</td>
<td>19.0</td>
</tr>
<tr>
<td>Sold land for nonfarm development</td>
<td>17.1</td>
</tr>
<tr>
<td><strong>Used any decline strategy</strong></td>
<td><strong>35.7</strong></td>
</tr>
<tr>
<td>Indicators of Growth</td>
<td></td>
</tr>
<tr>
<td>Increased farmland owned</td>
<td>15.2</td>
</tr>
<tr>
<td>Increased farmland rented</td>
<td>18.0</td>
</tr>
<tr>
<td>Increased livestock sold</td>
<td>14.5</td>
</tr>
<tr>
<td>Increased value of total gross sales</td>
<td>34.5</td>
</tr>
<tr>
<td><strong>Used any growth strategy</strong></td>
<td><strong>39.3</strong></td>
</tr>
<tr>
<td>Indicators of Intensification</td>
<td></td>
</tr>
<tr>
<td>Increased capital investment in farm buildings</td>
<td>25.8</td>
</tr>
<tr>
<td>Increased investment in farm equipment</td>
<td>45.0</td>
</tr>
<tr>
<td>Decreased land in conservation programs</td>
<td>7.3</td>
</tr>
<tr>
<td>Increased sales while land remained same</td>
<td>9.5</td>
</tr>
<tr>
<td>Shifted to crops or livestock that generate more sales per acre</td>
<td>25.7</td>
</tr>
<tr>
<td><strong>Used any intensification strategy</strong></td>
<td><strong>59.5</strong></td>
</tr>
</tbody>
</table>

*Source: Landowner Survey*
Historically agricultural zoning in the county has not been very restrictive. According to interview participants, land zoned for agricultural use could be easily subdivided into 1-acre parcels without a rezoning application. Interview participants also noted that until recently it has been easy for large subdivisions to be approved by the County Council and the County Planning and Zoning Board and that developers were not required to pay for much of the infrastructure necessary for new rural subdivisions including sewer, water, roads and emergency services. The result has been a substantial increase in the value of unincorporated farmland in Cache County (67% increase between 2002 and 2007) and the progression of haphazard development as some agricultural landowners took advantage of opportunities to sell their land for development. In our landowner survey, between 10-16% of farmers indicated plans to sell some of their farmland for development in the next five years.

There has been some change in this situation however. County officials began to recognize that the existing subdivision ordinance dating from 1970 could not adequately address the growth pressure being experienced in the county. There have been two iterations of the subdivision ordinance. For a period of time, the subdivision ordinance required that lots be at least five acres. This resulted in fragmentation of larger expanses of farmland. Now, the subdivision ordinance allows the subdivision of plots of land from the 1970 parcel configuration to be divided up to five times. This has resulted in haphazard development and the loss of rich farmland as well. In recognition of this the county council issued a moratorium on all construction in the unincorporated areas
for six months to one year in early 2008. Since that time, county officials have
repealed the subdivision ordinance and developed a density-based ordinance for
development in agricultural zones. The current zoning allows one unit per ten acres in
agricultural zones.

Most traditional farmers that were interviewed for this study were distressed by
the rapid population growth and land use changes in the county, most frequently noting
that they were not able to afford the price of land to expand their businesses. Most
farmers were interested in preserving agricultural land, but felt that the political climate
was at best supportive of preserving open space. As one farmer noted, “There are
programs to preserve open space, not agriculture. I want to preserve agriculture but
there are no government policies to do so” (Traditional Dairy Farmer).

Many farmers want to retain the right to sell their land for development and are
mostly supportive of the existing relaxed land use regulatory climate. “Most farmers
think there isn’t much to do to stop urban growth. I’m worried about it, but I also want
the right to sell” (Traditional Dairy Farmer). It should be noted also that traditional
farmers who represent farm organizations, such as the Farm Bureau and the
Cattleman’s Association, were not supportive of more restrictive land use legislation or
preservation programs to protect farming. Their perspective generally was that
programs to protect farmland disproportionately benefit a small number of farmers and
that if agriculture cannot compete economically with development then government
should not try to preserve it.
Local food system activity

Cache County has a small but persistent local food community. Cache County has a moderate amount of local food system activity relative to the other case study counties, but for the large geographic and small population size of the county, the local food community seems vibrant. Unlike traditional farmers, local food system farmers interviewed said that the value of land does not hinder local food farming. “Land prices are a barrier, but it is possible to start on a very small scale. Prices for crops are so much higher than commodities. High value crops need less land. These farmers probably don’t need to buy more land” (LFS Farmer).

There are four farmers’ markets, four CSAs, several agritainment operations and farm stands. The main local food market is the Cache Valley Gardeners’ Market located near downtown Logan. In the past five years this market has steadily grown with new vendors, including crafts, and unprocessed and cooked foods. The market operates on Saturday mornings serving between 500 to 1000 people each market day (SAABRA 2010). It runs from early May until late October, which is a long season considering that there can be snow on the ground from October through the end of May. The other farmers’ markets are smaller and two of them are in smaller rural communities outside of Logan. There were no institutional buying programs at the time of data collection, but there is a group in the county that is in the process of developing a farm-to-school program. There are also a few local food businesses, a dairy and a distributor, that significantly increase the distribution of some local foods through home delivery service.
I used several measures from the 2007 Agricultural Census, the landowner survey and the interview data to assess the extent of farmer participation in the local food system in Cache County. One prominent local food system farmer said there were approximately 50 farmers producing for local markets with gross sales ranging from $2,000 to $100,000 per farm. According to the 2007 Agricultural Census, 100 farms reported direct sales to customers, which means that 8.4% of all farms in the county have direct sales (more than the national average of 6.2%).

Data from the landowner survey support findings from the Agricultural Census. Table 11 shows data from the landowner survey on the extent of farmer participation in the local food system. Almost 7% of the farmers in our sample report selling directly to consumers from their farm. About 4% sell to consumers at a farmers market or through a CSA, and 5.5% sell directly to local businesses. Overall, 12.5% report using at least one of these three types of LFS marketing approaches. Additionally, 12.8% of farmers report having increased direct sales over the last five years, while 17% of farmers expect to increase direct sales to customers in the next five years.

Only six farms reported in the Census of Agriculture that they sold through a CSA, and only 5.4% of farmers reported in the landowner survey that they have changed their marketing strategies to access local markets. Finally, 4.8% of farmers have made changes to their crops or livestock in the last five years to access local markets.

The scale of local food activity was assessed based on data from the 2007 Agricultural Census including direct sales, direct sales per capita and percent of sales
from direct sales. According to direct sales, Cache had a moderate amount local food

Table 11. Extent of Farmer Participation in the Local Food System, Cache County

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percent of Farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct sales to consumers from farm</td>
<td>6.8</td>
</tr>
<tr>
<td>Direct sales to consumers at farmers market/CSA</td>
<td>4.1</td>
</tr>
<tr>
<td>Sales to local institutions or businesses</td>
<td>5.5</td>
</tr>
<tr>
<td>Uses any of these three</td>
<td>12.5</td>
</tr>
<tr>
<td>Changes made by farmers over last 5 years</td>
<td></td>
</tr>
<tr>
<td>Increased direct sales</td>
<td>12.8</td>
</tr>
<tr>
<td>Made changes in marketing strategy to access local customers</td>
<td>5.4</td>
</tr>
<tr>
<td>Made changes in crops/livestock to access local customers</td>
<td>4.8</td>
</tr>
<tr>
<td>Farmers that expect to increase direct sales over the next 5 years</td>
<td>17.0</td>
</tr>
</tbody>
</table>

Source: Landowner Survey

system activity with a little over 1.5 million dollars in direct sales. However, according
to direct sales per capita ($14.09) and percent of sales from direct sales (1.13%), Cache
has one of the largest LFS scales of the eight case study counties, and is well above
national averages ($4.04 and 0.4%, respectively). A large part of the direct selling
activity that shows up in the Census could be attributable to the presence of Rosehill
Dairy, which operates a home delivery service for their milk and a small variety of other
locally produced dairy products. Another large farm enterprise with significant local
direct sales is Weeks Berries of Paradise, a local berry farm that both sells berries direct
to consumers and also produces jellies, juices and syrups sold in local stores.

Local food system collective action

Cache County has a limited level of producer-driven collective action related to
local food systems with only one local civil society group working on policy and
economic development issues related to local food. This group is a non-profit called
the Sustainable Agriculture Association of the Bear River Area (SAABRA). Several local
food farmers started this group in the late 1990s. SAABRA organizes farmers’ markets,
operates the Cache Community Garden, started the state organic certification program,
the Bear River Incubator Kitchen and a mobile poultry-processing unit. This is also the
group that is current working to create a farm-to-school program. Most of SAABRA’s
activities involve developing direct markets for local producers, providing facilities for
producers to develop new products, and equalizing access to fresh local produce
through the community garden. This group’s efforts have not involved framing local
food as a community issue. Reviews of local newspapers did not produce evidence that
SAABRA’s efforts or successes have received much media attention.

A few interview participants noted that the current farmers’ market is the second
attempt to create a local market outlet. The first market was started and closed in the
1990s. One participant said that the original farmers’ market closed because the market
manager was over-burdened. There were not enough people involved. “The original
market died off. Each manager burned out. Now it is run by a board to share the work”
(LFS Farmer). Despite increased membership since the first farmers’ market,
membership in SAABRA is still limited to a few LFS producers. Most LFS producers in
Cache County are not involved with this group.

SAABRA’s success at mobilizing resources has been inconsistent. This may be due
to a simple lack of available local resources for local food development. For example,
the group applied for and received a federal grant to start the Incubator Kitchen in 2003, but has since been unable to secure a steady stream of local funding. In general, however, outside of the few individuals who are behind SAABRA, there is little evidence that producers in Cache County have mobilized to further develop local foods. There are only a few examples of producers acting collectively - to start the statewide organic certification program, the farmers’ market, and the non-profit that manages the market.

Rather than the result of collective producer action, much local food activity seems to be the result of producers acting independently to access the growing urban population that is concentrated in the Logan area, selling directly from their farms, setting up agritainment and pick-your-own operations, or getting involved in farmers’ markets.

*Local food system institutional arrangements*

According to key informants, Cache County has several local food programs and policies including a local food directory, a direct marketing program, and local label. The local food directory is actually an agritainment promotion program sponsored by the Cache Valley Visitors’ Bureau. The Bureau publishes a website with a list of several local food businesses only two of which are farms. The majority of businesses on the site are locally owned food businesses rather than food producers. The sources of the food products are not publicized.

The Utah’s Own labeling program is a state-level program and as such does not distinguish products grown or processed in Cache County from products grown or
produced in other counties in the state. Also, the Utah’s Own labeling program does allow products processed with raw materials that were not grown in the state. As such this program may offer less support for local food farmers than to food business owners. The state of Utah also has legislation supporting on-farm sales and processing called the Cottage Food Production Rule, but it is unclear the effect of this legislation in the county. It was never mentioned in the narrative interviews.

Cache County key informants also reported a local farm-processing program for the development of on-farm processed value-added products. I was unable to unearth any specific information about an on-farm processing program other than the Bear River Incubator Kitchen, which was started by the civil society group SAABRA and therefore not counted as a public sector program in this study. Regardless, the Incubator Kitchen is currently without funding and closed.

Several interview participants mentioned that there is a program to promote alternative production methods at Utah State University, which is the State’s land grant institution and is located in the county. This program provides assistance to farmers to develop new products and offers a class, open to the public, that teaches organic farming techniques. The class is called Introduction to Organic Agriculture.

The general consensus among key informants is that agriculture is not a prominent component of local economic development within the county or city governments, and there is more emphasis on preservation of farmland or open space than support for either traditional agriculture or local food systems. “There aren’t any organizations
helping agriculture economic development. There is more emphasis on preservation. The County isn’t doing anything” (Traditional Farmer). Another participant further suggested that the emphasis is really on the preservation or large tracts of farmland and larger-scale agriculture. “The viability of agriculture is discussed in the county. Two council members are active large-scale farmers and pro-agriculture preservation. They are talking about protecting farms from encroachment and keeping large parcels to make farming possible” (County Planner).

There is a committee legislated by the county to advise county commissioners on land use and economic development policy issues that affect traditional and local agriculture. The legislation creating the Agricultural Advisory Board (AAB) has a focus on finding ways to maintain the viability of local agriculture at both small and large scales. A major focus of the efforts of the AAB has been to help promote farmland preservation. This group has no real decision-making power, however, (they serve in an advisory capacity to the elected county council) and has had little success in gaining a majority of public support for farmland preservation or local food development. For example, the Agricultural Advisory Board, until the most recent election cycle, had been repeatedly unsuccessful in getting a tax bond for farmland preservation placed on the ballot for a general election. They did get the tax bond on the ballet in the fall of 2008, but it did not pass in the general election (in part due to rapidly deteriorating national economic conditions). Without local matching funds, Cache County has been unable to access much of the available state and federal resources for farmland preservation. This
lack of success has led to a decline in activity by the AAB. Several interviewees talked about the ineffectiveness of the Agricultural Advisory Board. “I was on the Ag Advisory Board, but I left because they weren’t making progress” (Local Agribusiness Owner).

Local informants (especially the farmers) identified several institutional obstacles to local food system development. One participant mentioned that a restriction on the use of signs on the highway reduces the visibility of farm stands. “I’m having problems with the County and State about the signs on the highway. I think there needs to be more leeway for farmers and farming operations that are trying to sell locally” (LFS Farmer). Another mentioned that the Utah labeling program was too expensive to participate in. A few farmers also noted that although small-scale farmers are not hindered by many land use or environmental regulations because of the size of their operations, they are also not considered real farmers by the traditional farming community and so may be excluded from some of the collective action or institutional benefits of those groups.

Some of the things that farmers said they needed were an affordable local labeling program, a farm-to-school program, more advertising and visibility and more market options. “I think there should be a daily market, or at least two to three times per week” (LFS Farmer). Another LFS farmer suggested,

There needs to be more education, marketing and billboards about the agriculture in this valley. Cache is one of the top two agriculture-producing counties in the state. We need labeling and identification for local products. We need a program for schools to purchase local first. (LFS Farmer)
Links between collective action, institutional arrangements and LFS outcomes

Overall there has been some collective action around land use and local food, but few of those actions have been institutionalized and are actively facilitating either local food development of land use/farmland preservation. Several participants mentioned past instances of unsuccessful collective action around land use preservation and LFS development. In fact, local land use regulations and farmland preservation efforts present some obstacles to local food system farmers.

I used data from the landowner survey to get a better understanding of how local food system farmers perceived collective action and institutional arrangements in the county. Table 12 shows the comparison between LFS farmers and Non-LFS farmers on questions from the landowner survey related to policy, institutional support for agriculture, and collective action. While suggestive of broad patterns, none of the differences in responses between LFS and Non-LFS farms in Cache County were statistically significant.

Surprisingly LFS farmers from the landowner sample reported a more positive perception of local agricultural economic development policies than Non-LFS farmers. Similarly, more LFS farmers reported that the local city governments, local economic development organizations, environmental organizations, the general public and the Farm Bureau were supportive of agriculture than Non-LFS farmers. According to these results, LFS farmers seem slightly more satisfied with the institutional support for their farming activities than would be expected from the interview data.
Table 12. Comparison Between LFS and Non-LFS Farmers, Cache County

<table>
<thead>
<tr>
<th>Perception that local agriculture economic development policies have positive impact on their farm</th>
<th>% LFS Farmers</th>
<th>% Non-LFS Farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perception that group is supportive of farming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>County government</td>
<td>22.2</td>
<td>14.8</td>
</tr>
<tr>
<td>City government</td>
<td>22.2</td>
<td>8.3</td>
</tr>
<tr>
<td>Economic development organizations</td>
<td>22.2</td>
<td>3.4</td>
</tr>
<tr>
<td>Environmental organizations</td>
<td>33.3</td>
<td>16.9</td>
</tr>
<tr>
<td>General public</td>
<td>11.1</td>
<td>6.8</td>
</tr>
<tr>
<td>Farm Bureau</td>
<td>66.7</td>
<td>48.3</td>
</tr>
</tbody>
</table>

| Has membership in group                                                                       |              |                  |
| Farm organization (Farm Bureau, Grange, Farmers’ Union, etc.)                                 | 50.0         | 40.3             |
| Farm commodity group                                                                          | 28.6         | 15.0             |
| Other type of local farm-related association                                                   | 0.0          | 16.9             |

Source: Landowner Survey

LFS farmers in general have higher participation in traditional farm organizations, but lower participation in local farm organizations when compared to Non-LFS farmers. This suggests that LFS producers are not organized in LFS-specific groups and most of the local food development is occurring through individual actions to access the growing urban population with a smaller amount of collective action occurring through the local food group, SAABRA.

Further, several LFS farmers said that they are able to participate in local food activity in part because of the unrestrictive regulatory environment. This suggests that in the absence of a restrictive regulatory environment, LFS institutional arrangements may not be essential for a moderate amount of LFS activity to take place. However, even in an unrestrictive regulatory environment like Cache County, land use regulation and farmland preservation efforts and tools can still create obstacles to some forms of
local food system expansion.

**Kent County, Michigan**

Kent County, Michigan is located in the Great Lakes region of the Midwest. Historically, Kent County was a center of logging, agriculture and furniture manufacturing. The culture is politically conservative and has traditionally been a Republican stronghold. The area is also religiously conservative containing substantial numbers of evangelical Christians. Similar to Cache County, the majority believes in a limited role for government in social and economic affairs with most local land use and economic development decision-making power residing within townships. In regards to local foods, County government officials do not consider agriculture economic development their responsibility. However, there is a strong civil society in Kent County and many of the services and resources provided by government in other communities are accounted for by community groups and foundations.

**Geography**

Kent County is located close to the western border of Michigan along Lake Michigan. There are 872 square miles in Kent County most of which is relatively flat with the highest point at 1,048 feet above sea level. Grand River is the major waterway, which runs from the eastern to the western border eventually emptying into Lake Michigan. According to NRI data, 31.2% of the county’s land area is in developed uses. A quarter of the county's land area is in crops, a quarter is in forestland, and only 8% is in
pastureland. Although Kent County has less land than Cache County, most of the land is private, more is in developed uses, and there is significantly more cropland (National Resource Inventory 2002).

**Demographics**

As of 2007, Kent County had a population of 602,676. The county experienced population growth during the 1990s with a total increase of 14.7% with an annual rate of 1.4%. Growth has slowed in the 2000s with a total increase of 5.2% and an annual growth rate of 0.7% between 2000 and 2007. The population density is about 670 people per square mile but about 85% of the population resides in the urbanized areas, and the majority of these are in Grand Rapids. The population density outside of the urban area is 131 people per square mile, which is ten times that in Cache County.

There are nine cities, five villages, and twelve unincorporated areas in the county. Counties in Michigan contain townships, which add an additional layer of government. Kent County has twenty townships. Outside of the incorporated municipalities, much of the land use decision-making authority lies with the townships.

**Income**

Overall, Kent County has an income profile that is very similar to the average income profile of the United States. Table 13 shows the socioeconomic profile of residents in 2000. The median income was $45,980 in 2000, which is just over the national average. The poverty rate was 8.9%, which is slightly lower than the national
average. The percent of households with incomes over $100,000 was 15.1%, which is a little more than the national average of 12.3%. The data suggest that there may be more demand for local foods in Kent County than in Cache County.

Table 13. Socioeconomic Profile of Kent County Residents

<table>
<thead>
<tr>
<th>Income Characteristics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Median Income ($)</td>
<td>45,980</td>
</tr>
<tr>
<td>Poverty Rate (%)</td>
<td>8.9</td>
</tr>
<tr>
<td>Percent of Households with Incomes over $100,000</td>
<td>15.1</td>
</tr>
</tbody>
</table>

Source: US Census 2000

Economy

The sectors of the economy that employ the most people in Kent County are manufacturing (23.7%), education, health and social services (18.8%), and retail (13.2%). Historically the two most important have been the auto and furniture industries. The collapse of the auto industry has created higher than average unemployment. More recently, a new medical conglomeration is developing in the county as Michigan State University is moving their medical college to Grand Rapids. The agricultural industry employs 0.6% of the population and 0.4% claim that their profession is farming (Bureau of Labor Statistics 2007).

Agriculture

Table 14 shows the distribution of top commodities for Kent County by sales and number of farms. According to the 2007 Agricultural Census, the majority of farms in
Kent County are raising forage (38.1%), corn (22.4%), and cattle (20.5%).

Meanwhile, the majority of farm sales come from the sale of nursery and greenhouse products (32.6%), dairy products (20.4%), and fruits, nuts and berries (17.4%). Although a large percentage of sales come from nursery/greenhouse and dairy, only a small percentage of farms raise these commodities: 7.1% of farms are nursery and greenhouse and 4.1% of farms have dairies. More farms actually raise fruits, nuts and berries (10.5%) that are higher value products that often don’t travel well and so are commonly part of local food systems.

**Table 14.** Top Commodities by Sales and Number of Farms, Kent County

<table>
<thead>
<tr>
<th></th>
<th>Percent of County Farm Sales</th>
<th>Percent of County Farms Raising</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle and calves</td>
<td>5.1</td>
<td>20.5</td>
</tr>
<tr>
<td>Dairy</td>
<td>20.4</td>
<td>4.1</td>
</tr>
<tr>
<td>Nursery &amp; Greenhouse</td>
<td>32.6</td>
<td>7.1</td>
</tr>
<tr>
<td>Fruits nuts &amp; berries</td>
<td>17.4</td>
<td>10.5</td>
</tr>
<tr>
<td>Corn (grain &amp; silage)</td>
<td>N/A</td>
<td>22.4</td>
</tr>
<tr>
<td>Forage</td>
<td>N/A</td>
<td>38.1</td>
</tr>
</tbody>
</table>

*Note: N/A = not available
Source: US Census of Agriculture 2007

The Census of Agriculture also categorizes Kent County farms into the typology classes discussed in the previous section. The results suggest that the majority of farms in the county are small family and hobby farms which research suggests are important for local food systems. Table 15 shows the distribution of farm types. Approximately, 74.5% of farms are small farms, but these farms control just 39.2% of farmland acres. In comparison, the 10% of farms that are large and very large family farms operate almost
half of farmland acres. Roughly five percent of farms are nonfamily operations and they manage a similar proportion of land.

**Table 15. Distribution of Farm Types by Number of Farms and Acres of Farmland**

<table>
<thead>
<tr>
<th></th>
<th>% Farms</th>
<th>% Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Family Farms (Sales &lt; $250,000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited resource</td>
<td>13.3</td>
<td>5.3</td>
</tr>
<tr>
<td>Retirement</td>
<td>17.6</td>
<td>11.1</td>
</tr>
<tr>
<td>Residential/lifestyle</td>
<td>40.0</td>
<td>15.9</td>
</tr>
<tr>
<td>Higher sales</td>
<td>3.6</td>
<td>6.9</td>
</tr>
<tr>
<td><strong>Total small</strong></td>
<td><strong>74.5</strong></td>
<td><strong>39.2</strong></td>
</tr>
<tr>
<td>Large Family Farms (Sales $250,000+)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large ($250,000-$499,000)</td>
<td>4.7</td>
<td>10.8</td>
</tr>
<tr>
<td>Very large ($500,000+)</td>
<td>5.3</td>
<td>38.6</td>
</tr>
<tr>
<td><strong>Total large and very large family</strong></td>
<td><strong>10.0</strong></td>
<td><strong>49.4</strong></td>
</tr>
<tr>
<td>Nonfamily</td>
<td>4.9</td>
<td>4.9</td>
</tr>
</tbody>
</table>

*Source: US Census of Agriculture 2007*

Traditionally Kent County has been known for its apple orchards and dairy farms, but both sectors are declining. Sixty percent of the apples in Michigan are raised along the “Fruit Ridge,” which extends into four counties. Most of this production occurs in the northeast side of Kent County in Sparta and Alpine townships. At least one external factor is affecting the decline of the orchard industry in Kent. Apple growers compete with China, which sets the base price for apples.

The nursery and greenhouse industry is strong in Kent County, but seems to be dominated by one business: Mast Greenhouses. Interview respondents said that the wholesale and retail nurseries were thriving and statistics from the Agricultural Census support this showing a slight increase in sales from $62.6 million in 2002 to $63.4 million in 2007 and no change in the number of farms engaging in nursery and greenhouse from
According to the Census of Agriculture, the aggregate agricultural trajectory in Kent County was stable in the 1987-1997 period and intensifying from 1997 to 2007. The number of farms, the land in farms and the amount of cropland all declined between 1997 and 2007. The number of farms declined from 1,343 to 1,193, which is a loss of 11.2%. The land in farms declined 14.1%, from 197,951 acres to 170,117 acres. The amount of cropland declined 17% from 157,677 acres to 131,529 acres. Farm sales and sales per acre of farmland have increased during this period though, suggesting that production is intensifying on the remaining farmland in the county.

These patterns are consistent with the results from the landowner survey, which shows that the majority of farmers in that sample have made changes to their farms in the last five years to intensify production. Table 16 shows the percent of respondents using intensification, growth strategies, decline, and de-intensification strategies. The largest percentage of farmers used either a growth or intensification strategy. Among those, 31.6% of farmers shifted to crops or livestock that generate more sales per acre. As in Cache County this could indicate that some farmers are shifting to higher value crops that contribute to the local food system.

Land use, regulation, and development

The township structure of local government has a great deal of influence on land use decisions in Kent County. Interview respondents generally talked about changes in agriculture, land use and development within separate townships rather than within the
Table 16. Percent of Farmers Using Adaptation Strategies, Kent County

<table>
<thead>
<tr>
<th>Indicators of De-intensification</th>
<th>Percent of Farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decreased capital investment in buildings</td>
<td>9.5</td>
</tr>
<tr>
<td>Decreased investment in equipment</td>
<td>5.3</td>
</tr>
<tr>
<td>Increased land in conservation programs</td>
<td>0.0</td>
</tr>
<tr>
<td>Decreased sales while land remained same</td>
<td>0.0</td>
</tr>
<tr>
<td>Idled or left fallow some farmland</td>
<td>15.0</td>
</tr>
<tr>
<td><strong>Used any de-intensification strategy</strong></td>
<td><strong>24.0</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators of Decline</th>
<th>Percent of Farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decreased farmland owned</td>
<td>5.0</td>
</tr>
<tr>
<td>Decreased farmland rented</td>
<td>0.0</td>
</tr>
<tr>
<td>Decreased livestock sold</td>
<td>10.0</td>
</tr>
<tr>
<td>Decreased value of gross sales</td>
<td>0.0</td>
</tr>
<tr>
<td>Sold land for nonfarm development</td>
<td>15.0</td>
</tr>
<tr>
<td><strong>Used any decline strategy</strong></td>
<td><strong>16.0</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators of Growth</th>
<th>Percent of Farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased farmland owned</td>
<td>10.0</td>
</tr>
<tr>
<td>Increased farmland rented</td>
<td>12.5</td>
</tr>
<tr>
<td>Increased livestock sold</td>
<td>10.0</td>
</tr>
<tr>
<td>Increased value of total gross sales</td>
<td>50.0</td>
</tr>
<tr>
<td><strong>Used any growth strategy</strong></td>
<td><strong>48.0</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators of Intensification</th>
<th>Percent of Farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased capital investment in farm buildings</td>
<td>33.3</td>
</tr>
<tr>
<td>Increased investment in farm equipment</td>
<td>57.9</td>
</tr>
<tr>
<td>Decreased land in conservation programs</td>
<td>0.0</td>
</tr>
<tr>
<td>Increased sales while land remained same</td>
<td>24.0</td>
</tr>
<tr>
<td>Shifted to crops or livestock that generate more sales per acre</td>
<td>31.6</td>
</tr>
<tr>
<td><strong>Used any intensification strategy</strong></td>
<td><strong>52.0</strong></td>
</tr>
</tbody>
</table>

*Source: Landowner Survey*

county as a whole. The townships control the planning and zoning most of which are run by voluntary boards with inexperienced citizens, although a few do hire professional planners on a part-time basis. Interview participants noted that there is inconsistency in the zoning regulations across townships and this has contributed a sense of impermanence and precariousness to land use.
Respondents noted that without a unified set of land use regulations across townships, individual decisions could unintentionally limit agriculture. For example, some townships prohibit agritainment and farmers’ markets. Others limit the development of roads on private land or the amount of signage allowed for roadside farm stands. Further, respondents felt that decisions about land use and zoning were often arbitrary and politically based. One respondent talked about a farmland owner who wanted to sell for development, but whose land was in an area zoned for agriculture. He ran for office, changed the zoning regulations, and sold his land for housing development.

Outside of basic zoning regulations the policy environment is also conflicted. Farmland preservation programs exist at the state and local level and include a Purchase of Development Rights program (PDR), a farmland tax credit program, a right to farm law, and a nutrient management-permitting program called the Michigan Agricultural Environmental Assurance program. However, the debate around land use change has focused on the PDR program. PDR allows the development rights on agricultural land to be purchased and often transferred to another parcel of land where more dense development is desired. The owner of the agricultural land received the development value of the land without losing the right to use the land for agricultural use. Ideally, farmers use this money to reinvest in their operations to maintain their economic viability. Kent County adopted a PDR ordinance in 2001. However, the county has not voted to fund the program. Rather, the PDR program has been funded by state, federal
and private foundation grants, along with some township funds.

There is mixed support for farmland preservation and PDR. There has been strong support from some citizen and environmental groups such as United Growth for Kent (local) and the Michigan Land Institute (statewide). According to some interview participants support for PDR crossed the rural/urban divide with even more interest among urban community members. However, PDR has been strongly opposed by homebuilder associations, pro-property rights groups and anti-government groups. However, others who had been supportive of PDR developed a negative outlook because the program had not been funded and felt overall that the broader community was unaware of the efforts to preserve farmland. This debate has however, induced pro-preservation advocates to form a political action committee (PAC) to support candidates at all levels of government who are supportive of farmland preservation.

Local food system activity

There is a diverse amount of local food activity in Kent County. Probably because of the population size and the proximity of a large metropolitan area there are a large number and large diversity of local food markets. In the eight-county area that includes Kent County there are more than 30 farmers’ markets. Within Kent County itself there are six farmers’ markets, two CSAs, two institutional buying programs, numerous roadside farm stands and agritainment operations. The largest market is the Fulton Street Market in downtown Grand Rapids. The market began in 1922 and for most of its existence included producer and non-producer vendors. The Neighborhood
Association of Midtown Neighborhood took over the management of the market in 2005. Since that time, the new market managers have been developing new rules that favor a producers-only market. According to interview notes, the new market managers are strongly tied to the local food movement and are basing many of their management decisions on a local food and alternative agriculture philosophy.

Aside from the proliferation of market outlets, Kent County has widespread participation by farmers in the local food system. According to the 2007 Agricultural Census, 171 farms reported selling directly to customers, which was 14.3% of all farms. In addition, there were nine farms that reported selling through a CSA. Data from the landowner survey also show the extent of farmer participation in the local food system (Table 17). About 41.7% of farmers sell directly to consumers from their farm, mainly via U-Pick operations or farm stands. About 25% of farmers sell through a farmers’ market or CSA. Almost 21% of farmers sell to local institutions. All told, 54.5 percent of local farmers are engaged in some type of SSC activities.

In addition, farmers in the survey are increasing their direct selling activity. About 26.7% of farmers have increased direct sales over the last five years, and 44.4% of farmers expect to increase their direct sales to customers of the next five years. About 19% of farmers have made changes to marketing strategies. Finally, 11.1% of farmers have made changes to crops or livestock to access urban markets.

Despite the impressive level of participation, data from the Agricultural Census used to assess the scale of local food system activity indicates a contrary pattern. Kent
County had a little over 1.6 million dollars in direct sales and 0.8% percent of all farm

Table 17. Extent of Farmer Participation in the Local Food System, Kent County

| Direct sales to consumers from farm | 41.7 |
| Direct sales to consumers at farmers market/CSA | 25.0 |
| Sales to local institutions or businesses | 20.8 |
| Uses any of these three | 54.5 |

Changes made by farmers over last 5 years

| Increased direct sales | 26.7 |
| Made changes in marketing strategy to access local customers | 19.0 |
| Made changes in crops/livestock to access local customers | 11.1 |

Farmers that expect to increase direct sales over the next 5 years | 44.4 |

*Source: Landowner Survey*

sales came from direct sales in 2007. A third measure of scale, direct sales per capita, suggests that the scale of local food system activity in Kent County is much lower relative to the other case study counties, with only $2.72 in direct sales per person per year. This suggests that local food system activity is concentrated among certain places or demographics in the county and access may be an issue.

Local food system collective action

Kent County has a strong local food movement. There are three civil society organizations dedicated to local food development that work in Kent County. In addition, there are several environmental and land use organizations that devote a significant amount of staff and resources to local food development. The three food and agricultural groups include the Kent Agricultural Tourism Council, the Ridge Economic Agricultural Partners and the Greater Grand Rapids Food Systems Council.
The environmental and land-use organizations include the Michigan Environmental Council, United Growth for Kent, and the Michigan Land Use Institute.

The Kent Agricultural Tourism Council works on public awareness and education of the agricultural heritage in the county by sponsoring things like the Kent Harvest Trail. The Ridge Economic Agricultural Partners (REAP) is a non-profit that promotes an area of heavy fruit production in Kent County called the Fruit Ridge. Producers constitute the majority of the membership of this group. This group works on market development for the Fruit Ridge as well as public awareness and education.

Finally, the Greater Grand Rapids Food Systems Council is a non-profit member-based organization that works on developing local food projects and assessing the level of food security and access in the Greater Grand Rapids area. This group developed a local food guide called “West Michigan FRESH: A Guide to Local Food” that is available on the Internet and in hard copy. They created an institutional buying program that connects growers to institutional buyers, primarily restaurants, by tracking the available produce and food products, managing orders from buyers and organizing drop-offs and pick-ups. Some of their other projects include community gardens and farmers’ markets. They are also working on a plan to allow the use of food stamps at farmers’ markets.

Local food and agricultural groups have had considerable success in mobilizing both people and monetary resources for the benefit of both local food and agricultural preservation. There has been considerable private investment in farm conservation
programs by local non-profits, farms, and businesses. More than three million dollars have been raised from foundations such as Kellogg, WEGE, Nokia, the Fry Foundation, and the Palster Club.

According to interview participants the civil society groups in Kent County work on all aspects of local food development including policy advocacy, building local food networks of farmers, creating institutional buying markets, creating local food market outlets, raising money to support programs, and public education. Some of this activity focuses on the connection between farmland preservation and local food development and urban and rural concerns more so than in the other case study counties. This may be because the major metropolitan center in the area, Grand Rapids, is located within Kent County rather than several counties removed as in Frederick, Yamhill, Cache, and Hall.

We facilitate farmers markets in a few ways, though less then we like. A few years ago there were 2-3 organizations that got together to try and make farmers markets in low-income communities and a west side market. We have a vision for the downtown market. We’re rehabilitating the downtown area and help raise awareness. We’d like to have a year round market that also has a processing facility attached to it for value-added processing. We have ideas of what we want to do with farmers from an urban perspective. (Environmental Group)

We have a local first movement here to buy as much as we can from local foods. We’re lucky that Meijer and Thrifty Acres are local. Meijers donates a lot of stuff locally. From the urban point of view we’re making the connection about food: do you want to buy food from a Kent County farmer or have it shipped in? The farmers market is part of the Middletown neighborhood. It has existed for 80 years. It’s had resurgence. It’s packed on Saturday mornings, and parking is one of the big issues now. We had an MSU urban policy study group do a study of the farmers market. People are making the connection now. Through the farmer’s markets people have gotten to know the framers and know these guys
generally aren’t rich. They are regular people. (Extension)

There are several organizations that address land use policy that also actively address local food system development. These groups frequently frame local food development and farmland preservation as a single issue to broaden support for both. For example, a participant from the Michigan Land Use Institute, which formed in 2004, talked about their role in policy advocacy related to local food.

The idea is to incorporate advocacy with public policy. Most of us are trained journalists. We cover issues most newspapers don’t. We get 100,000 hits a month on our website. Our major goal is to reframe the issues. Patty Kantral, she writes about reframing agriculture issues on economic development; things like organic milk, etc., and how it would behoove the state to figure out how to grow these concepts. (Environmental Group)

Even traditionally environmental organizations such as the Michigan Environment Council are dedicating staff and resources to increase local food networks.

“Sustainable Agriculture Forum looks at the development of the social capital around agriculture and education. How can we bring farmers together for support for local food systems” (Environmental Group)? This environmental group also works with restaurants and hospitals to increase local food buying. To increase local food in hospitals this group is developing a campaign that frames local food in connection with cancer and health.

Interviewees consistently talked about the strength of the local food movement, especially in Grand Rapids.

At the same time we have a very strong farm community and interest from the consumer and farm community to build a strong direct marketing relationship. We’re seeing that in the number of farmers’ markets. This year there will be
more in Granville, Byron, West Side, and Lowell. There are four new farmers’
markets. Last year there were 21, this year there are 30 in an eight-county area.
(Environmental Group)

Grand Rapids is unique. There is a very strong movement around sustainability. We have a thriving sustainable business forum. There is a lot of national leadership here. We have a number of organizations we’re working with; trying to help them identify how food and land and farming are on their radar. We have a great culinary school with an interest in working with us. They want to promote and market these foods. (Environmental Group)

Some of the other collective action activity includes a local food conference,
public education programs on how people fit into the food system, a weekly farming program on a local station that covers local food topics, education programs to teach older farmers about the benefits of local food marketing. Several producers mentioned that organizations have contacted them to get involved in local food activities, which they would not have otherwise known about because they are too busy. Several of the local television stations frequently do stories on local farmers, and several grocery stores sell local products and do demonstrations on cooking fresh and local. The state farmers’ market organization is working on a model ordinance for farmers’ markets. Producers are heavily involved in many of these groups and have been actively involved in organizing and mobilizing members to effect change.

We formed this organization because we want to do what we can ourselves. We can’t wait for others to help. We worked with Extension with a grant from Project Green. We are now our own 501-C3 and we can get our own grants (though we haven’t yet). Our aim is to find a niche to educate consumers and farmers. We have education sessions for farmers on value-added, etc. We work with the Kent County Fair to do a “Blossom Time” promotion, to get media attention. There are five of us working on this project. (Local Agriculture Group)
There is a collective of farmers and restaurants who started a distribution network called Michigan Fresh Network. There are 40 farms that have been supplying lots of local produce to restaurants. This is one example of how farmers and restaurants organized themselves to increase LFS distribution. The local food organizations seem to be equally active on the supply and demand side of local food.

We got a call today that we got a planning grant from the Community Foods Program. It’s an 18-month program to do community-based empowerment in three low-income communities with high percentages of African Americans and Hispanics. We partnered with African American staff and immigrant offices trying to figure out how do we bring awakening tools to them. (Environmental Group)

Overall it seems that local food system activity is robust in Kent County due to the civil society sector. There are numerous examples of professional and more informal civil society groups that are actively working on local food development either as a single issue or coupled with land-use, environmental, preservation, health or social equity concerns. Additionally, these groups have been successful both at mobilizing people and raising money to alter or create policies and programs to further their goals.

*Local food system institutional arrangements*

In contrast, Kent County has relatively few public programs and policies specific to local food system development. There are three local food directories, a food security program, farmers’ market and community garden programs, an institutional buying program, and a statewide buy local campaign and label, but the civil society groups mentioned above have developed all of these. There are no public sector programs for farmers’ markets, local processing of value-added products, agritainment
promotion, or alternative production techniques. There also is no countywide farmers’ market ordinance; although several townships have developed ordinances allowing farmers markets. Finally there is no dedicated agriculture economic development staff or agricultural committee within the County government or Economic Development office. Most of the local food development has occurred as a result of the civil society groups operating outside of government.

Most of the collective action activity has not yet been institutionalized in Kent County. For example, there are staff people in various organizations dedicated to agriculture economic development, but they are not located not in the County’s Office of Economic Development (OED). One participant described how agriculture is received by the OED.

For example in March, there is National Farm Day. We took Sharon and REAP before the board of commissioners to thank them for their support. She talked about REAP, and the value of agriculture as an industry to the county. Paul Geer who has a floral business brought floral arrangements for the board. Then the next person to speak was Brigit Klohs, the director of the Right Lace, which does economic development for Kent County. She acknowledged how critical agriculture is to the county’s economy but it’s not “what we do”. So there is respect for it, but it’s not seen as their job. (Extension)

There are plans to revise some ordinances to better facilitate local food activities, but again, most of this is being done outside of the public sector. The following quote is from a farmer and member of the group REAP about plans the group has to change current zoning.

We want to publicize Alpine townships’ adoption of the farm market friendly zoning ordinance. Ordinances in Kent currently don’t allow for anything larger then a roadside stand. The ordinance in Alpine says it must be mostly on farm,
and the farm has to be the primary use/source of income with the farm market as secondary. You can have a wedding on the farm because it’s a secondary use. The Post farm in Kent has been having a lot of difficulty with that. We put in this ordinance that special land uses such as B & Bs, paint ball, birthday parties, etc., were okay. (LFS farmer)

*Links between collective action, institutional arrangements and LFS outcomes*

Overall there aren’t as many formal institutional arrangements to support local food development in Kent County as there are organizations working on these issues in civil society. These organizations have so far been more successful in mobilizing resources outside of government than altering policies or programs within government. This may be in part because the most of the effort to develop local food is occurring in organizations that are not associated with a government jurisdiction. Interview participants mentioned problems with regulations prohibiting roadside signs, farm processing, agritainment, and farmers’ markets. This suggests, again, that existing land use regulations can have the unintended effect of inhibiting local food system development.

Table 18 shows the comparison between LFS farmers and Non-LFS farmers on questions from the landowner survey related to policy, institutional support for agriculture, and collective action. These data support the suggestion by interview participants that existing agricultural policies can hinder local food development if not specifically designed to promote it. For example, a larger percent of Non-LFS Farmers perceived a positive impact from agricultural economic development policies than LFS
farmers. Only 6.8% of LFS farms in Kent County perceived a positive impact from agricultural economic development policies. This suggests that the existing institutional arrangements may be ineffective or too underdeveloped to benefit local food producers. However, none of the results for Kent County were statistically significant.

Table 18. Comparison Between LFS and Non-LFS Farmers, Kent County

<table>
<thead>
<tr>
<th>Perception of positive impact of agriculture economic development policies</th>
<th>% LFS Farmers</th>
<th>% Non-LFS Farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country government</td>
<td>7.1</td>
<td>10.5</td>
</tr>
<tr>
<td>City government</td>
<td>8.9</td>
<td>14.3</td>
</tr>
<tr>
<td>Economic development organizations</td>
<td>11.6</td>
<td>14.3</td>
</tr>
<tr>
<td>Environmental organizations</td>
<td>27.9</td>
<td>17.9</td>
</tr>
<tr>
<td>General public</td>
<td>28.9</td>
<td>20.7</td>
</tr>
<tr>
<td>Farm Bureau</td>
<td>69.8</td>
<td>71.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Has membership in group</th>
<th>% LFS Farmers</th>
<th>% Non-LFS Farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>A farm organization (Farm Bureau, Grange, Farmers’ Union, etc.)</td>
<td>71.7</td>
<td>73.7</td>
</tr>
<tr>
<td>A farm commodity group</td>
<td>35.7</td>
<td>35.7</td>
</tr>
<tr>
<td>Any other type of local farm-related association</td>
<td>38.1</td>
<td>28.0</td>
</tr>
</tbody>
</table>

Source: Landowner Survey

LFS farmers were less likely to perceive that the county and city governments were supportive of farming. Smaller percentages of LFS farmers perceived that the county and city governments and economic development organizations were supportive of farming. This supports the claim that public institutions may be less effective or less developed to further the development of the local food system.

Further, LFS farmers were more likely than Non-LFS farmers to perceive as supportive organizations outside of the public sector including the Farm Bureau,
environmental organizations, and the public. This also supports the claim that most of the support for local food system development is coming from outside the public sector. Additionally, it suggests that civil society groups support local food more than they support traditional farming and that the needs of these two groups are distinct.

Finally, to further support the claim that civil society groups are supporting local food development more than traditional agriculture and that most of the local food development activity is occurring in the civil society sector, 38.1% of LFS farmers in Kent County belong to a local farm group compared to 28% of Non-LFS Farmers.

**Frederick County, Maryland**

Frederick County, Maryland is located in the Mid-Atlantic East. The county was settled in the mid-1700s by German and English settlers and served as a major crossroads during the colonial and civil war periods. Frederick became an important agricultural, mining and market center during the 1900s. Today, Frederick County is home to a large biotechnology industry and various government-related firms. The culture is politically liberal and there is strong support for government participation in local affairs. Maryland is well known for many state policies and programs for controlling growth, preserving farmland and other progressive regulations. Local government is also well developed and retains significant decision-making control over local land and agriculture. Earlier periods of land use collective action have resulted in a decline in traditional agricultural interests as newer exurban residents with preservationist and post-productivist values have gained significant control in the public
sector. As a result of this politically liberal environment, a clear role for government has been established for local food development.

Geography

Frederick County is located in the northwest part of Maryland bordering Pennsylvania to the north. Unlike Cache and Kent counties, Frederick is part of a metropolitan area that is not within the county: the Washington-Baltimore metro area. Frederick County is a crossroads for the surrounding cities and has several major interstate highways running through including Interstate 70, Interstate 270, US Route 270, and US Route 40. Frederick is approximately 48 miles northwest of Washington, DC and 48 miles west of Baltimore. There are 667 square miles in the county, making it the largest county in Maryland. According to NRI data, 36.2% of the land in Frederick is in cropland, 29.8% is in forest, 15.6% is in pastureland, and 14% is in developed uses (National Resource Inventory 2002).

Demographics

The population in Frederick County in 2007 was 224,705. The population density is 295 people per square mile and the non-urban population density is 51 people per square mile. There are two cities, nine towns, and one village in Frederick County and about 71% of the population resides in the urbanized areas. The population grew 30.2% in the 1990s with a yearly average of 2.7%, which is the same as in Cache County during this period. Population growth continued at a slightly slower rate from 2000 to 2007 at
Income

Frederick County today is composed of many well-educated professionals most of whom work or have worked for the government and commute to the Washington, DC metro area. The income characteristics of Fredrick County residents are greater than the national average. Table 19 shows the socioeconomic profile of Fredrick County residents. The median income in 2000 was $60,276, which was significantly greater than the national average. The poverty rate was 4.5% and the percent of households with incomes over $100,000 was 22.9% in 2000. These data suggest that Frederick County has the potential for strong demand of local foods.

Table 19. Socioeconomic Profile of Frederick County Residents

<table>
<thead>
<tr>
<th>Income Characteristics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Median Income ($)</td>
<td>60,276</td>
</tr>
<tr>
<td>Poverty Rate (%)</td>
<td>4.5</td>
</tr>
<tr>
<td>Percent of Households with Incomes over $100,000</td>
<td>22.9</td>
</tr>
</tbody>
</table>

Source: US Census 2000

Economy

The federal government, specifically Fort Detrick, is the major employer in Frederick County. Outside of the government, the sectors that employ the majority of people in the county include the education, health and social services (18.4%), professional, scientific, management, administrative and waste management services
(12.7%), retail (11.6%), and construction (10.1%). Agriculture employs 1.4% of the population and 0.4% claim farming as their occupation. Frederick County is also actively developing a science and technology sector with the intention of building off of the government activities in the area, according the Director of Economic Development for the county. This is occurring along the I-270 corridor, which connects Washington, DC to Frederick County (Bureau of Labor Statistics 2007).

Agriculture

Table 20 shows the distribution of commodities for Frederick County by sales and number of farms. According to the 2007 Agricultural Census, the most farms in Frederick County are raising forage (58.8%), cattle (33.8%), wheat, sorghum, barley, and oats (21.6%), and corn (17.3%). The majority of sales are from dairy (40.6%), followed by grains, oilseed and beans (14%), and cattle and calves (11.8%). Although a large percentage of sales come from dairy only a small percentage of farms have dairies (9.7%).

The Census of Agriculture also classifies Frederick County farms into a range of types based on farm size and principle occupation of the operator. The results suggest that the majority of farms are small family and hobby farms, which are thought to be compatible with the emergence of local food systems. Table 21 shows the distribution of farm types by number of farms and acres of farmland. Approximately three-fourths of farms are small farms, which manage just under half of farmland acres in the county.
Table 20. Top Commodities by Sales and Number of Farms, Frederick County

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Percent of County Farm Sales</th>
<th>Percent of County Farms Raising</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle and calves</td>
<td>11.8</td>
<td>33.8</td>
</tr>
<tr>
<td>Dairy</td>
<td>40.6</td>
<td>9.7</td>
</tr>
<tr>
<td>Nursery &amp; Greenhouse</td>
<td>6.2</td>
<td>4.1</td>
</tr>
<tr>
<td>Grain, Oilseed and Beans</td>
<td>14.1</td>
<td>N/A</td>
</tr>
<tr>
<td>Forage</td>
<td>N/A</td>
<td>58.8</td>
</tr>
<tr>
<td>Combine Acres for Wheat, Sorghum, Barley, and Oats</td>
<td>N/A</td>
<td>21.6</td>
</tr>
<tr>
<td>Corn (grain and silage)</td>
<td>N/A</td>
<td>17.3</td>
</tr>
</tbody>
</table>

*Note: N/A = not available
Source: US Census of Agriculture 2007

Table 21. Distribution of Farm Types by Number of Farms and Acres of Farmland

<table>
<thead>
<tr>
<th>Farm Type</th>
<th>% Farms</th>
<th>% Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Family Farms (Sales &lt; $250,000)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited resource</td>
<td>12.6</td>
<td>6.7</td>
</tr>
<tr>
<td>Retirement</td>
<td>20.5</td>
<td>10.7</td>
</tr>
<tr>
<td>Residential/lifestyle</td>
<td>35.9</td>
<td>16.5</td>
</tr>
<tr>
<td>Higher sales</td>
<td>4.7</td>
<td>12.2</td>
</tr>
<tr>
<td><strong>Total small</strong></td>
<td><strong>73.6</strong></td>
<td><strong>46.1</strong></td>
</tr>
<tr>
<td>Large Family Farms (Sales $250,000+)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large ($250,000-$499,000)</td>
<td>3.4</td>
<td>12.1</td>
</tr>
<tr>
<td>Very large ($500,000+)</td>
<td>3.9</td>
<td>20.2</td>
</tr>
<tr>
<td><strong>Total large and very large family</strong></td>
<td><strong>7.3</strong></td>
<td><strong>32.3</strong></td>
</tr>
<tr>
<td>Nonfamily</td>
<td>4.7</td>
<td>8.1</td>
</tr>
</tbody>
</table>

*Source: US Census of Agriculture 2007

In comparison, the 7% of farms that are considered large and very large family farms manage about a third of farmland. About 5% of farms are nonfamily operations and these farms operate 8% of county farmland.

The agricultural sector of Frederick County can be classified as de-intensifying from 1987 to 1997 and stable from 1997 to 2007. Most recently farm numbers and farm acreages have been almost stable, while farm sales increased from $101 million in
1997 and $127 million in 2007, resulting in growth in average sales per acre of farmland from $464 to $629 over this period.

Frederick County has been known for its dairies and is the number one producer of milk in the state, but there are many indications that this industry is in decline. The percent of farm sales coming from dairy products in the county declined from 51.7% in 2002 to 40.6% in 2007, while dairy farms as a percent of all farms declined in that same period from 13.6% to 9.7%. Some dairy farms have intensified production by increasing the number of cows per acre, while others have switched to other crops or livestock. This is supported by data from interviews and the landowner survey. Several interview participants talked about the loss of dairy farms in the county, but noted that some were intensifying production by expanding milk parlor facilities, building new barns, increasing the number of cows, or adding an agritainment component on their farm. A local extension agent noted that, “overall the number of dairies are declining but the number of cows and amount of milk has remained stable” (Extension Agent).

These trends are consistent with results from the landowner survey. Table 22 shows the percent of farmers in Frederick County using intensification, growth, decline and de-intensification strategies. About 63.9% of respondents indicated that they were involved in some kind of intensification strategy, while just 25% indicated they were involved in some kind of de-intensification or decline strategy. This supports the claim by interview participants that while some farms were intensifying production others were deintensifying or leaving farming which may have resulted in the almost stable
numbers of cows, total farms, land in farms, and milk. Almost a third of farmers have shifted to crops or livestock that generate more sales per acre which could contribute to the development of the local food system as some farmers shift to higher value crops to sell the growing local population.

**Table 22. Percent of Farmers Using Adaptation Strategies, Frederick County**

<table>
<thead>
<tr>
<th>Indicators of De-intensification</th>
<th>Percent of Farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decreased capital investment in buildings</td>
<td>0.0</td>
</tr>
<tr>
<td>Decreased investment in equipment</td>
<td>16.0</td>
</tr>
<tr>
<td>Increased land in conservation programs</td>
<td>15.4</td>
</tr>
<tr>
<td>Decreased sales while land remained same</td>
<td>11.1</td>
</tr>
<tr>
<td>Idled or left fallow some farmland</td>
<td>15.6</td>
</tr>
<tr>
<td><strong>Used any de-intensification strategy</strong></td>
<td><strong>25.0</strong></td>
</tr>
<tr>
<td>Indicators of Decline</td>
<td></td>
</tr>
<tr>
<td>Decreased farmland owned</td>
<td>4.0</td>
</tr>
<tr>
<td>Decreased farmland rented</td>
<td>23.5</td>
</tr>
<tr>
<td>Decreased livestock sold</td>
<td>11.1</td>
</tr>
<tr>
<td>Decreased value of gross sales</td>
<td>17.4</td>
</tr>
<tr>
<td>Sold land for nonfarm development</td>
<td>4.0</td>
</tr>
<tr>
<td><strong>Used any decline strategy</strong></td>
<td><strong>23.5</strong></td>
</tr>
<tr>
<td>Indicators of Growth</td>
<td></td>
</tr>
<tr>
<td>Increased farmland owned</td>
<td>0.0</td>
</tr>
<tr>
<td>Increased farmland rented</td>
<td>17.6</td>
</tr>
<tr>
<td>Increased livestock sold</td>
<td>22.2</td>
</tr>
<tr>
<td>Increased value of total gross sales</td>
<td>13.0</td>
</tr>
<tr>
<td><strong>Used any growth strategy</strong></td>
<td><strong>16.7</strong></td>
</tr>
<tr>
<td>Indicators of Intensification</td>
<td></td>
</tr>
<tr>
<td>Increased capital investment in farm buildings</td>
<td>40.7</td>
</tr>
<tr>
<td>Increased investment in farm equipment</td>
<td>44.0</td>
</tr>
<tr>
<td>Decreased land in conservation programs</td>
<td>0.0</td>
</tr>
<tr>
<td>Increased sales while land remained same</td>
<td>0.0</td>
</tr>
<tr>
<td>Shifted to crops or livestock that generate more sales per acre</td>
<td>29.0</td>
</tr>
<tr>
<td><strong>Used any intensification strategy</strong></td>
<td><strong>63.9</strong></td>
</tr>
</tbody>
</table>

*Source: Landowner Survey*
Land use, regulation, and development

As noted above, Frederick County has maintained an almost stable amount of farms and land in farms from 1997 until 2007. This is interesting considering the population growth over the last two decades, the proximity of Frederick to several large metropolitan areas, the well-developed road network, and the very large population.

The population for the entire metropolitan area in 2000 was more than 4.7 million. Of all the case study counties, Frederick has the most land use and farmland preservation regulations. The only exception is Yamhill County, which has fewer local regulations and preservation programs, but much more restrictive state-level control. Frederick is a close second in terms of restrictiveness, but most of their preservation efforts are incentive-based and voluntary.

Land preservation began in the late 1970s with the initiation of the state farmland preservation program and stricter agricultural zoning in the county. The Maryland Agricultural Land Preservation Foundation (MALPF) was established by the Maryland General Assembly in 1977 and is part of the Maryland Department of Agriculture. The foundation uses state and county funds to purchase agricultural preservation easements that restrict development in perpetuity. Also during this period the county adopted zoning ordinances and incorporated guidelines for the protection of the rural character of the county into the comprehensive plan. The agricultural cluster development ordinance was first adopted in 1976. This stated that any agriculturally zoned land that existed as of 1976 was entitled to three development rights plus the
remainder lot. Depending on the size of the farm, additional development rights may be given if the lots are clustered. Cluster rights are determined by the size of the farm.

In the 1980s Frederick County developed the critical farms program. This program functions as an enhancement to the state program and guarantees a minimum easement value for farms that are being transferred. This program provides farmers the capital to purchase farmland. The farmer has a five-year period to sell the easement to the state at which time the county’s funds are repaid.

In 1997 Frederick County developed a Rural Legacy Program, which protects large contiguous areas of cultural, agricultural or natural significance. This program is funded by state grants. In 1998, the county adopted the adequate public facilities ordinance. This required that infrastructure such as sewage, roads and electric lines, be in place before the planning commission approved development proposals.

In 2001, the county adopted a forest resource ordinance, which limited development in areas of the county designated as important for conservation of habitat and rural resources. In 2002 Frederick County developed an installment purchase program for purchasing easements through bonds that mature over the period of 10 to 20 years. At the end of the term the easement value goes to the farmer.

Although the policy environment is rich and has been successful at preserving farmland, it is not without conflict. According to interview participants, county plans and zoning regulations change frequently depending on the mood of the county
decision-makers and the status of campaign contributions.

The county swings back and forth from slow growth to pro-growth and property rights. If you ask for a change from agriculture to another zone during a regional plan update, it will probably be granted. Otherwise, the board votes on rezoning one property at a time. Campaign contributions happen to make rezones easier. (County Commissioner)

Interview participants also noted that farmland preservation programs often save farmland but not farming. Several interview participants commented that the preservation programs were beneficial for an earlier generation of farmers but do not do enough to help new farmers buy land. Many commented that the existing programs help farmers that are close to retirement but not active farmers that want to enter into or expand production.

The County is preserving open space. They think they are preserving farmland. There are probably enough of those people that have agricultural preservation easements. Usually when people do agriculture preservation it is their last bet. They can’t make enough. They’re near retirement. I don’t know any farmer who is making money who is going to the county to put their land in agricultural preservation. (Dairy Farmer)

Participants also suggested that the regulations are so restrictive that they limit farmers’ opportunities to divide and develop small plots of their land, which is a strategy many have used in the past to generate capital for farm expansion. Another noted that the existing programs and regulations often limit diversification and new forms of agriculture by prohibiting on-farm processing and sales. These comments from interview participants suggest that restrictive policies are not a one-size-fits-all solution to agricultural changes, but can have unintended consequences for farmers and actually generate political backlash that result in contrary ideological interests gaining control of
Local food system activity

While most of the counties had some local food systems presence, Frederick County had the largest number of local food system market outlets. There were 18 CSAs and eight farmers’ markets within Frederick County (Local Harvest 2009), and these were all publicized through a central county website developed and operated by the county economic development office. In addition, Frederick had numerous farm stands and agritainment enterprises. And while there were no institutional buying programs identified in Frederick County, there is state legislation permitting farm-to-school programs and two of the neighboring counties had farm-to-school programs, which were supplied by Frederick County farmers.

The extent of farmer participation in local food system activity is strong and growing. The 2007 Agricultural Census reported 158 farms with direct sales, which was 11% of all farms. In addition, twelve farms reported marketing through a CSA. Data from the landowner survey also show the extent of farmer participation in the local food system. Table 23 shows the proportion of farmers in the sample who participate in the local food system. According to these data 15.6% of farmers sell directly to consumers. Another 6.3% sell through a farmers’ market or CSA, and 6.3% sell to local institutions or businesses. Overall, 20.7% of local farm participate in at least one of these LFS marketing channels.

Results also show that some farmers have made changes or intend to make
changes specifically to access local markets. For example, 10.5% of farmers have increased direct sales over the last five years, and 10% expect to increase direct sales over the next five years. In addition, 9.1% have made changes to marketing in the last five years to increase access to local markets. Finally, 3.7% of farmers have made change to their crops or livestock to increase their access to local markets.

**Table 23. Extent of Farmer Participation in the Local Food System, Frederick County**

<table>
<thead>
<tr>
<th>Changes made by farmers over last 5 years</th>
<th>Percent of Farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased direct sales</td>
<td>10.5</td>
</tr>
<tr>
<td>Made changes in marketing strategy to access local customers</td>
<td>9.1</td>
</tr>
<tr>
<td>Made changes in crops/livestock to access local customers</td>
<td>3.7</td>
</tr>
<tr>
<td>Farmers that expect to increase direct sales over the next 5 years</td>
<td>10.0</td>
</tr>
</tbody>
</table>

*Source: Landowner Survey*

Finally data on the scale of direct sales reported in the Agricultural Census suggest that Frederick’s local food system is quite robust. Direct farm sales in the county for 2007 were a little over 2.5 million dollars. Direct sales per capita were $11.40 per person. And the percent of sales from direct sales was 2.02% (five times the national average).

*Local food system collective action*

Our research uncovered no purely civil society groups in Frederick County that were dedicated to local food development. There are several public sector
organizations in Frederick County that actively work with the public and private sectors to facilitate local food development, but these will be addressed in the section on institutional arrangements below. There are also a number of environmental and land use organizations in the county, but these are mostly focused on environmental and land-use issues and in field visits, their representatives did not draw parallels between these goals and local food systems issues.

There are two state-level civil society groups that work on local food policy and local food development. The Maryland Independent Consumers and Farmers Association (MICFA) is a producers group that advocates for policy changes at the state-level that affect local food development. Also, the Maryland Direct Farm Market Association (MDFMA) publicizes lists of farms that offer direct sales through county extension, libraries and other public facilities across the state. There is also the North American Farmers’ Direct Marketing Association (NAFDMA), which some interview participants mentioned, but this is a national group and does not work on local issues.

There seems to be little formal local food collective action happening outside of the public sector. Most local food development is the result of coordination between individual producers or distributors and the public sector. For example, some farmers and the Office of Economic Development (OED) staff are working to develop a new local dairy processing and bottling plant.

We’ll see what the farmers buy into. Personally I like an LLC or new generation co-op. I want to see the consumer buy in with shares so we give them a reason to buy the milk. We create an obligation to buy your own milk. (Agriculture Economic Development Specialist)
Most of the energy for this development is coming from the County and the will to organize in order to expand the local food system appears to be lacking in the private sector. For example, the OED and a local food distributor has tried to develop a local institutional buying program primarily between producers and restaurants, but without significant success. They report that farmers often bypass the distributor and sell to restaurants directly. Restaurants have complained that the supply of local produce is not consistent enough to make menu decisions. Acting independently, some producers have developed their own LFS niche based on a strategy of diversified production and are unwilling to increase their production of produce to supply institutions. In this case, the lack of commitment by producers and buyers in the private sector has limited the expansion of local food markets regardless of institutional support from the County.

One participant said that his local food customer network mostly grows through his own advertising efforts or word of mouth. LFS producers talked about working independently with businesses, institutions or consumers, and collaborating with the Office of Economic Development. Some local producers are members of the state local food group, NAFMDA, but most said they don’t belong to any formal group in the county. Producers consistently said that they network informally or work alone, but that they are collaborative rather than competitive when they do work with each other.

There are five farms in the area. We are informal. We used to have meetings. We stopped. We send each other members. We see each other at the common market. We used to have a lot of meetings when the USDA started with their organic standards, to discuss how we would handle them. There would be a long list to discuss if we had time. With the high demand (for local food) our
relationship is about cooperation not competition. (CSA Farmer)

Overall, there is little evidence that producers are organized and acting collectively at the county-level to expand the local food system. In the absence of local food groups, there is little evidence of resource mobilization or of efforts to frame local food as a community issue.

*Local food system institutional arrangements*

By contrast, Frederick County has a robust institutional infrastructure and many programs and policies specific to local food system development. There is a public program for farmers’ market development, a local ordinance for on-farm sales and processing, several local food directories published by the Office of Economic Development in hard copy and on the Internet, a county-level direct marketing program, a local “Homegrown” label and buy local campaign, and an institutional buying program. Frederick also has an agricultural economic development staff person who actively works with farmers to create opportunities for local food markets. Frederick also has programs for local processing of value-added products and alternative production techniques through Extension, as well as, an agritourism promotion program through the Frederick County Office of Economic Development.

Existing public sector organizations and staff generate most of the local food development activity. The Frederick County Office of Economic Development has a dedicated staff member working on agricultural economic development and 15% of the OED budget is dedicated to agriculture economic development. In addition, this office
sponsors the Agricultural Council, which works on both market and policy matters related to agriculture. Also, the Maryland Agricultural Extension Service sponsors Grow It Eat It: Maryland’s Food Gardening Network with classes in Frederick for small-scale producers and hobby gardeners and farmers.

Frederick County has successfully developed local funds and accessed state and federal resources for both farmland preservation and agricultural economic development. For example, 15% of the county economic development budget is dedicated to agricultural development as mentioned above. The Tourism Council has invested in promotional material such as the farm guide. The local extension office also has a few staff members who specialize in and offer classes for small-scale local food production. In addition, Frederick County has matched available state funds for local farmland preservation and conservation programs.

Most of the policies and programs, however, are developed through the OED and the efforts of the Agriculture Economic Development Specialist. The Agriculture Economic Strategic Plan, created by the OED, serves as the guiding policy document for LFS development. The following quote explains how this document guides LFS development.

Everything you see we do comes out of the analysis of the Agriculture Strategic Plan. Ag policy is out of a SWAT analysis. The priorities and goals of the group haven’t changed. Things that have changed are the areas we want to address within the goal. We’ve taken on five priorities with specific goals and did specific objective for those goals. (Agriculture Economic Development Specialist)

This plan is the starting point for most of the active programs and policies related to
local foods in Frederick County. The plan describes the general goals for LFS development, which the AEDS and Agriculture Business Council has further developed into measurable objectives, identified sources of funding, developed timelines, and assigned responsibilities. No other case study county has a clearly defined plan to guide LFS development.

Although Frederick has a significant amount of LFS policies and programs, there are still land use regulations that hinder LFS development. One participant said that some zoning in Frederick has prevented farmers from being able to process in farm zones.

Hedge Apples, which is run by a foundation produces apples. They tried to expand their operation but ran into trouble with the county zoning regulations regarding buildings and processing on farm-zoned land. The county board was initially unhelpful. There was a lack of understanding by decision-makers of the situation. But the planning board finally approved after one key planning board member led the effort to get the variance. (Agriculture Reporter)

In addition, there is conflict between some public health regulations that are hindering local food, while others support its development. For example, there is a new regulation requiring licensure to sell canned goods at local markets. Frederick County sponsors a class for $150 per year for food preservation licensure, but some interview participants remarked that the cost and time to get licensure is enough to inhibit them from selling canned goods. In another instance, an interview participant said that the health department had recently changed the regulations allowing more flexibility in local processing.
Despite some conflict, however, it seems that the public sector in Frederick County is doing everything it can to develop local food. Interviewees seemed informed about LFS activities and the policies and programs that exist to support it. There is a dedicated staff person who has had significant success in developing programs and accessing resources. There is the Agriculture Business Council that has a variety of members from farm and non-farm backgrounds actively developing policy to facilitate LFS development. There is a policy document that clearly defines the goals of LFS programs and is supported by important decision makers in the county.

An important function of the Agriculture Economic Development Specialist (AEDS) is as the link between producers and various kinds of consumers. The AEDS does a lot of the things that civil society groups are doing in Kent County. The AEDS connects producers with chefs, tracks volumes of food that need to be sold each week, facilitates the communication between producers and buyers through email, etc. The AEDS’s and the OED’s central role in LFS development was echoed by most of the interview participants. For example, there were several mentions of regulations that have hindered local food activity, but the OED staff was aware of the problem and actively working to resolve it to the benefit of the LFS producer.

*Links between collective action, institutional arrangements and LFS outcomes*

In Frederick County, some of the institutional support for local food system development may be the result of an earlier period of collective action for land use
reform, growth control and farmland preservation. As those with interest in land preservation gained some political power beginning in the late 1970s, traditional agricultural interests lost some of their influence over land use decision-making in the county. This shift has left room for other interests, including local food systems, to become part of the public agenda.

A lot of the initial institutional development for local food occurred as a result of an agriculture task force that was formed at the county level several years ago. This resulted in the development of the Agriculture Business Council, which was the impetus for creating an Agriculture Economic Development Specialist position. At least one participant suggested that this all occurred because the political climate happened to be right at the time.

The Agriculture Business Council formed five years ago when the political climate was supportive of agriculture as part of economic development efforts in the county. Our big success was hiring (the AEDS) out of Pennsylvania about one year ago. (Local Civic Leader)

Participants also suggested that agriculture is considered important for many reasons and by a diversity of interests. Numerous participants commented on the ways that agriculture is viewed through a multifunctional lens. For example, “The State recognizes the importance of the agriculture sector: economically, socially, environmentally” (Beef farmer). Participants also noted that the institutional actors are part of a tight network. Various public sector groups and individuals overlap in their responsibilities and roles. Those with an interest in LFS development are also involved with farmland preservation.
The Agriculture Business Council is a county council and the board of directors for agriculture programs. From the Agriculture Business Council there are representatives from the Business Development Advisory Council which is the board of directors for Economic development for the community. (Economic Development)

One possible consequence of this tight network of public sector actors that see the importance of agriculture as a multifunctional land use is that a diversity of farmers can find representation in the public sector and there are resources for a large diversity of farm types including LFS farms.

People at the market and bigger growers both meet with the county economic development offices. They also represent needs of small farms. There’s no qualitative difference between small and large farms. (LFS Farmer)

Despite the multifunctional lens of the public sector there is still conflict between farmland preservation programs and regulations and local food system needs. For instance, although the land use regulations were effective at keeping some land in agriculture, according to some interview participants, land use regulations also hindered some new types of farming in the county. For example, the agricultural extension agent commented that, “planning and zoning has been a problem for some new types of agricultural operations, limiting the construction of on-farm processing, agritourism, etc. This is particularly true if land is under agricultural conservation easement” (Extension Agent).

In addition, participants are unsure if farmland specific land use regulations have a positive effective on the agricultural industry beyond providing a pocket of land and money on which farmers can depend. “While agricultural land preservation is nice and
provides a cash infusion for farmers, it is not clear if it affects the viability of commercial agricultural operations” (Extension Agent). Further, some participants thought the farmland preservation programs have made agricultural land worthless because farmers can’t use the land as collateral with banks to get loans to expand their businesses.

Frederick doesn’t have an allegiance to local agriculture. In 1987 there was a drought. I wanted to buy the farm, but needed to put it into PDR. That’s how I got the farm. The guy I bought it from had the farm in PDRF. But preservation wasn’t worth anything. When it first started I was the biggest advocate. Now I hate it because the banks won’t use the land as collateral as a farm, because I can’t sell the land. (LFS Farmer)

Data from the landowner survey also support the suggestion that land use regulations and preservation programs created and managed by the county planning office are not seen as supportive by local food system farmers. Table 24 shows the comparison between LFS farmers and Non-LFS farmers on questions from the landowner survey related to policy, institutional support for agriculture, and collective action. Only 24% of LFS farmers perceived that the County was supportive of farming, compared to 30.6% of Non-LFS farmers. This supports the idea that the land use regulations and programs that are operated by the County government may have negative impacts on local food farmers.

If local food system activities can be negatively affected by land use regulations, then this suggests that LFS activities may require special consideration in the course of typical land use planning and specific policies and programs that help facilitate LFS development. This is not the case for agricultural economic development policies and
programs however. Half of LFS farmers compared to 34.8% on non-LFS Farmers

Table 24. Comparison Between LFS and Non-LFS Farmers, Frederick County

<table>
<thead>
<tr>
<th>Perception of positive impact of agriculture economic development policies</th>
<th>% LFS Farmers</th>
<th>% Non-LFS Farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>34.8</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Perception of support for farming</th>
</tr>
</thead>
<tbody>
<tr>
<td>County government</td>
</tr>
<tr>
<td>City government</td>
</tr>
<tr>
<td>Economic development organizations</td>
</tr>
<tr>
<td>Environmental organizations</td>
</tr>
<tr>
<td>General public</td>
</tr>
<tr>
<td>Farm Bureau</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Has membership in group</th>
</tr>
</thead>
<tbody>
<tr>
<td>A farm organization</td>
</tr>
<tr>
<td>(Farm Bureau, Grange, Farmers' Union, etc.)</td>
</tr>
<tr>
<td>A farm commodity group</td>
</tr>
<tr>
<td>Any other type of local farm-related association</td>
</tr>
</tbody>
</table>

Note: * Significant at the .01 level using the Fisher’s Exact test

Source: Landowner Survey

perceived a positive impact from local agricultural economic development policies. This again suggests that LFS policies and programs may be more essential for LFS development in a rigorous land use and farmland policy climate. This is also supported by the perception by 40% of LFS farmers that economic development organizations are supportive of farming in the county.

Yamhill County, Oregon

Yamhill County, Oregon is located in the Pacific Northwest in the Willamette Valley. The earliest white inhabitants were involved with the fur trade in the early to mid-1800s. Yamhill County developed as an agricultural and timber community and has long ranked as one of Oregon’s most agriculturally productive counties. Beginning in
the later 1960s, new residents from other areas in the west moved to Yamhill and began planting grapes in the Willamette Valley. Since that time, the wine and grape industry has really exploded and raised the profile of Yamhill and surrounding counties as a premier wine growing region. This has attracted new residents and many tourists. The culture is politically and socially liberal as Oregon was one of the first states to enact comprehensive statewide planning regulations and strict growth control standards. There has been a strong belief among the controlling majority in the importance of state government control of or participation in land use, economic development, social services, etc. As such there has been much less local control of land use and agricultural economic development than in the other case study counties. In regards to local foods, there are several state-level initiatives for sustainable agriculture but much less local government involvement in this issue.

**Geography**

Yamhill County is located on the west side of the lower middle part of the Willamette Valley. The Willamette River runs along the eastern border of the county and the western boundary runs within 11 miles of the Pacific Ocean at its closest point. Yamhill County is 718 square miles. According to NRI data, 44% of the land is in forest, 25.6% is in cropland, 7.7% is in pastureland, and 4.6% is in developed uses (National Resource Inventory 2002). The landscape is a series of valleys bordered by rolling hills creating a very pastoral image.
Demographic

As of 2007, the population of Yamhill was 96,573. The majority, about 70% of the residents live in urbanized areas. The density of population outside the urbanized area is 37 people per square mile, and the overall population density is 119 people per square mile. There are a total of ten incorporated cities, and 21 unincorporated areas in Yamhill County. Yamhill is part of the Portland metropolitan area, which has a population of a little more than 1.9 million. The county population grew in the 1990s a total of 29.7% with an annual average rate of 2.6%. Population growth slowed somewhat between 2000 and 2007 with a total growth of 13.6% and a yearly average of 1.8%.

Income

The income profile of Yamhill County is slightly less than the national average. Table 25 shows the socioeconomic profile of residents. The median income in 2000 was $44,111. The poverty rate was 9.2%. The percent of households with incomes over $100,000 was 10.7%. These data suggest that there is potential for consumer demand of local foods but perhaps not as much as in Frederick County.

Table 25. Socioeconomic Profile of Yamhill Residents

<table>
<thead>
<tr>
<th>Income Characteristics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Median Income ($)</td>
<td>44,111</td>
</tr>
<tr>
<td>Poverty Rate (%)</td>
<td>9.2</td>
</tr>
<tr>
<td>Percent of Households with Incomes over $100,000</td>
<td>10.7</td>
</tr>
</tbody>
</table>

Source: US Census 2000
Economy

The sectors that employ the most people include manufacturing (19.4%), educational, health and social services (18.6%) and retail (11.5%). Agriculture employs about 4.5% of the local population, and 2.8% of the population claim farming as their occupation. Yamhill has the largest share of agricultural employment of any of the case study counties (Bureau of Labor Statistics 2007).

Agriculture

Table 26 shows the distribution of commodities for Yamhill County by sales and number of farms. According to the 2007 Agricultural Census, the majority of farms Yamhill County are raising fruits, nuts, and berries (25%), forage (25%), and cattle (23.7%). The majority of sales are from nursery and greenhouse (43.6%) and fruits, nuts and berries (18.3%). As in Kent County, the strength of fruits, nuts and berries could indicate the potential for a local food system as these crops tend to be higher value and can be sold locally.

Table 26. Top Commodities by Sales and Number of Farms, Yamhill County

<table>
<thead>
<tr>
<th></th>
<th>Percent of County Farm Sales</th>
<th>Percent of County Farms Raising</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle and calves</td>
<td>1.8</td>
<td>23.7</td>
</tr>
<tr>
<td>Poultry</td>
<td>6.2</td>
<td>7.8</td>
</tr>
<tr>
<td>Nursery &amp; Greenhouse</td>
<td>43.6</td>
<td>6.2</td>
</tr>
<tr>
<td>Fruits nuts &amp; berries</td>
<td>18.3</td>
<td>25.0</td>
</tr>
<tr>
<td>Forage</td>
<td>N/A</td>
<td>25.2</td>
</tr>
</tbody>
</table>

Note: N/A= not available
Source: US Census of Agriculture 2007
The Census of Agriculture also classifies Yamhill County farms into a range of types based on farm size and principle occupation of the operator. Table 27 shows the distribution of farm types by number of farms and acres of farmland. The results suggest that the majority of farms are small family and hobby farms, which could indicate the potential for more local food system activity. More than three-fourths of farms are small farm, which manage a little more than 40% of all of the farmland in the county. In comparison, 4.2% of farms that are large and very large family farms manage about a third of the farmland in the county. About 7% of farms are nonfamily farm businesses, which manage 17.5% of the farmland.

Yamhill County ranks fifth in the state for agricultural production (Oregon Department of Agriculture 2009). The agricultural sector of Yamhill County can be classified as growing from 1987 to 1997 and intensifying from 1997 to 2007. The most recent numbers indicate that the number of farms and land in farms has decreased slightly from 1997 to 2007 (2.8% and 11.7%, respectively), while there has been considerable growth in sales and sales per acre of farmland during the same period. Farm sales have increased by 28.2% from about $166 million per year in 1997 to $231 million per year in 2007. Sales per acre of farmland have increased 45.2% from $818 per acre per year in 1997 to $1,535 per acre per year in 2007.
This is consistent with results from the landowner survey, which shows that the majority of farmers have made changes to their farms in the last five years to expand or intensify production. Table 28 shows the percent of farmers in Yamhill County using

**Table 27.** Distribution of Farm Types by Number of Farms and Acres of Farmland

<table>
<thead>
<tr>
<th></th>
<th>% Farms</th>
<th>% Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Small Family Farms (Sales &lt; $250,000)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited resource</td>
<td>12.2</td>
<td>5.4</td>
</tr>
<tr>
<td>Retirement</td>
<td>22.1</td>
<td>15.8</td>
</tr>
<tr>
<td>Residential/lifestyle</td>
<td>42.5</td>
<td>16.5</td>
</tr>
<tr>
<td>Higher sales</td>
<td>1.8</td>
<td>4.6</td>
</tr>
<tr>
<td><strong>Total small</strong></td>
<td><strong>78.6</strong></td>
<td><strong>42.4</strong></td>
</tr>
<tr>
<td><strong>Large Family Farms (Sales $250,000+)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large ($250,000-$499,000)</td>
<td>1.5</td>
<td>7.5</td>
</tr>
<tr>
<td>Very large ($500,000+)</td>
<td>2.7</td>
<td>25.7</td>
</tr>
<tr>
<td><strong>Total large and very large family</strong></td>
<td><strong>4.2</strong></td>
<td><strong>33.2</strong></td>
</tr>
<tr>
<td><strong>Nonfamily</strong></td>
<td>7.0</td>
<td>17.5</td>
</tr>
</tbody>
</table>

*Source: US Census of Agriculture 2007*

intensification, growth, decline and de-intensification strategies. About 50% of respondents used some type of growth strategy, and 64.3% used an intensification strategy. Almost a third of farmers have shifted to crops or livestock that generate more value per acre. As in the other case study counties, some farmers may shift to higher value crops in order to develop local markets.

Yamhill is also the center of Oregon’s wine industry with over 80 wineries and 200 vineyards. The best agricultural land was thought to be in the lowlands of the valleys until the 1980s when existing and new agriculturalists began planting the rockier hill areas with grape vines. Since then the wine industry has really exploded in Yamhill...
County. It has the most area of any Oregon county planted in vineyards. There are also six American Viticulture Areas in Yamhill County, which are designated wine-grape areas. Additionally, sales from fruits, nuts and berries, which includes grapes, has increased from 12.1% in 2002 to 18.3% in 2007. The wine industry also brings in

Table 28. Percent of Farmers Using Adaptation Strategies, Yamhill County

<table>
<thead>
<tr>
<th>Indicators of De-intensification</th>
<th>Percent of Farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decreased capital investment in buildings</td>
<td>5.0</td>
</tr>
<tr>
<td>Decreased investment in equipment</td>
<td>4.9</td>
</tr>
<tr>
<td>Increased land in conservation programs</td>
<td>4.5</td>
</tr>
<tr>
<td>Decreased sales while land remained same</td>
<td>5.4</td>
</tr>
<tr>
<td>Idled or left fallow some farmland</td>
<td>14.6</td>
</tr>
<tr>
<td><strong>Used any de-intensification strategy</strong></td>
<td><strong>19.6</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators of Decline</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Decreased farmland owned</td>
<td>0.0</td>
</tr>
<tr>
<td>Decreased farmland rented</td>
<td>7.7</td>
</tr>
<tr>
<td>Decreased livestock sold</td>
<td>16.0</td>
</tr>
<tr>
<td>Decreased value of gross sales</td>
<td>7.9</td>
</tr>
<tr>
<td>Sold land for nonfarm development</td>
<td>6.2</td>
</tr>
<tr>
<td><strong>Used any decline strategy</strong></td>
<td><strong>17.9</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators of Growth</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased farmland owned</td>
<td>16.3</td>
</tr>
<tr>
<td>Increased farmland rented</td>
<td>26.9</td>
</tr>
<tr>
<td>Increased livestock sold</td>
<td>32.0</td>
</tr>
<tr>
<td>Increased value of total gross sales</td>
<td>60.5</td>
</tr>
<tr>
<td><strong>Used any growth strategy</strong></td>
<td><strong>50.0</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators of Intensification</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased capital investment in farm buildings</td>
<td>40.0</td>
</tr>
<tr>
<td>Increased investment in farm equipment</td>
<td>63.4</td>
</tr>
<tr>
<td>Decreased land in conservation programs</td>
<td>4.5</td>
</tr>
<tr>
<td>Increased sales while land remained same</td>
<td>16.1</td>
</tr>
<tr>
<td>Shifted to crops or livestock that generate more sales per acre</td>
<td>28.0</td>
</tr>
<tr>
<td><strong>Used any intensification strategy</strong></td>
<td><strong>64.3</strong></td>
</tr>
</tbody>
</table>

*Source: Landowner Survey*
considerable tourist dollars aside from the sales generated directly from grape
growing or wine making. High-end hotels, restaurants and shopping areas have been
developed in response to the interest in wine.

*Land use, regulation, and development*

Yamhill is unique among the case study counties because it has the most
restrictive land use regulations. Unlike Frederick County, which has a mix of incentive
based policies, voluntary programs and land use regulations to preserve farmland and
develop agriculture, Yamhill County’s land use regulations are mandatory and there are
very few voluntary farmland preservation programs as they are in Frederick County. In
addition, land use regulations are *state* mandates and as such have removed much of
the local-level control and flexibility of land use decision-making that exists in the other
case study counties.

The backbone of the Oregon regulatory environment is based on urban growth
boundaries (UGB) and exclusive agricultural zoning (EAZ). The UGB determines the
outer limits of urban development around cities and towns. The EAZ strictly restricts
land use to agricultural or forestry purposes in the areas zoned as such. In 1966, a
diversity of community members throughout Oregon initiated legislation that mandated
comprehensive planning at the local level that must meet state standards. The UGB and
EAZ policies were established as state standards shortly after this. Each county was
required to develop a comprehensive plan that would guide all future development,
trumping the authority of local zoning regulations and decision-makers. As part of that
plan, each county was required to establish UGBs and EAZs. Initially and for many decades following, there has been strong public support for the state-level legislation.

Now, this appears to be changing. With increased pressure to develop from exurbanites and the desire of some landowners and farmers to subdivide, sell or develop all or parts of their land, support for restrictive land use policies has waned. In 2004, by popular vote, the state passed Measure 37, which allows property owners whose property value is reduced by environmental or other land use regulations to claim compensation from state or local government. If the government fails to compensate a claimant within two years of the claim, the law allows the claimant to use the property under the regulations in place at the time the property was purchased. For those who have owned land before the 1966 legislation, this has meant they can regain the right to develop their land without government oversight.

There are still those who are vehemently opposed to developing land outside of the UGB or land that has been zoned exclusively for agricultural use. This has resulted in heavy involvement and intense debate in the media and other public forums from both sides of the ideological divide.

Local food system activity

Yamhill is interesting because it has only a moderate amount of local food system activity compared to the other case study counties despite being the only county that had a vibrant growing agricultural sector. According to Internet research, there were two farmers markets, seven CSAs, no institutional buying programs and several
agritainment farms and farm stands. According to interview participants, there is really one main farmers’ market in McMinnville on Saturday mornings. It was started in 2001 by a couple of local farmers with some funding from the McMinnville Downtown Association. The Downtown Association also now manages the market. The market does emphasize producer-only products and features a new local winery every week and in this way taps into the local wine culture.

According to the 2007 Agricultural Census the extent of farmer participation in the local food system consisted of 375 farms that reported direct sales, which equated to 17.7% of all farms. Nineteen farms reported marketing through a CSA. Data from the landowner survey also show the extent of farmer participation in the local food system. Table 29 shows the proportion of farmers in the sample that participate in the local food system. According to these data, 16.3% of farmers sell directly to consumers and 20.4% sell directly to institutions; much of this may be due to wine growers selling to restaurants. No farmers reported selling through a farmers’ market or CSA. Overall, 36.4% report using at least one of these three types of LFS marketing approaches.

Results also show that farmers have made or intend to make changes to access local markets. About a third of farmers have increased direct selling activity over the last five years. Roughly half of Yamhill’s farmers expect to increase sales over the next five years. In addition, 23.4% have made changes to their marketing strategies to access local markets. Finally, 14.6% of farmers have made changes to their crops or livestock in order to better access local markets.
Despite the number of farms participating in direct sales, total direct farm sales in the county was a little over 1.2 million dollars for 2007. This places Yamhill fourth in the amount of direct sales compared to the other case study counties. In addition, Yamhill had $13.12 in direct sales per capita and 0.46% of total agricultural sales for the county from direct sales.

Table 29. Extent of Farmer Participation in the Local Food System, Yamhill County

<table>
<thead>
<tr>
<th>Percent of Farmers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct sales to consumers from farm</td>
<td>16.3</td>
</tr>
<tr>
<td>Direct sales to consumers at farmers market/CSA</td>
<td>0.0</td>
</tr>
<tr>
<td>Sales to local institutions or businesses</td>
<td>20.4</td>
</tr>
<tr>
<td>Uses any of these three</td>
<td>36.4</td>
</tr>
<tr>
<td>Changes made by farmers over last 5 years</td>
<td></td>
</tr>
<tr>
<td>Increased direct sales</td>
<td>32.2</td>
</tr>
<tr>
<td>Made changes in marketing strategy to access local customers</td>
<td>23.4</td>
</tr>
<tr>
<td>Made changes in crops/livestock to access local customers</td>
<td>14.6</td>
</tr>
<tr>
<td>Farmers that expect to increase direct sales over the next 5 years</td>
<td>53.8</td>
</tr>
</tbody>
</table>

Source: Landowner Survey

The local food scene in Yamhill seems to center on the wine industry as people come from all over to taste and buy wines. Interview participants talked about the synergy between wine and local food.

There is this sort of interesting interplay between the restaurant culture and the wine culture that has evolved and has really led to most of the restaurants in Portland. It’s a big part of their promotion to buy local and sustainable. I see it as this snowballing trend happening right now, where people are more concerned about where their food is coming from and that market and that in turn suits the farmer well. I think that that’s going to be a positive trend in the future.

(Winemaker)
Many of the wineries do not sell outside of the area, and as a result, a lot of the local food system activity revolves around agritourism.

**Local food system collective action**

Research uncovered three civil society groups working on local food issues in Yamhill County. Slow Food Yamhill, a local branch of the international Slow Food organization, works on increasing awareness, availability and access to local food. Most of the activities involve promoting events that feature local foods to increase awareness to residents. This group reports a small membership, most of which are individuals interested in food culture. Producers were not heavily involved in this group. The second group is the Salvation Army. The only local food issue this group is involved in is the management of a community garden. This group also does not include producers.

The third group is a collection of a few producers, led by one LFS farmer, which organized the weekly farmers’ market. This was also the only example of successful resource mobilization related to local food systems. The farmers’ market group was able to access a small amount of funding from the McMinnville Downtown Association to start the market several years ago. Other than this, there has been little local collective action around food, agriculture or land use since the 1970s’ land use movement.

Individual farming sectors seem to be segregated and well organized around their own issues. This is especially true of the wine industry. Many participants noted the exclusivity of the wine industry. Said a planner, “The wine industry grows off itself”
A farmer said, “The wine people seem to be very cliquish. They are in their own little world and everyone else stays away” (Dairy Farmer).

We’ve always had a really strong advocacy group called the Oregon Wine Growers. We’re constantly networking together on problems. When problems arise we do reach out. (Winemaker)

According to a review of the local newspaper, local food production is not heavily featured in the local media, except in relation to occasional wine and food events, and several mentions of the community garden operated by the Salvation Army.

Local Food System producers say they do most of their own organizing and work through the local farmers’ market, as there aren’t any local farm organizations that fit their needs.

We are not involved in any farm organization because there are none in the county that seem to fit. We are members of Oregon Tilth, a statewide organic certifying organization. We farm 1.5 acres. We run a 48-member CSA. We took brochures around town. The newspaper did a story. We networked. We also listed with Local Harvest. Some people were aware of CSAs. (LFS Farmers).

**Local food system institutional arrangements**

There is weak public sector support for LFS development in Yamhill County. Most interview participants said that they were not aware of any policies or programs, particularly economic development related to local food systems. I was also unable to confirm the existence of any of the programs to facilitate the development of local food systems. There also is not a dedicated staff for agricultural economic development within the county.

There are, however, significant farmland protection and land use regulations at
the state-level that have resulted in the preservation of large expanses of open land zoned exclusively for agricultural uses. According to respondents, however, this type of land use regulation can create barrier to local food development in several significant ways. First, the existing land use regulations and planning tools are mostly geared towards traditional forms of agriculture and may not offer the same protections or opportunities to local food farms, which tend to be smaller in size and are more successful in a mixed land use context. One interviewee gave the example of the right to farm law. “Right to farm law only covers current practices, not new practices” (Nursery Industry).

Second, some participants suggested that the land use laws are so restrictive that they limit the ability of small farmers to develop in the county. For example, one respondent talked about a man who wanted to grow blueberries to sell locally. He bought a farm, but wasn’t able to build a house on the property because of the restrictive land use laws. So he had to drive after work every day from the town to farm. Eventually he sold his farm.

Participants repeatedly said that the land use laws make it difficult for small farmers to be profitable, build a house on their land, make an income, and get their products to market because roads are so hard to get built. As one participant suggested, the land use is so restrictive that it inhibits farmers’ ability to develop.

If you have time you should go to our farmers market. It’s really beautiful and nice but it’s not making those people profitable. Those people have a lot of time to be able to go out and grow truck farms and come down once a week and sell their crops. They do it because they like to do it. It’s not going to support a family. If
you want small farms you need people to be able to live on a farm and have a source of income that helps support that. If you want a farm to be profitable to only farmers, it has to be big enough to support them and cover overhead. When we limit that flexibility we limit the ability to have these small farms and to put them into our food chain. (Yamhill County Commissioner)

In addition to the restrictive land use institutions, participants suggested that the institutions that should be working on agriculture economic development are not doing so. One participant suggested that extension should be doing more to develop local agriculture economic development but they are not because of the structure of the extension agency and the motivation of the staff.

The obvious answer as to who should be promoting local agriculture would be the local Extension, but they’re not. All around us we have Extension offices in the counties. Except in Yamhill County there is actually a decent tax base to support their programs because the other counties have to go for grants. When you are grant funded largely, you have to do what the grantors are willing to pay for. So at the district we have a little tax base, which is good to keep a couple staff, but grants are ¾ of our money. I don’t see that at Extension. In Yamhill they don’t have any small farms program. (Government Agency)

The Agricultural Extension agency in Yamhill has two agents that split their time between two counties and are not motivated to seek resources through grant writing or to develop new programs to create or expand local markets.

Finally, participants did say there was interest in local food system development but most of this was occurring at the state-level.

Economic development is one of the main things that the director (of the State Department of Agriculture) is interested in and it has to do with value added agriculture and trying to move farmers away from the conventional agriculture that is competing at the low end with china to the high value agriculture that is providing niche marketing opportunities, like the nursery industry and other things that can be sold for higher price, give a better return to the farmers or their not competing with commodities anymore but establishing a market that can be
defined more uniquely. (Winemaker)

Participants did note, however, that although there is interest in local food system development it has been a struggle to make progress in that direction.

It’s been hard to make any real...she’s really been trying...to try to move people in that direction, but the fighting back from the conservatives is huge. If you even mention the word sustainability all their flags go up. You can’t say that because that’s against conventional. It is seriously on everyone’s agenda at the agriculture department to try to help people. Next Friday is a new, some kind of sustainability research center for Oregon agriculture to try to help people move in that direction. The governor is signing it. It’s a state initiative. (Winemaker)

*Links between collective action, institutional arrangements and LFS outcomes*

The state-level farmland protections have set the stage for agriculture, but there is little local collective action or local institutional arrangements that are facilitating local food system development. Rather, most land use and agricultural development efforts seem to be directed at larger-scale agricultural industries. This may be because the land use regulations have provided a stable base of farmland on which farmers can depend and grow. Larger-scale agriculture remains a viable and growing industry in Yamhill County. Hence there may be less interest and resources directed towards local food system development.

LFS farmers in Yamhill repeatedly commented that there were no groups that supported their particular needs. This is somewhat supported with data from the landowner survey that shows that LFS farmers are slightly less likely to participate in local farm-related groups (Table 30). Despite a lack of membership in farm-related
organization, LFS farmers were as or more likely to perceive the city and county
governments, environmental groups, the general public and the Farm Bureau as
supportive of farming. This suggests that LFS farmers in Yamhill are mostly working on
their own or networking informally without the significant membership in groups or
institutions, but they are somewhat more satisfied with the levels of institutional and
public support for farming than their Non-LFS counterparts. However few of the
differences between LFS and Non-LFS subgroups are statistically significant.

Table 30. Comparison Between LFS and Non-LFS Farmers, Yamhill County

<table>
<thead>
<tr>
<th>Perception of positive impact of agriculture economic development policies</th>
<th>% LFS Farmers</th>
<th>% Non-LFS Farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perception of support for farming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>County government</td>
<td>59.1</td>
<td>47.1</td>
</tr>
<tr>
<td>City government</td>
<td>50.0*</td>
<td>18.2</td>
</tr>
<tr>
<td>Economic development organizations</td>
<td>15.0</td>
<td>24.1</td>
</tr>
<tr>
<td>Environmental organizations</td>
<td>38.1</td>
<td>25.7</td>
</tr>
<tr>
<td>General public</td>
<td>47.6</td>
<td>23.5</td>
</tr>
<tr>
<td>Farm Bureau</td>
<td>65.0</td>
<td>59.5</td>
</tr>
<tr>
<td>Has membership in group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A farm organization (Farm Bureau, Grange, Farmers’ Union, etc.)</td>
<td>30.4</td>
<td>43.2</td>
</tr>
<tr>
<td>A farm commodity group</td>
<td>13.1</td>
<td>31.3</td>
</tr>
<tr>
<td>Any other type of local farm-related association</td>
<td>26.1</td>
<td>31.4</td>
</tr>
</tbody>
</table>

Note: *Significant at the .05 level using the Fisher’s Exact test
Source: Landowner Survey

Hall County, Georgia

Hall County, Georgia is located in the southern United States. It was founded in
the early 1800s and was historically an early center of mining and logging. The area
developed as a summer resort because of nearby mountains and lakes. Hall County
later developed into a manufacturing and processing center. Cotton mills and lumber shipping were the first major industries, which was followed by poultry processing after World War II. The culture is politically and socially conservative and Hall County, along with neighboring Forsyth County, has become infamous for several incidences of racial crimes and intolerance. In regards to local foods, the majority believes that agriculture economic development is a private sector matter. As result there is little local government involvement in agricultural economic development or local foods.

Geography

Hall County has a hilly topography with a generally rural character in the northern and eastern portions of the county and is located 38 miles north of the Atlanta metropolitan area. Lake Lanier borders the western edge, while the southern areas are the most heavily populated. Most of the agricultural land occurs in the northern half of the county. According to the NRI data, 37.3% of land is in forest, 27.8% is in developed uses, 18.2% is in pastureland, and 0.2% is in cropland (National Resource Inventory 2002).

Demographics

Hall County is part of the Gainesville metropolitan area, which is in the county. The population in 2007 was estimated at 180,175. Hall County has had the most rapid population growth of any of the case study counties. In the 1990s, the population grew
by 45.6% with an annual growth rate of 3.9%. This has slowed slightly with a yearly average growth of 3.7% from 2000 to 2007 with a total of 29.4%. The overall population density is 335 people per square mile. Most of the growth has occurred in Gainesville and the southern end of the county. About 33% of the population resides in the non-urbanized areas.

*Income*

The socioeconomic profile of residents in Hall County is about the same as the US average. Table 31 shows the incomes characteristics of Hall County. The median income in 2000 was $44,908. The poverty rate was 12.4% and the percent of households with incomes over $100,000 is 12.7%. These data suggest that income is a predictor of the amount of local food demand; Hall County should have an average amount.

**Table 31. Socioeconomic Profile of Hall County Residents**

<table>
<thead>
<tr>
<th>Income Characteristics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Median Income ($)</td>
<td>44,908</td>
</tr>
<tr>
<td>Poverty Rate (%)</td>
<td>12.4</td>
</tr>
<tr>
<td>Percent of Households with Incomes over $100,000</td>
<td>12.7</td>
</tr>
</tbody>
</table>

*Source: US Census 2000*

*Economy*

The sectors that employ the most people include manufacturing (25.5%), educational, health and social services (15.3%) and retail (11.1%). Agriculture employs
about 1.6% of the local population, and 0.9% of the population claim farming as their occupation. The Hall County website claims that the county has a diversified economic base and doesn’t claim any single industry, outside of agriculture, that is dominant (Bureau of Labor Statistics 2007).

Agriculture

Agriculture is the principal industry in Hall County. Gainesville has been called the “poultry capital of the world” due to the concentration of poultry processing facilities in the city. This seems an accurate title given that 96.1% of sales are from poultry in the county and that figure has been increasing steadily over many census periods. Most of this is concentrated among relatively few farms with only 22.8% of farms raising poultry in 2007. Table 32 shows the distribution of commodities for Hall County by sales and number of farms. According to the 2007 Agricultural Census, the majority of farms in Hall County raise cattle (42.6%), forage (38.4%), and poultry (22.8%). As noted, the overwhelming majority of sales are from poultry (96.1%), trailed by cattle (2.3%). Although the largest percentage of sales comes from poultry, a much smaller percentage of farms raise poultry (22.8%).

The Census of Agriculture classifies Hall County farms into a range of types based on farm size and principal occupation of the operator. The results suggest that the majority of farms are small family and hobby farms, which again suggests along with other structural conditions like population growth that Hall County could have potential for a local food system. Table 33 shows the distribution of farm types by number of
farms and acres of farmland. Approximately, three-fourths of farms are small farms, which manage 62.8% of the farmland in the county. In comparison, 12.5% of farms are large and very large family farms, which manage about a quarter of the farmland.

About 3% of farms are nonfamily farm businesses, which operate farms on 4.7% of the farmland in the county.

**Table 32.** Top Commodities by Sales and Number of Farms, Hall County

<table>
<thead>
<tr>
<th></th>
<th>Percent of County Farm Sales</th>
<th>Percent of County Farms Raising</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle and calves</td>
<td>2.3</td>
<td>42.6</td>
</tr>
<tr>
<td>Dairy</td>
<td>0.6</td>
<td>2.3</td>
</tr>
<tr>
<td>Poultry</td>
<td>96.1</td>
<td>22.8</td>
</tr>
<tr>
<td>Forage</td>
<td>N/A</td>
<td>38.4</td>
</tr>
</tbody>
</table>

*Note: N/A = not available
Source: US Census of Agriculture 2007

**Table 33.** Distribution of Farm Types by Number of Farms and Acres of Farmland

<table>
<thead>
<tr>
<th>Small Family Farms (Sales &lt; $250,000)</th>
<th>% Farms</th>
<th>% Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited resource</td>
<td>15.4</td>
<td>10.0</td>
</tr>
<tr>
<td>Retirement</td>
<td>19.5</td>
<td>18.2</td>
</tr>
<tr>
<td>Residential/lifestyle</td>
<td>38.5</td>
<td>31.4</td>
</tr>
<tr>
<td>Higher sales</td>
<td>4.4</td>
<td>3.2</td>
</tr>
<tr>
<td><strong>Total small</strong></td>
<td><strong>77.8</strong></td>
<td><strong>62.8</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Large Family Farms (Sales $250,000+)</th>
<th>% Farms</th>
<th>% Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large ($250,000-$499,000)</td>
<td>3.6</td>
<td>4.0</td>
</tr>
<tr>
<td>Very large ($500,000+)</td>
<td>8.9</td>
<td>19.6</td>
</tr>
<tr>
<td><strong>Total large and very large family</strong></td>
<td><strong>12.5</strong></td>
<td><strong>23.6</strong></td>
</tr>
</tbody>
</table>

| Nonfamily                            | 2.9     | 4.7     |

*Source: US Census of Agriculture 2007

The agricultural sector of Hall County can be classified as declining from 1987 to 1997 and stable from 1997 to 2007. The most recent data show that the number of
farms and the land in farms has decreased from 1997 to 2007. There were 856 farms in 1997 and 799 in 2007, which is a loss of 6.7%. Land in farms also declined from 59,868 acres in 1997 to 57,272 acres in 2007, which is a decrease of 4.3%. Also the percent of land in hay almost doubled from 8% in 2002 to 15.5% in 2007 indicating that some farmers are shifting to less intense forms of production. Farm sales and sales per acre of farmland have increased during this period though, suggesting that production is intensifying on the remaining farmland in the county. Farm sales increased from $144,158 in 1997 to $181,527 in 2007. Sales per acre also increased from $2,408 in 1997 to $3,168 in 2007.

These trends are consistent with the results from the landowner survey, which shows that the majority of farmers in that sample have made changes to their farms in the last five years to intensify production. Table 34 shows the percent of respondents using intensification, growth, de-intensification, and decline strategies in the landowner survey sample. Almost half of farmers used an intensification strategy, while roughly a third used a de-intensification or decline strategy. Unlike the other case study counties however, only 10% of farmers shifted to crops or livestock that generate more sales per acre. This could indicate less local food system activity relative to the other case study counties.

Land use, regulation, and development

Although there is some discussion of conservation subdivisions among the planning staff, decisions regarding rezoning and development are generally made
through the planning commission and by the elected county commissioners.

Participants seemed to agree that landowners in the county were interested in retaining the right to develop their land as opposed to putting land into conservation. The county had attempted to increase population density in the southern portion of the county by reducing the minimum lot size. This was unpopular with landowners in the northern part of the county because they believed it made their land less valuable. It was also

Table 34. Percent of Farmers Using Adaptation Strategies, Hall County

<table>
<thead>
<tr>
<th>Indicators of De-intensification</th>
<th>Percent of Farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decreased capital investment in buildings</td>
<td>7.7</td>
</tr>
<tr>
<td>Decreased investment in equipment</td>
<td>5.9</td>
</tr>
<tr>
<td>Increased land in conservation programs</td>
<td>14.3</td>
</tr>
<tr>
<td>Decreased sales while land remained same</td>
<td>8.3</td>
</tr>
<tr>
<td>Idled or left fallow some farmland</td>
<td>27.8</td>
</tr>
<tr>
<td><strong>Used any de-intensification strategy</strong></td>
<td><strong>37.5</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators of Decline</th>
<th>Percent of Farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decreased farmland owned</td>
<td>5.3</td>
</tr>
<tr>
<td>Decreased farmland rented</td>
<td>0.0</td>
</tr>
<tr>
<td>Decreased livestock sold</td>
<td>35.7</td>
</tr>
<tr>
<td>Decreased value of gross sales</td>
<td>20.0</td>
</tr>
<tr>
<td>Sold land for nonfarm development</td>
<td>15.8</td>
</tr>
<tr>
<td><strong>Used any decline strategy</strong></td>
<td><strong>37.5</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators of Growth</th>
<th>Percent of Farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased farmland owned</td>
<td>0.0</td>
</tr>
<tr>
<td>Increased farmland rented</td>
<td>16.7</td>
</tr>
<tr>
<td>Increased livestock sold</td>
<td>7.1</td>
</tr>
<tr>
<td>Increased value of total gross sales</td>
<td>20.0</td>
</tr>
<tr>
<td><strong>Used any growth strategy</strong></td>
<td><strong>16.7</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators of Intensification</th>
<th>Percent of Farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased capital investment in farm buildings</td>
<td>46.2</td>
</tr>
<tr>
<td>Increased investment in farm equipment</td>
<td>35.3</td>
</tr>
<tr>
<td>Decreased land in conservation programs</td>
<td>0.0</td>
</tr>
<tr>
<td>Increased sales while land remained same</td>
<td>4.2</td>
</tr>
<tr>
<td>Shifted to crops or livestock that generate more sales per acre</td>
<td>10.0</td>
</tr>
<tr>
<td><strong>Used any intensification strategy</strong></td>
<td><strong>50.0</strong></td>
</tr>
</tbody>
</table>

*Source: Landowner Survey*
more unpopular with older landowners who were nearing retirement and depending on the sale of their land for income. As a result of the controversy, the zoning map was changed in 2004 to 1-acre lots throughout the county.

In 2006 the county was updating their comprehensive plan. Although the county government remains dominated by local lifelong resident landowners and farmers, the current County Commission has made changes to the existing zoning regulations. They are currently updating the development code, which has not been updated for approximately 30 years.

According to members of county government, the current philosophy is to seek a balance between maintaining open space and agriculture and facilitating development. Yet there are no programs in the county to preserve open space or agricultural land. According to the current zoning it is possible to develop conservation subdivisions or clustered developments. Yet these zoning rules are only on the books and not well defined. The county does not offer incentives for these alternative types of development. Outside of government efforts to preserve open space or agricultural land, there is one environmental group that protested development around Lake Lanier in the northern part of the county. The group threatened to sue the county and a landowner, but the case never went to court.

Several participants mentioned informational workshops about PDR and TDR programs that were held by the county. There was apparently no interest from landowners. There are also no easement programs in the county. Right-to-farm laws do
exist at the state level, but according to participants they are not very effective. As in other counties in the study, Hall requires that new buyers are notified of the realities of farming at the time of purchase, including smells, dust, and slow-moving machinery on the roads.

*Local food system activity*

Hall County has some local food system activity although less than the other four case study counties. There is only one farmers’ market that has been operating since the 1960s out of the county fairgrounds. There are no CSAs or institutional buying programs. Research indicated there is only one prominent farm stand and a few agritainment farms.

Overall, the extent of farmer participation is less than in the other counties. According to the 2007 Agricultural Census, only 19 farms reported direct sales, which are only 2.38% of all farms, and only one farm reported marketing through a CSA. Data from the landowner survey suggest that the extent of farmer participation is greater than reported in the census. Table 35 shows the proportion of farmers in the sample who participate in the local food system. Approximately 27% of farmers sell directly to consumers from their farms, and 27% sell directly at a farmers’ market or CSA. About 9% of farmers sell to local institutions. Overall approximately 48% of farmers are engaged in one of these three types of LFS marketing approaches. These data suggest a lot of individual producer action without necessarily indicating the development of a local food system. For example, the farmers’ market has been operating for decades
and so there is likely a long history of families selling excess produce at the market.

There was no evidence of new markets or efforts to create new markets. Also, the third of producers who indicated that they sell directly to consumers from their farm could indicate the common habit of farmers selling excess produce to their neighbors.

Approximately 20% of farmers said they have increased sales over the last five years, but only about 5% have made changes to their marketing or crops and livestock with the intention of accessing local customers.

**Table 35.** Extent of Farmer Participation in the Local Food System, Hall County

<table>
<thead>
<tr>
<th>Percent of Farmers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct sales to consumers from farm</td>
<td>27.3</td>
</tr>
<tr>
<td>Direct sales to consumers at farmers market/CSA</td>
<td>27.3</td>
</tr>
<tr>
<td>Sales to local institutions or businesses</td>
<td>9.1</td>
</tr>
<tr>
<td>Uses any of these three</td>
<td>47.4</td>
</tr>
</tbody>
</table>

Changes made by farmers over last 5 years

| Increased direct sales | 20.0 |
| Made changes in marketing strategy to access local customers | 5.3 |
| Made changes in crops/livestock to access local customers | 5.6 |

Farmers that expect to increase direct sales over the next 5 years | 36.4 |

*Source:* Landowner Survey

Finally data on the scale of direct sales reported in the Agricultural Census suggest that Hall’s local food system is weak in comparison to the other case study counties. Direct farm sales in the county for 2007 were only $159,000. Direct sales per capita were only $0.88 per person. Further, the percent of sales from direct sales in 2007 was only 0.09%.

According to interview participants, if there is any local food activity it is limited
to about 26 farmers that participate in the twice-weekly farmers’ market, which was referred to by interviewees as a side project and not something you can make a living from.

There are twenty-six farmers that participate. “But you don’t make a living off alternative agriculture in this county. You just do it as a side project. For instance, Dennis Bottom grows Christmas trees, has a truck farm and raises cattle, but he is a lawyer full time. (Traditional Farmer)

It seems that there once was more of a local food economy because the farmers’ market has existed for at least 20 years, but that has dwindled with the loss of agriculturally-minded people, loss of canning and processing for farm animals, etc.

If the original old farmer is still there, he wants to stay in farming. Rarely do the second generation want to. If their land is worth five million dollars, going out chasing cows at 4 AM when it’s 20 degrees... rarely do they love it as much because they didn’t build it up. (Real Estate Developer)

“So people aren’t attached to the farming lifestyle?” (Researcher)

You could make that statement. The older generation still wants their land. They are the ones most reluctant to let it go. Once they’re gone, it’s the second generation that lets it go. (Real Estate Developer)

Even at the largest local farm stand only about 25% of the products are from a local source including the owner’s farm or other area farms. This can barely be considered local by the more stringent standards of the other case study counties.

Overall, despite a sizable percent of farmers reporting direct selling in the landowner survey, interview participants and data from the census suggest that the local food system is due mostly to the long-standing farmers’ market and producers acting independently to sell produce from their farm.
Local food system collective action

Interview participants talked about a dearth of local collective action. The agricultural industry in Hall County is completely dominated by the poultry sector, which is controlled by the poultry companies. The poultry companies manage the sector through contract production. Production contracts outline the amount of production producers are responsible for, and the price per unit producers receive. Poultry companies provide the chickens and the feed and dictate how the birds are raised, the length of production, and the facilities used. Participants noted that the typical agriculture collective action groups such as the Farm Bureau really have limited influence because the poultry processing companies have so much control over every aspect of production.

Unlike the other case study counties, there is no sense that the idea of local food is beginning to coalesce. Producers generally felt that the general public did not have much interest in agriculture. Land use specialists had only a cursory knowledge of the industry. Most agriculture specialists had limited interest in or knowledge of local food initiatives. Local food issues were not featured in local newspapers. Traditional agriculture was on its way out in Hall County and most participants didn’t seem interested in finding an alternative to preserve the agricultural industry. In addition, there seemed to be very little resistance from the majority of producers to sell their land when the situation presented itself.
Local food system institutional arrangements

I was unable to verify the existence of any local food system programs or policies. Also, unsurprisingly, the county does not have an agricultural economic development staff person.

For the most part when participants were asked questions about alternative agriculture, agriculture economic development or local food system policies and programs they responded that they are not aware of any existing policies or programs or of any intentions to create them. Participants most often talked about the negative consequences of policies: the loss of processors, the problems with regulations, etc. Several respondents noted that the county decision-makers and the regulatory environment are becoming more restrictive even for traditional agricultural development. According to farmers interviewed, banks are less willing to loan money to farmers to expand, even for the poultry industry, which is still strong in the county. In another example, respondents talked about the easement policy that provides a tax break for agricultural land. According to respondents, landowners break the easement, preferring to pay the penalty in order to sell or develop their land.

Finally the institutional people interviewed in planning, NRCS, Extension, and regional planning were not aware of what their institutional colleagues are doing related to land use and agriculture. Planners especially were not aware of which agricultural organizations existed in the county, or any efforts to do agriculture economic development. Planners talked about agriculture as if it is just like any other
industry in the county. It’s easy to conclude from this that agriculture is not really valued as a land use or an industry in Hall County.

*Links between collective action, institutional arrangements and LFS outcomes*

Overall, in Hall County, there is a very small amount of local food activity and the people that are producing and selling for local markets are doing so mostly independently. Participants were generally unaware of any institutional efforts to develop local food and most felt that even the traditional civil society groups that support agricultural development were ineffective in Hall County. Data from the landowner survey, again, complicate the picture of the local food system in Hall County. Table 36 shows the comparison between LFS farmers and Non-LFS farmers on questions from the landowner survey related to policy, institutional support for agriculture, and collective action. According to these data, larger percentages of LFS farmers perceive that the county and city governments are supportive of farming. 33.3% of LFS farmers compared to zero Non-LFS farmers perceive that county government is supportive of farming. This result is also statistically significant. About a quarter of LFS farmers compared to zero Non-LFS farmers perceive the city government as supportive. However, only 50% of LFS farmers compared to 85.7% of Non-LFS farmers think the Farm Bureau is supportive of farming. Drawing conclusions from this data, it’s possible that LFS farmers are satisfied with public institutions despite the lack of formal programs and policies to aid the development of local food systems because the
producers are acting independently selling mostly of their farms. The fact that half
of farmers in the sample belong to a farm organization like the Farm Bureau, but only
50% compared to 85.7% of Non-LFS Farmers find this organization supportive of
farming, suggests that the farm groups in the county are not involved with local food
issues and that, again, much of the local food activity is autonomous producer action.

Table 36. Comparison between LFS and Non-LFS Farmers, Hall County

<table>
<thead>
<tr>
<th>Perception of positive impact of agriculture economic development policies</th>
<th>% LFS Farmers</th>
<th>% Non-LFS Farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perception of support for farming</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>County government</td>
<td>33.3*</td>
<td>0.0</td>
</tr>
<tr>
<td>City government</td>
<td>25.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Economic development organizations</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Environmental organizations</td>
<td>12.5</td>
<td>7.1</td>
</tr>
<tr>
<td>General public</td>
<td>12.5</td>
<td>15.4</td>
</tr>
<tr>
<td>Farm Bureau</td>
<td>50.0</td>
<td>85.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Has membership in group</th>
<th>% LFS Farmers</th>
<th>% Non-LFS Farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>A farm organization (Farm Bureau, Grange, Farmers’ Union, etc.)</td>
<td>50.0</td>
<td>50.0</td>
</tr>
<tr>
<td>A farm commodity group</td>
<td>0.0</td>
<td>7.1</td>
</tr>
<tr>
<td>Any other type of local farm-related association</td>
<td>16.7</td>
<td>7.1</td>
</tr>
</tbody>
</table>

Note: N/A = not available, *Significant at the .05 level using the Fisher’s Exact test
Source: Landowner Survey
In this section I compare the patterns and relationships among core variables in the five case study counties. First, I present summary information about the extent of local food system activity in each of the first study sites. I then compare the potential role of structural or background contextual factors in shaping opportunities for the emergence of local food systems in each county. Following this, I examine the links between local food system activity, LFS collective action, LFS institutional arrangements, and political landscape across these counties. Finally, I point to some general conclusions about the observed patterns that appear to explain variation in the emergence of LFS activity.

**Relative Development of Local Food Systems**

Initially, the case study results illustrate variability in the degree of LFS development in the five study counties. LFS activity can be characterized according to three different sets of indicators of the existence, extent and scale of local food systems.

Table 37 combines data from various sources that quantifies the *existence* of different types of local food system activity in each county. The results make clear that Frederick County has the most organized local food markets including eight farmers’ markets and eighteen CSAs in addition to numerous farm stands and agritainment operations. In contrast, Hall County had the least amount of local food system activity.
with just one farmers’ market and one prominent farm stand, but no CSAs, institutional buying programs or other LFS market outlets identified.

Table 37. Existence of Local Food Systems

<table>
<thead>
<tr>
<th>County</th>
<th>Farmers’ Markets</th>
<th>CSAs</th>
<th>Institutional Buying Programs</th>
<th>Agritainment</th>
<th>Farm Stands</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cache</td>
<td>3</td>
<td>4</td>
<td>0</td>
<td>Yes</td>
<td>Yes</td>
<td>Med</td>
</tr>
<tr>
<td>Kent</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>Yes</td>
<td>Yes</td>
<td>Med-High</td>
</tr>
<tr>
<td>Frederick</td>
<td>8</td>
<td>18</td>
<td>0</td>
<td>Yes</td>
<td>Yes</td>
<td>High</td>
</tr>
<tr>
<td>Yamhill</td>
<td>2</td>
<td>7</td>
<td>0</td>
<td>Yes</td>
<td>Yes</td>
<td>Med</td>
</tr>
<tr>
<td>Hall</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>Yes</td>
<td>Yes</td>
<td>Low</td>
</tr>
</tbody>
</table>

Source: Internet Websites

The extent of local food systems reflects the proportion of farmers who participate in these markets and was measured using three variables from the 2007 Agricultural census: the number of farms with direct sales, the percent of farms with direct sales, and the number of farmers marketing through a CSA. Table 38 summarizes the extent of local food systems for each county. According to these measures, Yamhill County has the largest sheer extent of LFS activity, with 375 or 17.7% of farms reporting direct sales and 19 farms reporting that they market their products through a CSA. Again, Hall County has smallest extent of farmer participation in local food systems with only 19 or 2.4% of farms reporting direct sales and one farm reporting that they market their products through a CSA.
Table 38. Extent of Local Food Systems

<table>
<thead>
<tr>
<th></th>
<th>Number of Farms with Direct Sales</th>
<th>Percent of Farms with Direct Sales</th>
<th>Number of Farms Marketing through a CSA</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cache</td>
<td>100</td>
<td>8.4%</td>
<td>6</td>
<td>Med</td>
</tr>
<tr>
<td>Kent</td>
<td>171</td>
<td>14.3%</td>
<td>8</td>
<td>High</td>
</tr>
<tr>
<td>Frederick</td>
<td>158</td>
<td>11.0%</td>
<td>12</td>
<td>Med</td>
</tr>
<tr>
<td>Yamhill</td>
<td>375</td>
<td>17.7%</td>
<td>19</td>
<td>High</td>
</tr>
<tr>
<td>Hall</td>
<td>19</td>
<td>2.4%</td>
<td>1</td>
<td>Low</td>
</tr>
</tbody>
</table>

Source: US Census of Agriculture 2007

The landowner survey also provides information on the extent of farmer LFS participation in each case study county (Table 39). The results suggest that Kent County had the highest percent of farmer participation with 54.5% of all farmers reporting engagement in at least one of three LFS channels. Hall County had the second highest participation with 47.4% of farmers reporting involvement in at least one LFS market. About 36% of farmers in Yamhill reported engagement in LFS activity. In Frederick County 20.7% of farmers reported involvement in at least one LFS activity. Finally, Cache County had the lowest participation with only 12.5% of all farmers reporting engagement in any of the LFS activities.

Table 39. Percent of Farmers Reporting Direct Selling Activity

<table>
<thead>
<tr>
<th></th>
<th>Cache</th>
<th>Kent</th>
<th>Frederick</th>
<th>Yamhill</th>
<th>Hall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct sales to consumers from farm</td>
<td>7.7</td>
<td>45.5</td>
<td>17.2</td>
<td>18.2</td>
<td>31.6</td>
</tr>
<tr>
<td>Direct sales to consumers at farmers market/CSA</td>
<td>4.7</td>
<td>27.3</td>
<td>6.9</td>
<td>0.0</td>
<td>31.6</td>
</tr>
<tr>
<td>Sales to local institutions or businesses</td>
<td>6.2</td>
<td>22.7</td>
<td>6.9</td>
<td>22.7</td>
<td>10.5</td>
</tr>
<tr>
<td>Uses any of these three LFS markets</td>
<td>12.5</td>
<td>54.5</td>
<td>20.7</td>
<td>36.4</td>
<td>47.4</td>
</tr>
<tr>
<td>Rating</td>
<td>Low</td>
<td>High</td>
<td>Med</td>
<td>Med</td>
<td>Med-High</td>
</tr>
</tbody>
</table>

Source: Landowner Survey
Data from the landowner survey also show changes in farmer participation in each case study county. Table 40 shows data from the landowner survey comparing changes in LFS farm activity for Cache, Frederick, Kent, Yamhill and Hall counties over the last five years, as well as expectations for change in the coming 5 years.

The results suggest that Yamhill County farmers have had the most dynamic shift toward LFS marketing outlets in the last five years. Almost a third of LFS farmers in Yamhill County increased their direct sales during this period, and over half say they plan to increase direct sales in the next five years. The largest proportion of farmers reporting making changes in their marketing strategies and/or crops and livestock in order to access local customers was also found in Yamhill County.

Ranked just behind Yamhill were farmers in Kent County, where almost 27% reported increases in direct sales over the last five years and 44% said they planned to do more in the coming years. In addition 19% and 11% of Kent’s farmers report making changes to their marketing strategies or mix of crops and livestock in order to access more local customers.

At the other extreme, Cache and Frederick farmers were notably the least dynamic with respect to LFS activity. Just 10-12% of farmers in these counties increased direct sales between 2002-2007, few reported making changes specifically to increase access to local customers, and relatively small proportions of the farmer population (10-17%) planned to increase such sales in the next 5 years.

Hall County represents an intermediate case, where a sizeable portion of farmers
reported increasing direct sales (either in the recent past or for the coming 5-year period), but relatively few reported making changes in their operations to better access local customers.

Overall, these results suggest that producers in Kent and Yamhill counties have been most active in making decisions about their farms to consciously access available local markets, which could indicate future growth in the local food system. In contrast Frederick and Cache county producers have done the least to access available markets.

**Table 40.** Extent of Farmer Participation in the Local Food System

<table>
<thead>
<tr>
<th>Changes made by farmers over last 5 years</th>
<th>Cache</th>
<th>Kent</th>
<th>Frederick</th>
<th>Yamhill</th>
<th>Hall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased direct sales</td>
<td>12.8</td>
<td>26.7</td>
<td>10.5</td>
<td>32.3</td>
<td>20.0</td>
</tr>
<tr>
<td>Made changes in marketing strategy to access local customers</td>
<td>5.4</td>
<td>19.0</td>
<td>9.1</td>
<td>23.4</td>
<td>5.3</td>
</tr>
<tr>
<td>Made changes in crops/livestock to access local customers</td>
<td>4.8</td>
<td>11.1</td>
<td>3.7</td>
<td>14.6</td>
<td>5.6</td>
</tr>
<tr>
<td>Farmers that expect to increase direct sales over the next 5 years</td>
<td>17.0</td>
<td>44.4</td>
<td>10.0</td>
<td>53.8</td>
<td>36.4</td>
</tr>
</tbody>
</table>

**Rating**

<table>
<thead>
<tr>
<th>Low</th>
<th>High</th>
<th>Low</th>
<th>High</th>
<th>Med</th>
</tr>
</thead>
</table>

**Source:** Landowner Survey

Finally, the *scale* of local food system development was estimated by three measures of the dollar value of direct sales in the county: direct sales, direct sales per capita, and the percent of sales from direct sales (Table 41). According to two of these measures, Frederick County has the local food system with the largest scale with $2,561,000 in direct sales and 2.02% of total gross farm sales attributable to direct sales. However, indicators of the scale of a local food system that are adjusted to population
(e.g., volume of direct sales per capita) may better reflect the degree to which local foods are available to and purchased by local consumers. From this perspective, Cache County reports the highest level of direct sales per capita at $14.09, followed closely by Yamhill County with $13.12 and Frederick County with $11.40. Despite the reports of extensive LFS development in our interviews, census data suggest that Kent has a level of total direct sales roughly equal to Cache County, despite a population that is over five times as large. While Yamhill has a sizeable amount of direct sales per capita, its extensively developed commercial farm sector generates sufficient receipts such that LFS activity is under 0.5 percent of total sales in the county. Hall County ranks last on all three measures of local food system scale with only $159,000 in total sales, representing $0.88 direct sales per capita and 0.09% of total farm sales.

**Table 41. Scale of Local Food Systems**

<table>
<thead>
<tr>
<th></th>
<th>Direct Sales</th>
<th>Direct Sales per Capita</th>
<th>Percent of Sales from Direct Sales</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cache</td>
<td>1,534,000</td>
<td>14.09</td>
<td>1.13</td>
<td>Med-High</td>
</tr>
<tr>
<td>Kent</td>
<td>1,642,000</td>
<td>2.72</td>
<td>0.84</td>
<td>Med</td>
</tr>
<tr>
<td>Frederick</td>
<td>2,561,000</td>
<td>11.40</td>
<td>2.02</td>
<td>High</td>
</tr>
<tr>
<td>Yamhill</td>
<td>1,267,000</td>
<td>13.12</td>
<td>0.46</td>
<td>Med</td>
</tr>
<tr>
<td>Hall</td>
<td>159,000</td>
<td>0.88</td>
<td>0.09</td>
<td>Low</td>
</tr>
</tbody>
</table>

*Source: US Census of Agriculture 2007*

Table 42 shows rankings for the counties according to each of the concepts used to measure local food system activity. This table also includes an overall ranking based on consideration of all measures together. Overall when considering all of the indicators of local food system activity discussed above, Kent County ranks the highest
in local food system activity. Kent had the largest extent of farmer participation according to all of the measures used to assess participation. Kent County ranked in the middle in terms of the existence of local markets and the scale of local food system activity. Frederick and Yamhill counties have an overall local food system ranking of medium-high. Frederick scored highest on both the existence of local food activity and the scale of activity, while only ranking in the medium to low categories for the extent of farmer participation. Yamhill County ranked highest based on two measures of extent (Agricultural Census and Landowner changes), while only ranking in the middle for the number of local food markets, the amount of direct selling activity and the dollar value of the local food system. Overall Cache County ranked in the middle for local food system activity with a relatively large scale given the population size, but low farmer participation.

Finally, although the landowner survey data suggested higher farmer participation, overall Hall County had the least local food system activity. A well-developed local food system involves coordinated markets. So while Hall County producers are engaged in direct selling from their farms and participation in the long-running farmers’ market, there is no evidence of significant coordinated local food market activity or significant efforts to alter production to capture available local consumers. Aside from the landowner survey, all of the other data, the Agricultural Census, interviews, Internet websites, newspapers and other documents, suggest that the local food activity is limited to a small number of producers. So the overall ranking for local food system
activity in Hall County is low.

Table 42. Local Food System Activity Ranking

<table>
<thead>
<tr>
<th></th>
<th>Existence (Census)</th>
<th>Extent (Direct Selling)</th>
<th>Extent (Changes)</th>
<th>Scale</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cache</td>
<td>Med</td>
<td>Low</td>
<td>Low</td>
<td>Med-High</td>
<td>Med</td>
</tr>
<tr>
<td>Kent</td>
<td>Med-High</td>
<td>High</td>
<td>High</td>
<td>Med</td>
<td>High</td>
</tr>
<tr>
<td>Frederick</td>
<td>High</td>
<td>Med</td>
<td>Low</td>
<td>High</td>
<td>Med-High</td>
</tr>
<tr>
<td>Yamhill</td>
<td>Med</td>
<td>High</td>
<td>Med</td>
<td>Med</td>
<td>Med-High</td>
</tr>
<tr>
<td>Hall</td>
<td>Low</td>
<td>Low</td>
<td>Med-High</td>
<td>Med</td>
<td>Low</td>
</tr>
</tbody>
</table>

Impact of Structural Conditions on Local Food System Activity

Structural conditions in the case study counties have the potential to affect both the supply and demand sides of local food systems. The factors that could influence the ability of local markets to be successful (demand) include things that relate to the consumer base like population growth and change, income levels and settlement patterns. These factors indicate whether or not there is a significant consumer population that will support a local food system. The literature suggests that larger, more densely populated communities with higher incomes are more likely to participate in local food systems. The structural factors that may influence the ability or desire of farmers to develop local food markets (supply) include the conditions of local agriculture and land use that make it more or less possible to switch to local food production. These factors include the commodity mix of farms, the size of farms, existing land use and the general agricultural trajectory of the county.
Population

Each of the case study counties have experienced significant population growth in the last several decades, but they have unique differences in their historical patterns of land use, the pattern and concentration of population growth, and the characteristics of their agricultural industries that may influence how local food systems are developing in each.

Each of the counties has experienced significant population change since 1990. Table 43 shows population growth data for the case study counties. In the 1990s population growth change ranged from approximately a 15% increase in Kent County to a 46% increase in Hall County. Annual growth rates ranged from 1.4% in Kent County to 3.9% in Hall County. From 2000 to 2007 population growth changes ranged from a 5.2% increase in Kent County to a 29.4% increase in Hall County. Cache, Frederick and Yamhill counties had similar population increases and growth rates during these periods.

Table 43. Population Change

<table>
<thead>
<tr>
<th></th>
<th>Cache</th>
<th>Kent</th>
<th>Frederick</th>
<th>Yamhill</th>
<th>Hall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>70,183</td>
<td>500,631</td>
<td>150,208</td>
<td>65,551</td>
<td>95,428</td>
</tr>
<tr>
<td>2000</td>
<td>91,391</td>
<td>574,335</td>
<td>195,277</td>
<td>84,992</td>
<td>139,277</td>
</tr>
<tr>
<td>2007 (est.)</td>
<td>108,887</td>
<td>604,330</td>
<td>224,705</td>
<td>96,573</td>
<td>180,175</td>
</tr>
<tr>
<td>Rate of Change (overall)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990-2000</td>
<td>30.2</td>
<td>14.7</td>
<td>30.0</td>
<td>29.7</td>
<td>45.9</td>
</tr>
<tr>
<td>2000-2007</td>
<td>19.1</td>
<td>5.2</td>
<td>15.1</td>
<td>13.6</td>
<td>29.4</td>
</tr>
<tr>
<td>Annual Rate of Growth</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990-2000</td>
<td>2.7</td>
<td>1.4</td>
<td>2.7</td>
<td>2.6</td>
<td>3.9</td>
</tr>
<tr>
<td>2000-2007</td>
<td>2.5</td>
<td>0.7</td>
<td>2.0</td>
<td>1.8</td>
<td>3.7</td>
</tr>
</tbody>
</table>

Despite similar trends in population change, the sheer size of the potential urban food market appears to be important. For example, although Cache, Frederick and Yamhill had very similar percent changes in population, Frederick has the largest county total population (224,705) of those three counties suggesting that there is a larger pool of potential consumers. Similarly, although Kent County had the slowest growth rate among the study sites, they had a much larger total population (604,330) suggesting again that the pool of available consumers is much larger.

Differences in population densities in RUI/AI counties can influence how easily producers and consumers can organize and develop local markets, but also can affect the potential for conflict between farmers and nonfarm neighbors in agricultural areas. Table 44 shows the population density in each of the case study counties. Cache County appears to have the lowest overall population density, and most people live within the boundaries of incorporated municipalities. Outside of urban areas, Cache’s population density is only 13 people per square mile. In contrast, the most densely settled counties are Kent, Hall and Frederick. However, Kent County retains most of its population within urban areas, while Hall and Frederick have populations that are more dispersed across the landscape. Yamhill County offers an interesting example of intermediate population density (overall), but relatively low population density outside of urban areas (perhaps reflecting the impact of their urban growth boundary rules). It is plausible that areas with more concentrated urban populations (e.g., Cache, Kent) can more readily develop centralized local food markets. However, the most robust LFS
activity among the case studies was found in counties with surprisingly dense non-farm populations living in agricultural areas (Kent and Frederick). This suggests that competition from or conflict with nonfarm neighbors associated with rural residential development does not serve as an obstacle to the emergence of LFS systems in the study counties.

Table 44. Indicators of Population Density, Case Study Counties, 2000

<table>
<thead>
<tr>
<th></th>
<th>Cache</th>
<th>Kent</th>
<th>Frederick</th>
<th>Yamhill</th>
<th>Hall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population Density (persons/sq mile)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>78</td>
<td>671</td>
<td>295</td>
<td>119</td>
<td>354</td>
</tr>
<tr>
<td>Urban Areas</td>
<td>1,963</td>
<td>2,224</td>
<td>1,775</td>
<td>N/A</td>
<td>907</td>
</tr>
<tr>
<td>Non-urban Areas</td>
<td>13</td>
<td>131</td>
<td>95</td>
<td>32</td>
<td>141</td>
</tr>
<tr>
<td>Percent of population living outside urbanized area</td>
<td>16.6%</td>
<td>14.8%</td>
<td>28.5%</td>
<td>29.5%</td>
<td>33.1%</td>
</tr>
<tr>
<td>Size of Nearest Metropolitan Area (population)</td>
<td>102,720</td>
<td>740,482</td>
<td>4,796,183</td>
<td>1,927,881</td>
<td>139,277</td>
</tr>
</tbody>
</table>

Source: US Census of Population 2000

Additionally, Frederick, Yamhill and Kent counties are embedded in significantly larger metropolitan areas than either Cache or Hall. Frederick is located close to Washington, DC and Baltimore, MD. Yamhill is very near Portland, OR, while Grand Rapids, MI is located largely within Kent County. As a result, Frederick and Yamhill have metropolitan populations well in excess of one million people, while Kent has a metropolitan area population of more than 700,000. In contrast, Cache County is part of the Logan metropolitan area with a population of 102,720, and Hall County is part of the Gainesville metropolitan area with a population of 139,277. The largest major
metropolitan areas near Cache (Salt Lake City) and Hall (Atlanta) counties are located farther than the metropolitan areas near Frederick, Yamhill and Kent. Again, both size of the pool of potential local consumers and their distance from producers can limit the accessibility of consumers to producers and the size of the local food system.

Income

According to the research on local food systems presented in the introduction, income of local consumers is a possible predictor of the amount of local food activity. Consumers with higher incomes are more likely to buy local foods. Based on the income characteristics of the case study counties (Table 45), Frederick County has the most favorable socioeconomic conditions to create demand for local food systems. Frederick has the highest median income ($60,276), the lowest poverty rate (4.5%), and the highest percent of households with incomes over $100,000 (22.9%). In contrast Cache County has the lowest median income ($39,730), the highest poverty rate (13.5%) and the lowest percent of households with incomes over $100,000 (9%). The income characteristics in Kent, Yamhill and Hall counties range between Frederick and Cache counties. Kent, Yamhill and Hall counties have similar median incomes. Kent and Yamhill have similar poverty rates, while Kent and Hall have more similar percent of households with incomes over $100,000.

According to these data, higher incomes are associated with greater amounts of local food activity. Frederick and Kent counties have the highest median income, the lowest poverty rates and the highest percent of households with incomes over $100,000.
and have the most local food activity among the case study counties. However, Cache County has the lowest median income, poverty rate, and percent of households with incomes over $100,000 and has a moderate amount of local food system activity. Hall County has a very similar socioeconomic profile to Kent, but very little local food system activity. This suggests that the income profile of the consumer base is important for the existence of any local food activity but may not determine the quantity or quality of the local food system.

**Table 45. Socioeconomic Profile of Residents, Case Study Counties, 2000**

<table>
<thead>
<tr>
<th>Income Characteristics</th>
<th>Cache</th>
<th>Kent</th>
<th>Frederick</th>
<th>Yamhill</th>
<th>Hall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median Income ($)</td>
<td>39,730</td>
<td>45,980</td>
<td>60,276</td>
<td>44,111</td>
<td>44,908</td>
</tr>
<tr>
<td>Poverty Rate (%)</td>
<td>13.5</td>
<td>8.9</td>
<td>4.5</td>
<td>9.2</td>
<td>12.4</td>
</tr>
<tr>
<td>Percent of Households with Incomes over $100,000</td>
<td>9.0</td>
<td>15.1</td>
<td>22.9</td>
<td>10.7</td>
<td>12.7</td>
</tr>
</tbody>
</table>

Source: US Census of Population 2000

*Land use*

Patterns of land use and the spatial distribution of population within the case study counties can influence the availability of suitable agricultural land for LFS farms and the accessibility of consumers to producers. Table 46 shows distribution of key land uses in the case study counties. In Frederick and Yamhill counties, between 75-80% of the land is in cropland, pasture or forest. In Kent and Hall counties 40-45% of the land is in developed or other uses. Meanwhile, Cache and Yamhill counties have a relatively low percent of land in developed uses (4.4% and 4.5%). Cache County is a unique case
because almost 50% of the land is public land, most of which is used for grazing of sheep and beef cattle. However, local food production is concentrated on the remaining private land.

These results suggest that there is simply more land available for agricultural use in Yamhill and Frederick, which could be favorable for local food systems if large expanses of agricultural land were important for their development. However, large expanses of land may not be a necessary condition for the development of local food systems. Local food systems depend on the presence of consumers and market outlets both of which are more easily located in places with more urban development. Given this, Kent and Hall counties are better suited for local food system development, while Cache and Yamhill counties may be the least favorable locations for local food systems.

**Table 46. Percent of County Land in Various Land Uses, 2002**

<table>
<thead>
<tr>
<th>Land Use Category</th>
<th>Cache</th>
<th>Kent</th>
<th>Frederick</th>
<th>Yamhill</th>
<th>Hall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cropland</td>
<td>24.2</td>
<td>25.7</td>
<td>36.2</td>
<td>25.6</td>
<td>0.2</td>
</tr>
<tr>
<td>Pasture</td>
<td>5.5</td>
<td>8.7</td>
<td>15.5</td>
<td>7.6</td>
<td>18.2</td>
</tr>
<tr>
<td>Forest</td>
<td>16.0</td>
<td>25.4</td>
<td>29.7</td>
<td>44.0</td>
<td>37.2</td>
</tr>
<tr>
<td>Developed Uses</td>
<td>4.4</td>
<td>31.1</td>
<td>14.0</td>
<td>4.5</td>
<td>27.8</td>
</tr>
<tr>
<td>Other</td>
<td>49.6</td>
<td>8.8</td>
<td>4.3</td>
<td>18.0</td>
<td>16.7</td>
</tr>
</tbody>
</table>

*Source: National Resource Inventory 2002*

**Dominant commodities**

Overall there is very little variation in the agricultural industries of the case study counties. Table 47 shows the top three commodities by farm. First, cattle and calves
and forage are two of the top three commodities raised by farms in all of the case study counties, with forage serving as the most common commodity raised everywhere. Generally speaking, beef and forage production systems reflect some of the less intensive, less rapidly changing segments of the U.S. farm sector.

Meanwhile, Hall County stands out for having the greatest proportion of farms that raise poultry (22.8%), a commodity that exemplifies a more “industrial” form of agricultural organization due to its extremely high capital investment requirements and contract arrangements linking producers to vertically organized processing firms. Interestingly, Cache and Frederick counties have a significant percent (over 20%) of farms that raise small grains – wheat, barley, and oats, crops that are not typically associated with dominant forms of agriculture in 21st century American agriculture.

Only one county -- Kent County -- has a significant fraction of farms (22.4%) that raise corn, the most ubiquitous commodity grain crop raised in the U.S. Meanwhile, Yamhill County is the only county with a significant portion of farms (25.2%) raising crops that are often associated with local food systems -- fruits, nuts and berries, though these numbers reflect recent growth in the wine industry in Oregon’s Willamette Valley. In none of the study counties was vegetable production a significant activity on a sizeable number of farms.

A different picture of the importance of different commodities to local farming systems is illustrated in Table 48, where the top three commodities are ranked by total sales in 2007. The sale of dairy products is one of the top commodities in each of the
Table 47. Top Three Most Commonly Raised Commodities in Case Study Counties

<table>
<thead>
<tr>
<th></th>
<th>Cattle and Calves</th>
<th>Poultry</th>
<th>Forage</th>
<th>Fruits, Nuts, Berries</th>
<th>Wheat Sorghum, Barley, Oats</th>
<th>Corn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cache</td>
<td>44.5</td>
<td>64.4</td>
<td>21.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kent</td>
<td>20.5</td>
<td>38.1</td>
<td>22.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frederick</td>
<td>33.8</td>
<td>58.8</td>
<td>21.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yamhill</td>
<td>23.7</td>
<td>25.2</td>
<td>25.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hall</td>
<td>42.6</td>
<td>22.8</td>
<td>38.4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: US Census of Agriculture 2007

It is the most significant source of farm income in Frederick and Cache counties, with 41% and 39% of sales from dairy respectively, and constitutes over 20% of sales in Kent. Meanwhile, cattle and calves are a significant source of income in Cache (29%) and Frederick (12%). The farm sectors in Kent and Yamhill receive a significant percentage of gross receipts from the sale of nursery/greenhouse products and fruits, nuts and berries. In these two counties, nursery and greenhouse sales make up 33-44% of farm receipts, but likely contribute little to local food systems (given that these products tend not to be edible). However, the 17-18% of fruit, nut and berry sales may partly reflect local food marketing activities. Income from grains, oilseeds and beans make up 7% of sales in Cache County and 14% of sales in Frederick County, but again likely reflect sales through conventional agricultural markets more than local food systems activity. The dominance of poultry production in the income portfolio of Hall County (96% of sales) suggests that the overwhelming amount of local farm production is marketed through highly integrated industrial agricultural channels.
Table 48. Top Three Commodities by Sales

<table>
<thead>
<tr>
<th></th>
<th>Cattle and Calves</th>
<th>Dairy</th>
<th>Poultry</th>
<th>Fruits, Nuts, Berries</th>
<th>Nursery and Greenhouse</th>
<th>Grain, Oilseed, Beans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cache</td>
<td>29.4</td>
<td>39.1</td>
<td></td>
<td></td>
<td></td>
<td>6.9</td>
</tr>
<tr>
<td>Kent</td>
<td></td>
<td>20.4</td>
<td>17.4</td>
<td>32.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frederick</td>
<td>11.8</td>
<td>40.6</td>
<td></td>
<td></td>
<td></td>
<td>14.1</td>
</tr>
<tr>
<td>Yamhill</td>
<td></td>
<td>7.7</td>
<td>18.3</td>
<td>43.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hall</td>
<td>2.3</td>
<td>0.6</td>
<td></td>
<td>96.1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: US Census of Agriculture 2007*

Taken as a whole, it is evident that the locally important commercial agricultural commodities that dominate in each of these RUI/Al counties are rarely of a type that would be expected to serve as a foundation for a robust local food system (e.g., fruits and vegetables), though most places have widespread local cattle and dairy production capacity which could (in theory) help serve local markets for meat and milk products produced outside the dominant industrial livestock commodity chain. Given that the volume of direct sales of local foods still represent a very small portion of county-level farm sales (0.1-2.0 %), it may be possible to conclude that the local mix of commodities (or the dominance of different types of commodities in a county) may have little to do with the ability of individual producers to develop and grow alternative local marketing enterprises.

*Structure of local agriculture*

In terms of the impact of local farm structure, it is worth noting that all of the case study counties have a similar percent of farms (73.6-78.6%) categorized as small family farms with sales under $250,000 (Table 49). Additionally, residential/lifestyle
farms whose operators have occupations other than farming constitute the most common type of small family farms in each of the case study counties. Small retirement farms constitute the second most common type of farms in each of the case study counties. There is some variation in the proportion of farms in the study counties that can be described as large and very large family farms (e.g., those with incomes ranging over $250,000). Hall County has the largest percentage of these farms (12.5%), while they are least common in Yamhill (4.2%). The difference is largely accounted for by the number of farms organized as nonfamily businesses, which are most common in Yamhill (7%) and least common in Hall (3%).

### Table 49. Percent of Farms by Farm Type, 2007

<table>
<thead>
<tr>
<th></th>
<th>Cache</th>
<th>Kent</th>
<th>Frederick</th>
<th>Yamhill</th>
<th>Hall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited resource</td>
<td>11.6</td>
<td>13.3</td>
<td>12.6</td>
<td>12.2</td>
<td>15.4</td>
</tr>
<tr>
<td>Retirement</td>
<td>18.8</td>
<td>17.6</td>
<td>20.5</td>
<td>22.1</td>
<td>19.5</td>
</tr>
<tr>
<td>Residential/lifestyle</td>
<td>45.3</td>
<td>40.0</td>
<td>35.9</td>
<td>42.5</td>
<td>38.5</td>
</tr>
<tr>
<td>Higher sales</td>
<td>2.3</td>
<td>3.6</td>
<td>4.7</td>
<td>1.8</td>
<td>4.4</td>
</tr>
<tr>
<td><strong>Total small family farms</strong></td>
<td><strong>78.0</strong></td>
<td><strong>74.5</strong></td>
<td><strong>73.6</strong></td>
<td><strong>78.6</strong></td>
<td><strong>77.8</strong></td>
</tr>
<tr>
<td>Large ($250,000-$499,000)</td>
<td>4.2</td>
<td>4.7</td>
<td>3.4</td>
<td>1.5</td>
<td>3.6</td>
</tr>
<tr>
<td>Very large ($500,000+)</td>
<td>4.2</td>
<td>5.3</td>
<td>3.9</td>
<td>2.7</td>
<td>8.9</td>
</tr>
<tr>
<td><strong>Total large and very large family</strong></td>
<td><strong>8.4</strong></td>
<td><strong>10.0</strong></td>
<td><strong>7.3</strong></td>
<td><strong>4.2</strong></td>
<td><strong>12.5</strong></td>
</tr>
<tr>
<td>Nonfamily Farms</td>
<td>5.4</td>
<td>4.9</td>
<td>4.7</td>
<td>7.0</td>
<td>2.9</td>
</tr>
</tbody>
</table>

*Source: US Census of Agriculture 2007*

Although small family farms dominate the number of farms in all of the case study counties, the proportion of farmland managed by small farms varied much more widely across the study counties (Table 50). Interestingly, though large sales poultry farms dominate most of the commercial farm receipts in Hall County, small family farms
control the largest percentage of county farmland (62.8%) among all of the study counties. Small family farms manage about half of the land in Cache County, but less than half in the other three study areas. Among the different types of small family farms, most land is managed by operations categorized as residential/lifestyle and retirement farms. Cache and Frederick are notable for having a sizeable amount of local farmland managed by “higher sales” small family farms – those with sufficient farm incomes to allow operators to list farming as their principle occupation. The role of large and very large family farms is most notable in Kent County, where these types of operations manage almost half of all county farmland. Large and very large family farms control the least proportion of county land in Hall (24%) and Cache (28%). Nonfamily owned farm businesses have the largest footprint in Yamhill County (17.5% of county farmland) followed by Cache County (11.1%), but have a relatively small presence in Hall and Kent counties.

**Table 50.** Percent of County Farmland Operated by Farm Type, 2007

<table>
<thead>
<tr>
<th>Farm Type</th>
<th>Cache</th>
<th>Kent</th>
<th>Frederick</th>
<th>Yamhill</th>
<th>Hall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited resource</td>
<td>3.9</td>
<td>5.3</td>
<td>6.7</td>
<td>5.4</td>
<td>10.0</td>
</tr>
<tr>
<td>Retirement</td>
<td>12.7</td>
<td>11.1</td>
<td>10.7</td>
<td>15.8</td>
<td>18.2</td>
</tr>
<tr>
<td>Residential/lifestyle</td>
<td>23.5</td>
<td>15.9</td>
<td>16.5</td>
<td>16.5</td>
<td>31.4</td>
</tr>
<tr>
<td>Higher sales</td>
<td>10.3</td>
<td>6.9</td>
<td>12.2</td>
<td>4.6</td>
<td>3.2</td>
</tr>
<tr>
<td><strong>Total small family farms</strong></td>
<td><strong>50.4</strong></td>
<td><strong>39.2</strong></td>
<td><strong>46.1</strong></td>
<td><strong>42.4</strong></td>
<td><strong>62.8</strong></td>
</tr>
<tr>
<td>Large ($250,000-$499,000)</td>
<td>10.6</td>
<td>10.8</td>
<td>12.1</td>
<td>7.5</td>
<td>4.0</td>
</tr>
<tr>
<td>Very large ($500,000+)</td>
<td>17.1</td>
<td>38.6</td>
<td>20.2</td>
<td>25.7</td>
<td>19.6</td>
</tr>
<tr>
<td><strong>Total large and very large family</strong></td>
<td><strong>27.7</strong></td>
<td><strong>49.4</strong></td>
<td><strong>32.3</strong></td>
<td><strong>33.2</strong></td>
<td><strong>23.6</strong></td>
</tr>
<tr>
<td><strong>Nonfamily Farms</strong></td>
<td><strong>11.1</strong></td>
<td><strong>4.9</strong></td>
<td><strong>8.1</strong></td>
<td><strong>17.5</strong></td>
<td><strong>4.7</strong></td>
</tr>
</tbody>
</table>

*Source: US Census of Agriculture 2007*
In general, these data show that small family farms make up the majority of farms and operate significant portions of farmland acres in each of the case study communities. As discussed in detail in the introductory chapter, small family farm producers in RUI-AI communities are often the most common players in local food systems, especially as these producers use local marketing alternatives to compete with larger traditional commodity farms. However, the proportion of local farms that are small “higher sales” farms may be a better predictor of local food system activity than the proportion of retirement of residential/lifestyle farms. Interestingly, areas with significant numbers of (and acreage used by) large and very large farms also appear to have some of the most robust LFS activity (e.g., Kent county). Meanwhile, areas with significant non-family forms of farm organization have less LFS activity (e.g., Cache and Hall).

Aside from evidence of differences in the commodity mix and farm structural attributes among the case study counties, data from our landowner survey suggests important differences exist in terms of the use of different adaptive strategies by local farmers (Table 51). Adaptive strategies in aggregate reflect county-level changes in the agricultural trajectory and therefore can be considered an indicator of the structural conditions in the county. The majority of farmers in each of the case study counties report using at least one type of intensification strategy over the last five years (most commonly by making capital investments in their buildings and equipment). In four of the five counties 25% to 31% of farmers had shifted to crops or livestock that generate
more value per acre (only 10% of Hall farmers reported this type of adaptive behavior). As suggested above it’s possible that farmers in these counties have shifted to higher value crops and livestock in order to capture potential local consumers. Meanwhile, there was considerably less growth-oriented adaptive behavior among farmers in Frederick and Hall County than in the other study sites. Evidence of widespread disinvestment and decline behavior was most common among farmers in Cache and Hall, and least common in Kent and Yamhill. It is interesting that places with the most robust LFS systems (Frederick and Kent) were situated in places that had very different climates of broader farm adaptation.

**Table 51. Percent of Farmers Using Adaptation Strategies**

<table>
<thead>
<tr>
<th>Used any of the following adaptive strategies</th>
<th>Cache</th>
<th>Kent</th>
<th>Frederick</th>
<th>Yamhill</th>
<th>Hall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth strategies</td>
<td>39.3</td>
<td>48.0</td>
<td>16.7</td>
<td>50.0</td>
<td>16.7</td>
</tr>
<tr>
<td>Intensification strategies</td>
<td>59.5</td>
<td>52.0</td>
<td>63.9</td>
<td>64.3</td>
<td>50.0</td>
</tr>
<tr>
<td>De-Intensification strategies</td>
<td>34.5</td>
<td>24.0</td>
<td>25.0</td>
<td>19.6</td>
<td>37.5</td>
</tr>
<tr>
<td>Decline strategies</td>
<td>35.7</td>
<td>16.0</td>
<td>25.0</td>
<td>17.9</td>
<td>37.5</td>
</tr>
</tbody>
</table>

*Source: Landowner Survey*

Although there are some differences in the structural conditions present across the five case study counties, the relationships between these conditions and the emergence of LFS activity do not appear to be very striking or consistent. For example, despite some small differences in population density, all of the case study counties have growing proximate urban populations with sufficient incomes, which can create demand for local food. As such, the presence of a potential urban consumer market may be a
necessary but not sufficient condition for the emergence of LFS activity. Evidence suggested greater amounts of rural residential settlement might also be associated with increased (as opposed to reduced) development of local food systems. There were no consistent patterns between the vibrancy of LFS activity and the types of local commodities raised by local farms or the ownership and size structure of county farms. If small farms are the backbone of LFS in modern America, it is clear that there is no shortage of farms of this type in any of our case study counties. Finally, while there were noticeable differences in the use of different adaptation strategies by farmers in each county, these patterns did not appear to be determining factors for the presence or absence of local food system activity.

So, overall the structural conditions in the case study counties support the existence of some local food activity but may not determine the quantity and quality of the local food system. Local food activity remains a small part of the local landscape and agricultural economy. Therefore the aggregate agricultural and land use conditions may not be the most important factors governing local food development. So while the structural conditions are important factors for the existence of any local food activity, they do not consistently determine the robustness of the local food system.

In the next section, I examine the apparent links between the presence or absence of LFS collective action and institutional arrangements on the relative development of LFS markets in each case study county.
Impact of Collective Action, Institutional Arrangements and Political Landscape

Local food system collective action

Collective action refers to the existence and activities of civil society groups that work on developing markets or policies that favor local foods. It also includes work by advocacy groups to raise public awareness and support for local food systems, and the ability of these groups to frame issues, mobilize resources and take advantage of political opportunities to effect change. The ability to mobilize resources includes the ability to raise money or mobilize people in order to create or change policies or programs related to local food system activity (MacAdam et al. 1996). In my analysis of the case study data, I looked for evidence of resource mobilization at the local level including evidence of the ability of civil society groups to organize producers, to access existing resources or, to effect policy change or create programs that promote local food development. Table 52 summarizes the most prominent examples of LFS collective action for each county.

Kent County had the most robust local civil society sector that was most like a social movement of any of the case study counties with four groups actively working on local food issues and three additional statewide groups actively working in Kent County as well as throughout the state to promote local food development. Some of these groups were actively working on both local food and land preservation issues and used this joint framing to increase support for local food development. In addition to the number of groups, several of these were producer groups or reported a good
Table 52. Local Food System Collective Action in Study Counties

<table>
<thead>
<tr>
<th>Local Food System Groups</th>
<th>Resource Mobilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cache 1 (L), 0 (S)</td>
<td>1 civil society group but few producers are involved. Several examples of success raising money. Several programs started but some remain underfunded. No examples of policy changes.</td>
</tr>
<tr>
<td>Kent 4 (L), 3 (S)</td>
<td>4 examples of local civil society groups. 3 statewide civil society groups. Producers are organized and represented in groups. Multiple examples of successfully raising money from local sources. Multiple examples of LFS programs. Some examples of policy change.</td>
</tr>
<tr>
<td>Frederick 0 (L), 2 (S)</td>
<td>No examples of local civil society groups. 3 statewide groups but farmers rely on informal networking and collaboration with public sector more than formal group membership. No program development or policy changes. No examples of raising money.</td>
</tr>
<tr>
<td>Yamhill 3 (L), 1 (S)</td>
<td>3 civil society groups but only one is a producer group. 1 example of raising money. 2 programs started. No examples of policy changes.</td>
</tr>
<tr>
<td>Hall 0 (L), 0(S)</td>
<td>No examples of producer groups and only 1 example of any kind of civil society group. No examples of raising money. No examples of policy changes or program development.</td>
</tr>
</tbody>
</table>

Source: Internet Websites

representation of producers in their membership. These groups also reported multiple examples of successfully raising money from local resources and success in starting and maintaining local food programs in the county.

Cache County had the next highest level of local food collective action. Although there was only one civil society group, this group had successfully accessed local and extra-local funding to start several LFS programs in the county. This group had also
successfully started two local farmers’ markets and was in the process of developing an institutional buying program. Despite this success, there were relatively few LFS producers participating in this group and there had been no efforts to coordinate with the public sector to change policy to be more favorable to local food system development. The group also had difficulty in sustaining funding for some of the LFS programs they started.

Yamhill had a slightly lower level of local food collective action. There were three civil society groups, only one of which was comprised of LFS producers, but they reported few examples of attempts to develop local foods. The main activity of this group was to start the only farmers market. This group did successfully raise local money to start the market, but their efforts have not extended beyond this to start other LFS programs, to advocate for favorable policy changes, or to collaborate with the public sector in any way. There were also two state organizations, which reported interest in local food issues, but there was no evidence that these groups were actively working in Yamhill County.

Frederick County had no significant local organized civil society dedicated to local foods. Evidence suggested that producers were networked informally but mostly working independently or with the public sector to increase local market opportunities. There were three statewide organizations that actively work on local food development and in which interview participants reported membership, but there was no evidence that these groups were actively working on local food system development in Frederick.
Rather these groups were more engaged in state-level policy advocacy. As would be expected in the absence of organized producer groups there were no examples in Frederick County of money raising, program development or policy changes initiated by producers.

Finally, Hall County had no evidence of local food collective action, no examples of raising money, and no examples of program development or policy change initiated by the civil society sector. There were reports of an environmental group that was advocating for land use policy change to preserve open space. However, evidence suggested that this group had not been successful.

Overall, evidence suggests that degrees of local food activity are possible in the absence of either market-oriented or policy-oriented collective action, but is limited to mostly autonomous producer action as in Hall County, has limited producer participation as in Cache County, or few coordinated markets as in Yamhill County. Market-oriented collective action in Kent County has resulted in the proliferation of local food markets and widespread farmer participation, while an earlier period of policy-oriented land use collective action in Frederick County has allowed space in the public agenda for local food interests to gain public sector support.

Local food system institutional arrangements

Each case study county was next characterized according the strength of institutional arrangements related to local food systems. This includes the existence of public sector organizations, staff, programs and/or policies that support the
development of local food systems. Programs and policies can include local ordinances to facilitate on-farm processing and sales, developing a published directory of local food producers, farmers’ markets programs or policies, programs to promote direct sales of local farm products, programs to promote a local food label or campaign, programs to link farmers to local institutional buyers, and developing a local food policy council to work on food accessibility. Civil society groups can also initiate many of these programs and policies and in such cases they were considered collective action activities in the current study. Only public sector activities and groups were counted as institutional arrangements. Additionally, case study communities were rated on the degree to which the goals and policies were well defined and articulated. Table 53 shows the number of public sector policies and programs related to local foods for each of the case study counties.

Frederick County had the most robust public sector support for local food. There was evidence for eight public sector LFS programs, which is significantly more than any of the other case study counties. There was also evidence that there was significant public sector funding for these programs. The County Office of Economic Development dedicates 15% of its budget to local agricultural economic development. LFS goals were well defined and articulated in the Agriculture Economic Strategic Plan, which legitimizes efforts to develop the local food system. Perhaps even more significantly, there is a dedicated staff position in the OED for local agriculture economic
### Table 53. Local Food System Institutional Arrangements in Study Counties

<table>
<thead>
<tr>
<th>County</th>
<th>Local Food Systems Programs and Policies</th>
<th>Agriculture Economic Development Staff/Committees</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cache</td>
<td>2 (L), 2 (S)</td>
<td>1</td>
<td>2 examples of local public sector LFS programs or policies 2 state policies/programs 1 example of public sector funding for LFS development No plan guiding LFS</td>
</tr>
<tr>
<td>Kent</td>
<td>0</td>
<td>0</td>
<td>No examples of local public sector LFS programs or policies No examples of public sector funding for LFS development No plan guiding LFS</td>
</tr>
<tr>
<td>Frederick</td>
<td>8 (L), 0 (S)</td>
<td>2</td>
<td>8 examples of local public sector LFS programs and policies Multiple examples of public sector funding for LFS development Well defined goals in the Agriculture Strategic Plan</td>
</tr>
<tr>
<td>Yamhill</td>
<td>0</td>
<td>0</td>
<td>1 example of public sector funding for LFS development No plan guiding LFS</td>
</tr>
<tr>
<td>Hall</td>
<td>0</td>
<td>0</td>
<td>1 example of public sector funding for LFS development No plan guiding LFS</td>
</tr>
</tbody>
</table>

**Source:** Internet Websites

development and an agricultural advisory committee that is involved in planning and policy making for this sector. The Agricultural Economic Development Specialist (AEDS) in the OED provides many of the services that were provided by the civil society in Kent County or could be provided by the private sector in other cases. The Agriculture
Economic Development Specialist collaborates with and organizes local food system producers and other LFS private market actors to develop new local food markets. The AEDS facilitates connections between producers and institutional buyers. The AEDS also acts as an institutional advocate for LFS development with other important public sector officials. As an institutional representative of local food system development, the AEDS is perfectly positioned to initiate policy changes and has had some success in doing so.

None of the other counties had this level of public sector support.

Cache County had a moderate level of institutional support for local food system development. There were examples of two local public sector programs and two state-level policies that influence LFS development locally. There was one example of public sector funding being used to support an LFS program, but the funding was not local and was accessed by the local civil society group. There was no staff to support LFS development, no policy or planning document guiding LFS development, or other evidence to suggest that the local food system was a legitimate part of County economic development.

Kent County had no public sector support for LFS development. Although there are a number of successful programs and attempts have been made to change policies to favor local food systems, all of this activity is the result of the civil society group efforts discussed above. In fact, reports from interview participants suggest that county officials are supportive of local food development, but do not see it as their responsibility. Despite this, there is significant general public support for local foods,
strong producer participation in local food groups, and a strong civil society generally, which is likely to influence the public sector to make policy changes that are favorable to local food systems in the future.

There was no evidence for public sector support of local food development in either Yamhill or Hall counties, although there is evidence of local food system activity in both. Although there was no local public sector support in Yamhill, there was evidence of some civil society activity that contributed to the development of the local food system there. There is a long history of strong state-level support for agriculture generally, which influences LFS development. However, research suggests that LFS farms are more successful in a mixed land use context. Land use in Yamhill County is strongly segregated to preserve large expanses of land. Agricultural production occurs in parts of the county that are distinct from the majority of urban uses, which could make it more difficult for producers to reach consumers.

In Hall County there was no evidence of either local civil society activity or significant state-level support for agriculture. Local food system activity seems to be the result not of either public sector or organized producer efforts, but of individual farmers taking advantage of existing market opportunities.

As with collective action, some local food system activity is possible without LFS-specific institutional arrangements. Kent, Frederick, Yamhill, Cache, and Hall counties each have some local food system activity that is not the result of specific public sector efforts to develop it. However, the quantity and quality of local food system activity
varies greatly and the lack of institutional arrangements in four of the counties presents problems with the continued development of the local food system. Considering this, local food system institutional arrangements seem to be important under certain conditions and directly impact certain aspects of the local food system. First, LFS institutional arrangements seem to have the greatest effect on the existence of local food markets and are important in communities that have heavily regulated land use because of the conflicts between LFS farm needs and traditional agriculture. LFS-specific institutional arrangements have likely contributed to the sheer number of local food markets in Frederick County, while the lack of policies or programs in Kent and Yamhill have presented some barriers to LFS producers and possible limited the scale of local food system activity (in Kent), or the number of markets (in Yamhill). Second, LFS institutional arrangements do not necessarily affect the extent of farmer participation in the local food system. There is an absence of public sector policies and programs for local food system development in Hall, Cache, Yamhill and Kent counties, but the level of farmer participation varies significantly.

Political landscape

The impact of collective action on institutional arrangements was thought to influence the type of political landscape present in each study county. Political landscape is a concept adapted from Marsden (1999) and helps describe how various interests in the community (traditional agriculture, environmental, anti- and pro-development) and various policies (land use and development, traditional agriculture
economic development, multifunctional agriculture and environmental) interact to affect local food system outcomes. At the center of the idea is the question: Who holds the power in these communities and where do local food collective action and institutional arrangements sit in relation to production, development, post-production and preservation interests? Figure 6 illustrates the relative balance of power in each case study county in relation to the two polar tensions described in the literature review chapter: pro- versus anti-development, and traditional versus post-productivist agricultural interests.

Figure 6. Political Landscape in the Case Study Counties

In Cache County, the political landscape can be characterized as a power struggle between environmental and land preservation interests, on the one hand, and traditional agriculture, private property, and development interests, on the other.
Private property rights and development interests are most commonly allied with groups representing traditional farmers (e.g., the Farm Bureau) and together these interests dominate county-level politics and land use decision-making. This has resulted in relatively unrestrictive land use policy. Pressure from environmental and preservationist groups is evident in tentative steps to increase planning and oversight of development in the agricultural areas, and is reflected in the recent moratorium on development in the unincorporated areas of the county, efforts to develop a new subdivision ordinance, and efforts to establish local funding for farmland preservation.

In general, however, these efforts and public debates have not been tied to a political discussion of local foods or LFS producer or consumer interests. In Cache County interviews, most political discussions appeared to be about farmland preservation versus the right to develop and this seems to be occurring independently of local food activity. Although there is some evidence for both market- and policy-oriented LFS collective action in Cache County, there has been no coordinated county-led effort and relatively little success at institutionalizing these efforts in local government programs or staff positions. Local food system development appears to mainly be driven by a few individuals who have organized to develop a few market outlets, with the remainder of the activity resulting from the autonomous activities and participation of individual farmers in these markets.

In Kent County, public debate has focused on preservation of farmland and the maintenance of a viable agricultural industry in the face of development pressure and
external global competition. Both pro-development and post-productivist environmental interests appear to have less power and visibility in Kent than in some of the other study areas. Land preservation issues are explicitly tied to local food issues in Kent County. In other words, farmland preservation is promoted using a discourse that emphasizes more about the production of food for both local and external markets rather than for the preservation of open space for environmental health or aesthetic reasons. It is important that there are numerous civil society groups that have framed local food and preservation as a single issue. These groups have focused their efforts on developing programs, helping facilitate LFS market coordination, doing public education, and advocating for changes in local and state policies.

From a local food perspective the supply of food is not the issue but rather the development of local food markets and mechanisms to distribute food to local consumers. Several participants in Kent County echoed this.

We’re within a 50-mile radius of 8,700 farmers. There is over a million acres of farmland with tremendous resources, but it’s trying to figure out how to go from farmers’ market to significant food supply. This is why it’s important that we’re engaging with institutions at the next level. We’re trying to develop economic opportunities. (Local Environmental Group Leader)

However, to date, these groups have been far more successful in developing local food markets and private programs for local food development rather than in changing policy or institutionalizing their efforts to develop the local food system or preserve farmland.

By contrast, in Frederick County, for more than 30 years the local political discourse has focused on the preservation of farmland and development of protective
systems of land use regulation, with a secondary emphasis on the development of local food markets only recently. Strict land use regulations and farmland preservation programs have periodically resulted in political backlash from development and private property rights interests and political power in the county has swung between strong preservation and post-productivist interests and strong productivist and private property interests.

In recent years, civil society groups representing environmentalists, exurban residents and some farmers have been most active in defending restrictive land use regulations, voluntary conservation easement programs, and other farmland preservation policies. Local food development has more recently been tied to this debate, but most of the efforts to develop local food are the result of direct public sector activity, especially efforts initiated by the County’s Office of Economic Development. As a result, Frederick County has had significant success in developing formal programs and policies designed specifically to promote local food systems. In contrast to Kent, a problem with local food development initiatives in the county is not the lack of local food markets or distribution mechanisms but the lack of local food suppliers and consistently available food for individual and institutional buyers. This suggests that the lack of effective producer organization or interest limits the expansion of local food systems in Frederick County.

In Yamhill County, agricultural and environmental preservation interests together have long dominated local land use politics, though they did so through their
influence on the state’s rigid land use planning laws. Early State efforts to control
growth focused on preserving large expanses of land for agriculture and open space. As
in Frederick County, recent political backlash from some traditional farmers, private
property groups, and development interests has resulted in more relaxed land use
regulations and the return of some control of land use decision-making authority to
local governments.

One consequence of this political legacy is that public debates are mostly about
preserving agricultural land or the right to develop it, with very little discussion in
Yamhill about policies or programs designed specifically to support local food markets.
Similar to Cache County, local food system activity in Yamhill seems to have arisen
without significant public policy support and as a result of largely autonomous actions of
independent farmers to develop their own local food market outlets.

Finally, in Hall County we see an example of a place where large-scale
commodity agriculture is both economically strong and influential in local politics, but
the fact that it involves only a small proportion of farmers and is controlled by large
poultry processing firms and external markets limits the impact of farmers on local
political decision-making. Poultry processors have little interest in either farmland
preservation or local food markets, and the absence of well organized preservationist or
environmental groups in Hall County leads to the domination of local politics by
development and private property interests. Overall, compared to the other study
counties, there is very little public debate about land use, agriculture, farmland
preservation or local food in Hall County.

Overall the political landscape sets the stage for the possible success of LFS collective action or institutional arrangements and determines the quality of local food system activity. In particular, the alliance between preservationist and local food interests (Kent), or the absence of traditional agriculture in the political opportunity structure (Frederick) is correlated with the highest ranking of local food system extent (Kent) and highest ranking for local food system existence and scale (Frederick). In both Kent and Frederick counties, the political landscape has set the stage for successful collective action and/or institutional development. In Cache, Yamhill, and Hall counties, the political landscape is still dominated by traditional agriculture or development interest (to varying degrees), which can explain the lack of significant collective action or institutional development and ultimately less developed local food systems.

Links between collective action, Institutional arrangements and LFS outcomes

There are several general conclusions that can be drawn from these five case studies about the connection between collective action, institutional arrangements and local food system development. First, the intent to develop local foods needs to exist within either civil society or the public sector, and the intent to develop local foods is seemingly shaped by the political landscape. As seen in Hall County, development interests and traditional agriculture largely dominated the political landscape and there was little interest in local food activity among farmers, the general public or in the public
sector. Consequently, local food activity is mostly the result of autonomous farmer action. In cases where the will to develop local food is present in civil society a lot can be done without institutional support, as noted in Kent and Cache counties. In fact, in an unrestrictive regulatory environment where individuals or groups are interested in local food, as in Cache County, the institutional structure may not be as necessary because, as one participant said, you can do whatever you want. In cases where institutional support is well developed, but where collective action is relatively weak (e.g., Frederick), there can be significant LFS market development, but the lack of direct producer engagement may constrain the ability of farmers to supply growing demand for LFS products.

Second, efforts to develop restrictive land use regulations and easements associated with farmland preservation programs can actually serve to present potential obstacles to local food system development. Land use regulations can be too restrictive as in Yamhill County, and limit the ability of local food farmers to do basic things like build a house on their land or have good road access to markets. Land use regulations can also directly prohibit some local food activities like on-farm sales and processing, farmers’ markets, or farm stand signs as was discussed in Frederick, Kent and Cache counties.

In communities that have high levels of local food collective action, but a relatively weak regulatory environment, land use regulations may not be strictly necessary if local food system programs have been developed by civil society groups,
because of the differential land use requirements of local food farming versus traditional farming. In Kent County, there are a significant number of LFS-specific programs that have been developed by groups outside of the public sector. Local food system activity in Kent has developed without a strongly articulated land use regulatory infrastructure to protect farmland from encroaching development, indicating again that farmland protection institutional arrangements are qualitatively different than local food institutional arrangements and the former seems not to be necessary for the latter to be effective.

However, in the long term, lack of public sector support for local food development may hinder the expansion of the local food system. Again, in Cache County the local food group was having trouble sustaining funds to support local food programs they had started. And in Kent County, some producers were unable to sell on the farm, do agritainment, or develop farmers’ markets because of existing ordinances.

Third, in heavily regulated communities local food institutional arrangements are important for local food system development. In the case study communities with restrictive land use regulations and/or farmland preservation programs local food farmers complained that they were unable to develop and access markets, buy land, and expand and promote their operations. In heavily regulated communities like Frederick and Yamhill it seems that local food institutional arrangements are more important to offset the negative impacts of land use regulations and farmland preservation programs in order to facilitate local food development.
Finally, the political context does matter. The communities in which local food interests were allied with another dominant interest group (Kent) or in which previously dominant interests had broken down making space for local foods on the public agenda (Frederick) had more robust local food system activity with stronger support in either the public sector or civil society. In Frederick traditional agricultural interests no longer dominated the public agenda as a result of an earlier period of land use collective action. The result of this has been space on the public agenda for local food interests to coalesce resulting in significant public sector support for LFS development. In Kent County, local food interests were allied with farmland preservation interests in civil society resulting in the development of LFS programs in this sector. In contrast, there was no alliance or space for local food interests to gain a significant foothold in the public agenda in Cache, Yamhill, or Hall counties. This may explain the relatively lower levels of civil society activity, public sector support, and/or local food activity in these counties.
In this chapter I discuss the implications of the findings from the five case studies in relation to the research questions I introduced at the end of the literature review chapter. Following this I discuss the implications of my results for the research on local food systems and on the sociological theories I used to frame this study. Finally, I discuss the limitations of this study and suggest directions for future research.

**Research Questions**

*Structural conditions*

The first question focused on how the structural conditions of RUI communities drive variation in local food systems. Specifically, research on local food systems suggests that the majority of direct selling activity, a key indicator of local food activity, occurs on small farms. Research also suggests that most local food system farmers have low incomes in the range of $15,000 annually and that LFS farming is often a part-time activity. In the context of rapid population growth and rural housing development, some farmers may transition from traditional commodity farming to higher value LFS-oriented crops or livestock products, while others may take advantage of employment opportunities and get out of farming altogether. Finally research suggests that the relative amount of population growth and density, proximity to urban centers, socioeconomic conditions, land use patterns, farm size and structure, and commodity
mix should affect the development of local food systems.

In these case studies, although there was variation in many of the indicators of structural conditions, these differences were not systematically related to the presence or development of LFS activities. Moreover, differences in the size or rate of growth of urban populations (a prime LFS consumer market) were small enough to suggest that most RUI/AI counties have the necessary platform of population density required to cultivate new LFS opportunities, but perhaps this is insufficient to guarantee the successful development of LFS markets. All of the study counties have similar commodity profiles and approximately the same number of small farms. While large farms play a larger or smaller role in managing local agricultural lands, these differences were not related systematically to the various indicators of LFS development. Hence, despite having similar structural conditions that should indicate robust local food systems in each county, there is significant unexplained variation in the quantity and quality of the local food systems in each place. Given this, the evidence suggests that structural conditions are necessary for the existence of a baseline amount of local food activity, but are not the determining factors governing local food system development.

Autonomous and collective action

The next two research questions focused on the effects of two types of collective action and the role of producers in the development of local food systems. In the sociology of agriculture literature the turn towards a focus on consumption and the role of consumers in driving agricultural change has shifted attention away from the
potential role of producers as agents in the development of local food systems.

However, producers have both economic and non-economic motivations to develop local food systems and are uniquely positioned to do so. However, as I noted in earlier chapters, producers could act both as autonomous market actors to increase the supply and number of market outlets of local food, and also work to organize through collective action designed to develop local markets or affect policy changes that favor local food systems. Collective action has been viewed as a way to lower individual transaction costs and facilitate the coordination of markets in ways that individual producers are incapable of sustaining. Also, because of their greater familiarity with and access to local government officials and institutions, producers interested in local food system development may be capable of harnessing their collective political clout to create local rules and institutional arrangements that guide land use, economic development, and infrastructure development at the community level.

The case studies revealed several instances where autonomous LFS producers were mainly acting independently to access existing local markets. For example, farmers in Hall County are actively engaged in direct selling from their farms and from the county’s only farmers’ market. However, this appears to be mostly the result of the right local structural conditions (population growth and density, proximity to urban center), rather than with the intention of developing a local food system, as there is no evidence of successful market- or policy-oriented collective action. Without further steps taken by producers to organize collective markets or to use political clout to
create LFS policies and programs, the growth and development of local food systems through autonomous producer behavior appear to be very limited. Hall County is the best example of this.

Market-oriented collective action

The remaining case studies suggest that under certain conditions market-oriented collective action can accelerate the emergence of local food systems. Kent, Cache and Yamhill counties each had examples of market-oriented collective action. In Cache and Yamhill counties some LFS farmers are loosely organized and have been successful in facilitating the emergence of a small number of market outlets. However, they have been unsuccessful in capturing the public dialogue and institutionalizing their efforts through the adoption of local policies or programs to support local foods. Without broader producer participations, local government support, an alliance with dominant community interests or the successful framing of the local food issues to make them salient to the broader public, local food development is limited.

In contrast, in Kent County, LFS farmers have organized themselves and have worked with various partners to create a wide range of LFS marketing options. In addition, these groups have been successful in framing local food systems in such a way to make them a visible public community issue. Further, civil society groups have allied local food interests with dominant land use preservation and traditional agricultural interests, which has resulted in broader public support for local foods. In this case market-oriented collective action has increased the existence of local food markets and
the extent of participation in the local food system.

To answer the second question, market-oriented collective action is generally helpful to develop some local food markets as in Cache and Yamhill counties. However, market-oriented collective action results in a more robust local food system when there is significant producer participation in local food groups and these groups have successfully framed the local food issue in ways consistent with dominant land use interests making them salient to the general public as in Kent County. The success of market-oriented collective action in Kent County is because civil society groups have been allied with land preservation and traditional agricultural interests and this has resulted in much broader general public support.

Policy-oriented collective action

In regards to policy-oriented collective action, there is no evidence in the case studies that LFS-specific policy-oriented collective action has led to the development of local food institutional arrangements because there were no examples of LFS policy oriented collective action. However, policy-oriented collective action generally has been important to create space in the public agenda for local food interests to gain public support and for the development of LFS institutional arrangements.

In Frederick County, the case with the best-developed public programs and policies supporting LFS development, the adoption of supportive institutional arrangements is not clearly linked to LFS-oriented collective action. Rather, institutional LFS innovations in Frederick appear to be a legacy of an earlier period of
policy-oriented collective action aimed mainly at promoting farmland preservation and the subsequent decline of traditional agricultural interests. Unlike Cache, where pro-development and traditional agricultural interests still dominate local politics, the successful penetration of a preservationist agenda in Frederick (beginning 20 years ago) seems to help explain the receptivity of local government to investments in LFS-focused programs and policies. So while there has been no LFS policy-oriented collective action in Frederick to affect the development of LFS institutional arrangements, an earlier period of land use policy-oriented collective action did create an opening in the political opportunity structure for local food interests to gain public sector support later.

To answer the third research question policy-oriented collective action can be important for the development of a robust local food system when civil society groups take advantage of openings in the political opportunity structure to gain political influence in the public sector. In Frederick County an earlier period of land use policy-oriented collective action successfully upset traditional agricultural interests and created space for local food interests to gain political influence in the public sector.

In cases where producers are not heavily involved in civil society groups, these groups have not allied themselves with dominant land use interests, framed issues in ways that are salient to the broader public, or traditional agricultural interests still dominate land use politics as in Cache, Yamhill and Hall counties, local food systems are smaller and less robust. So although varying degrees of local food activity are possible in the absence of local food collective action, overall these cases suggest that either
market-oriented or policy-oriented collective action make a difference for the development of a truly robust local food system. Without either type of collective action, local food activity is mostly the result of autonomous producer action in the context of favorable structural conditions. Moreover, the case studies suggest that market-oriented and policy-oriented collective action may not co-exist in the same community. Depending on the political climate (conservative and private sector driven versus liberal and government-oriented) either one or the other may exist. For example in Frederick the political climate is liberal and more oriented towards a strong government role in local land use. This setting may compliment policy-oriented collective action more than a conservative political climate such as in Kent County where there is more orientation towards private sector control of local land use.

*Political landscape*

The fourth research question focused on the balance of power between different interest groups and the struggle between different discourses to control land use and policy development. In reviewing the literature on consumption landscapes from rural geography, I highlighted questions regarding how local debates over growth and development policies, on the one hand, and traditional agricultural programs, on the other, might affect the ability of local actors to create social organizations and a favorable policy climate to promote local food systems. It is also unclear from that literature which interests might be most likely to support or oppose efforts to develop local food systems.
Rural geographers have suggested that the political context can be an important consideration for the development of local foods. The literature suggested that exurban areas in most advanced industrial societies have experienced a progression from a traditional production landscape to a multifunctional landscape that must meet the needs of multiple conflicting interests. Marsden’s land use change typology illustrates how the changes in the balance of power between preservationist and pro-development forces can describe the linear progression from a clientist to a preserved countryside. The case studies used in this research illustrate ways in which land use change and local politics may not always reflect a linear progression with tension between two dominant interests, but rather reflect movement between two sets of opposed political forces reflecting tensions between pro- and anti-development interests (on one axis) and between traditional- and multi-functional agricultural interests (on the other).

The rural geography literature also suggested that the present policy climate reflects past political struggles and is the result of competing discourses. Moreover, one set of interests or discourses rarely dominates all the time. There is evidence to support this in the case studies.

Various local interests align themselves in different ways in each community and these have resulted in a diversity of policy climates. In Kent County the public discourse has been both about farmland preservation and local foods and so the efforts have been to develop policies and programs to address both in an integrated manner. In Yamhill
and Frederick, local political discourse has been mainly about farmland preservation versus the right to develop private land and the policy developments have reflected the swing between the dominance of these interests. In the case of Frederick, this focus provided a platform for LFS initiatives, while in Yamhill it seems to have stifled both collective action and policy innovation around LFS issues.

The difference between Yamhill and Frederick counties in this instance is that policy development and the public discourse have occurred at different levels of government. In Yamhill the public discourse and resulting policy development has happened at the state level and as a result this community has the most cohesive land use policy of any of the case study counties. However, the strong role of the state in land use seems to eliminate some local control. For example, there are no organized land use groups with impact in Yamhill at the local level. In Frederick, the public discourse and policy development and implementation has happened at all levels of government from state to local levels and as a result there have been more opportunities for alternative discourses to gain power to affect policy change. The result has been greater swing between interests in Frederick than in Yamhill.

In Cache County, although there have been some alternative discourses competing for control over land use decisions, traditional agriculturalists and development interests remain aligned and in control of the majority. Public support for alternative discourses has never been strong enough to swing policy in a more preservationist or post-production direction. This is also true of Yamhill County in which
traditional agricultural interests retain significant political influence at the local level. This could limit the opportunity for new local food interests to gain political support. Finally, Hall County demonstrated an extreme case where traditional agriculture and development interests are aligned and in control and there is a virtual absence of alternative discourses and so there has been almost no policy swing to support either farmland preservation or LFS development.

So to answer the fourth research question the political landscape is an important contextual factor influencing the development and success of both collective action and institutional arrangements. In Kent County local food system interests issues are coupled with preservationist interests and the local food system has benefitted from robust civil society support. However, traditional agricultural and development interests still dominate the public sector in Kent County, which limits the opportunity for local food interests to gain space in the public agenda. In Frederick County, traditional agricultural interests have lost some power to preservationist interests, but this has also allowed space for local food systems interests to get onto the public sector agenda resulting in significant local food system institutional development. In Yamhill, Cache and Hall counties, traditional agricultural and development interests retain significant political power and local food system interests are not explicitly coupled with those interests, which has resulted in less public sector support and lower levels of local food system activity.

Yamhill County, although having a strong agricultural sector, has fewer local food
markets and less LFS participation by farmers than in Kent despite farmland preservation having been the dominant feature of state policies for more than 40 years. A difference between Kent and Yamhill is that in Kent, local food, farmland preservation and food security issues are framed as a single issue. This has the effect of linking the interests of the urban and rural population together as well as the farm and non-farm population resulting in broad support for local foods. In Yamhill the local food system participants are not involved in the big land use debates that are happening between development and preservation/production interests.

In Frederick, although local food system development has significant institutional support, this issue was never the source of public debate or collective action activities in the way that farmland preservation had been. By the time local food development gained momentum among farmers and consumers in the region, farmland preservation institutions had long been in place locally and had enough power to institutionalize local food system development without first garnering support from collective action groups in the county. The result of this has been that while there are a significant number of market outlets and programs and policies to support local food system development, there is still some conflict with existing land use and preservation policies and some conflict or misunderstanding between different types of farmers. In other words, because local food was never a public issue and was never framed with the dominant land use interests, there is some contradiction between policies to preserve farmland and policies to develop local foods and some degree of segmentation between different
types of farmers. The local food issue has never had the opportunity to coalesce as a community issue in Frederick in the same way that farmland preservation has had in Yamhill and Frederick, or as farmland preservation and local foods has in Kent.

Institutional arrangements

The fifth research question focused on the role of programs and policies in the development of local food systems. Specifically, are LFS policies and programs helpful for the development of local food systems?

From my review of the policy research I suggested that local food system policies are unique from farmland preservation policies and should be considered independently. The intent of farmland preservation policies is to preserve or prevent the development of an expansive land base. The primary intent of LFS policies is to create LFS markets or allow LFS activities to increase the supply of local foods.

While farmland is necessary for local foods it is not clear that such large expanses of land are required as might be the case for sustaining traditional commodity agriculture. Therefore, strong land use policies and programs should not be seen as equivalent to a pro-LFS institutional climate. Interview participants in each of the case study counties discussed conflicts with land use or farmland preservation policies that do not understand the unique needs of LFS producers. It is not enough to allow agricultural uses in areas that have had historic patterns of agricultural use or have been zoned for agricultural use. Large expanses of land are not necessary and may actually be cost prohibitive for LFS farmers in urbanizing communities where land values for
development exceed the value of land for production.

LFS farmers need less land and for that land to be close to urban areas or integrated with urban land uses, the ability to sell and process on their land or the ability to find local small-scale processors, the ability to sell to the local community through CSAs, farmers’ markets, institutions, distributors, or other privately owned markets, and the ability to promote or to be promoted to the local consumer base. Therefore LFS institutional arrangements can be useful to clearly establish the legality of LFS markets and production. This formal legal support for LFS production can induce farmers to invest in their operations by switching to different crops or livestock, engaging in on-farm processing, developing on-farm markets or CSAs, or participating in or organizing local collective markets to expand the local food system.

Evidence from the case studies suggests that LFS-oriented public policies and programs can be important under certain conditions for the development of a robust local food system. Frederick County was the only case study with public sector policies and programs for LFS development. In this case local food institutional arrangements are responsible for the large number of markets and local food-oriented processing programs available to local LFS producers. Local food institutional arrangements are particularly important in Frederick because there is an absence of market-oriented collective action efforts to create local food markets. So local food institutional arrangements are really the only mechanism in Frederick that facilitates local food system development. In this case, LFS policies and programs have been particularly
successful in creating various types of markets and could be the reason that Frederick scored highest on the existence and scale local food system rankings. Despite this success, local food institutional arrangements seems to have less effect on the extent of participation as Frederick had a lower local food system extent ranking and many interview participants suggested it was difficult to get producers to participate in local food programs developed by the public sector.

Further the existence of LFS public policies and programs seems largely dependent on the existing political landscape and culture. In places that are politically conservative and view agricultural economic development as a private sector issue (as in Cache, Hall, and Kent counties) it may be more difficult to generate public sector support for local food development regardless of the alignment between local food and dominant land use interests. However, in communities that are politically liberal and see a role for the state in agricultural economic development (as in Frederick and Yamhill) there may be more opportunity to develop public programs and policies for local food development especially if LFS interests are aligned with dominant interests or there is room in the public agenda for no interests to gain support.

In the absence of LFS institutional arrangements and successful market-oriented collective action to develop local food markets, local food activity does occur but is limited mostly to individual producer action and/or a few collective markets. So, although varying amounts of local food activity can occur without public policies and programs, LFS institutional arrangements are necessary for robust local food
development especially in the absence of strong civil society efforts.

Implications for Existing Research, Theory, and Practice

The conclusions I’ve discussed above have several important implications for existing local food system research, the sociological theories I used to frame the current study, the insights from the rural geography literature regarding land use change in RUI communities, and for policy-makers, planners and others interested in developing local foods. The previous research on local food has focused mostly on individual producers, markets or a single type of local food market in a single geographic area (like CSAs in Vermont). Also, existing research has largely focused on the ability of alternative agriculture to effect changes in the global agrifood system. And finally, many community studies of local food have focused on exemplary places with best-case scenarios of local food development. The current study departs from past research in several significant ways.

First, the current study examines the overall local food system rather than just individual producers, markets or single types of markets in a single geographic area. Rather, I looked at all available indicators of local food activity to assess the quality and characteristics of the entire system, which is an important methodological contribution to the existing research. Local food systems are not monoliths but are made up of many individual producers and collective markets. It is clear from the current study that the existence, extent and scale of local food systems respond differently to the various structural, social, political and policy conditions that exist in a single community. The
approach used in the current study provides insight into how policies or community
dynamics affect different aspects of the food system. This can help planners or food
activists develop local food markets, policies and programs to meet the specific
conditions in their community. In addition, it suggests that future research need to
explore how different parts of the food system respond to a variety of conditions.

Second, the current research represents a change in the scale of study. In this
study I focused on how local scale factors affect local scale food systems. Whereas
previous research has mostly attempted to explain how the local scale affects global
change or how global structural conditions affect local conditions. The current study
looks at how the local affects local, which is important because it suggests that a variety
of local conditions shape local agriculture. Local agriculture is neither simply a mirror of
global trends nor the engine for global change. Further there are likely to be significant
interaction between local, regional, national and global scales and future research
should be expanded to look at how these interactions affect local, regional, national and
potentially global agricultural changes.

Also, due to this local focus, my research has important policy implications,
which can aid communities interested in local food development. In particular, one of
the most significant findings from research suggests that LFS policy development is
particularly successful in politically liberal cultures and in communities with more
restrictive land use regulations. Some land use and farmland preservation policies may
present barriers to LFS development. So local food policies create opportunities for
producers and a friendly climate in which producers are more willing to invest in their operations.

Finally, the current research represents a change in sampling. Most studies on alternative agriculture have focused on places, which are well known for progressive local food development. This study focuses on typical rural-urban communities all of which have the general structural conditions to support some local food activity, but have significant variation in the degree of local food system development. This focus provides needed insight into the ways in which local food systems can emerge in different political climates and with varying amounts of civil society and public sector support. The cases in this study better represent the dominant trends in RUI/AI communities and therefore the findings from this study are more applicable to the majority of RUI/AI counties than those communities that are well known for local food development.

My conclusions also have important implications for the sociological theories I used to frame the current research. First, I introduced the debate between structure and agency as way to conceptualize how the background context of the RUI and the community level social factors (collective action, institutional arrangements and political context), influence the development of local food systems. Overall, I found that the structural characteristics of RUI communities are important for the existence of some local food activity, but for robust local food system development human agency (either collective action or institutional arrangements) is necessary. Both structural factors and
human agency are important for the development of local food systems. The RUI structural conditions can create the supply and demand for local foods and result in some individual or loosely coordinated local food activity. Human agency, collective action and institutional arrangements facilitate more robust local food development increasing the number and type of markets, the participation of producers and the scale of the local food system. This is an important addition to the existing structure/agency debate because it suggests that human actors are able to effect change not only within but also because of certain structural conditions. Future research should not automatically discount structure and should disaggregate structure beyond considerations of scale. For example, future research on local food systems should distinguish between structural conditions that affect demand versus those that affect supply as well as local and global structural conditions. According to my research, certain structural conditions (population growth and density, proximity to urban centers, income levels, and rural settlement pattern) affect the demand for local food by increasing the pool of potential accessible consumers. While other structural conditions such as commodity mix may affect farmers’ decisions or ability to produce local foods.

In addition, this study confirms the basic tenants of the political process social movement research. This research suggests that collective action is effective when actors are able to frame issues in ways that are salient to a broader audience, mobilize resources and take advantage of openings in the political opportunity structure to create significant change. The findings from these case studies confirm this theory.
The most robust local food systems were found in places that at some point had successful collection action movements in which civil society groups framed issues in a way to make it salient to the broader community, mobilized a variety of resources to create local food markets, or took advantage of the political opportunity to create policy change as traditional agricultural interests declined and preservationist interests gain political influence.

The current study also adds another dimension to rural geographers’ understanding of rural land use change. The geography literature suggested that land use change in RUI communities follows a linear progression from traditional agricultural community to a post-productivist/preservationist community. However, local food interests represent a small but independent and newer dynamic in RUI communities that are not accounted for in this model of land use change. In my work, land use change appears to be more dynamic representing movement along two distinct dimensions and that the success of local food development is influenced by the balance of power between these two sets of opposing interests and the relative position of LFS interests within this local political landscape. These cases demonstrate that the presence of preservationist and/or post-productivist interests can be important for the development of a robust local food system either as an ally for local food interests or to create some space in the public agenda through collective action for local food interests to gain public sector support. Further, these cases also suggest that a decline in the political power of traditional agricultural interests is important to make space for new
interests and that in RUI communities this decline is often associated with higher levels of land use-oriented collective action.

Finally, my conclusions have important implication for policy-makers and others interested in developing local food systems. The importance of the political landscape and culture cannot be understated. These cases indicate that local food system policies are accepted and more successful in politically liberal communities in which people accept and expect a role for the state in agricultural economic development. Once adopted LFS policies and programs do expand the number of local food markets and can prevent conflict between other land use policies that prohibit or do not address LFS production needs. However, in politically conservative communities that view agriculture economic development as the responsibility of the private sector a strong civil society may be the easiest path to initiate and administer many of the same LFS programs.

Limitations and Future Research

While the case studies provide important insights into the complex factors that help explain the growth and development of local food systems at the rural-urban interface, there are some important limitations to my conclusions. First, much of the data for this study comes from a larger research project whose original intent was to understand broader patterns of agricultural change in RUI communities more generally, without a central focus on the emergence of local food systems. As such, opportunities to extend the interviews to expand on the number of respondents (or depth of probing)
related to LFS issues were not fully explored. Future research to extend data
collection in these study counties (or to include a wider range of examples) could
generate additional insights that could expand on, complement, or challenge my
conclusions.

Following this, because the data used in this study was not explicitly gathered
with local food systems in mind, there have been some inconsistencies in the indicators
used for local food system existence, extent and scale. The most significant example of
this is the difference in local food system extent in Hall County between the agricultural
census and the landowner survey data. Along these lines it is clear that the various
dimensions of local food systems, existence, extent and scale, are affected differently by
collective action, institutional arrangements and the political landscape. Future
research should explore each dimension independently to understand how various
factors influence their development.

Third, I used census data, interviews, survey data, Internet websites,
newspapers, and policy documents to explore the dynamic process of local food system
development. These cross-sectional data provide limited snapshots of local food system
activity and the factors affecting its development. Future research would benefit from
the use of longitudinal data explicitly following local food system development, the
formation of food movements and LFS policies.

Finally, because my five case studies represent a small and non-random sample
of such places, it is difficult generalize my results to the larger population of RUI/AI
counties in the United States. Although there are similar structural conditions among many RUI communities, these case studies have shown that a great deal of variation can exist in the combinations of collective action and institutional arrangements thought to affect local food system activity.

Given these limitations I can suggest several directions for future research. First, the local food system concept is complex and composed of at least three different dimensions. Future research should explore how the existence, extent and scale work independently and in tandem to result in what we call a system. Second, my conclusions are qualitatively rich exposing the complexity of factors affecting local food system development but are ultimately limited to the case study context. The next logical step then is to validate or challenge the findings of this study testing the relationships between my dependent and independent variables using a larger sample of communities with the same structural conditions.
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Appendix A. Key Informant Recruiting List
Key Informant Recruiting List

Institutional Generalists:
County Extension Agent
County Planner
County Commissioner
NRCS
SWCD
Regional Councils
Planning Commissioner
Zoning Commissioner
Sustainable Ag Specialist
University Professor
Other Legislative Officials/Bodies
Administrator/Auditor

Community Based Landscape Activists:
Farmland Preservation Organizations
Environmental, Smart Growth, Watershed Groups
Local Farm Organizations
Union and Farm Bureau Chapters, local Ag-NGOs
Farmers' Market (managers and board reps)
Local Food Groups/Campaigns
Local Newspaper Writers and Editors

Growth Generators:
County Economic Director
County Extension
County/Region Chamber of Commerce
Development Groups
Local Booster Groups
Formal and Informal Civic Leader Meetings (Service Clubs and Dinners)
Bankers and Local Credit Lenders
Local Developers
Adjacent metro county boards

Agriculture Service Providers:
Local/Regional Ag-Suppliers
Implement Dealers (manager/owner)
Chemical Dealers (manager/owner)
Ag Consultants
Production and Marketing Specialists (manager/owner and buyers)
Farmland and Ranchland Specialists - Realtors
Livestock Production and Marketing Services (manager/owner)
Value Added Processing Facilities (manager/owner and workers)
Alternative Distribution and Marketing Channels

**Non-agriculture Service Providers:**
Sheriff
Hospital Administrator (physical and mental services)
School Superintendent or Principal
Community Clubs

**Farmers:**
Farmers
Ag-related Entrepreneurs

**Non-Farm Residents:**
Rural Residents and Landowners
Non-rural residents
Newcomers
Longtime Residents
Appendix B. Interview Protocol
Agricultural Adaptation at the Rural-Urban Interface: Can Communities Make a Difference?

Interview Outlines

BACKGROUND INFORMATION

(pre- and post-interview)

Date & time of interview: ____________________________

Person conducting interview: ____________________________

ID code for informant: ____________________________

Role/type of informant: __________________________________

Interview context (location, other notes): ____________________________

Time started: ________________

Time finished: ________________ Total Time (minutes): ______

Notes on how well interview went: ____________________________

Modules:

____  Base informant module (all informants)
Farmer Module (Farmer informants)

Farm Organizational Structure module (select Ag. informants/Farmers)

Agricultural Adaptation module (Ag. informants)

Community Land-Use & Policy

Closing Module (all informants)
Base Informant Module

*Ties To Community, Farming & land-use*
• How long have you lived in Frederick County?
  o If not a resident of the county, where do you live?
• What your connections to farming and/or land use in Frederick County

*Observations & Experiences with Community & Population Changes*
• What are some of the most noticeable ways that Frederick County has changed in the last 10-15 years? *(or less, if they are more recent)*

• In what ways has the population of Frederick County most changed in the last 10-15 years?
  o How have population changes affected you?
  o Are the most important changes the NUMBER of people living here, or the TYPE of people who live here?
  o If TYPE: how has this changed?

• In what ways has the social and cultural life in Frederick County most changed in the last 10-15 years?
  o What do you think explains these changes?
  o How have these changes affected you personally?

• In what ways has farming changed in Frederick County?
  o What kinds of evidence do you see for these changes?
  o In what way are these changes most visible?
  o Have these changes affected you personally?

• How do the changes in Frederick County compare to changes going on in neighboring counties?
  o Population and urbanization changes?
  o Social and cultural changes?
  o Farming changes & trends?
Farmer Module

- How long have you been involved in farming?
  - Did you grow up on a farm?
  - How long have you been on this particular farm?

- How would you describe your farming operation?
  - What are the most important farm commodities you raise?
  - Do you have any livestock?
    - Roughly how many (by each type)
  - How much land do you operate (including both owned & rented land)?
    - What are the most common crops you raise?
    - Roughly how much land is in each of these major crops?
    - Roughly how much of your total land did you rent in?
  - What share of the farmwork on your operation is done by you and members of your family?

- In what important ways has your farming operation changed over the last 10-15 years?
  - Why did you make these changes?

- Why did you get involved in farming in the first place?
  - Why did you decide to start farming in this area?
  - In your opinion, what is the best thing about farming?
  - What is the worst thing?
  - Is farming as satisfying to you now as it was 10-15 years ago?

- Do you expect your farm operation to still be in business in 10-20 years?
  - Why or why not?
  - How much longer do you expect your farm operation to keep running?
  - What are the most important factors that will influence whether or not your farm will survive?

Farming, Urbanization and Adaptation

- How has population change or urbanization in Frederick County affected your farming operation?
  - What is the largest negative impact on your farm?
  - What is the most positive impact on your farm?

Farming, Adaptation and Local Policy

- Can you think of any policies or programs adopted by Frederick County (or other local governments) that have impacted the viability of your farm operation?
  - Negatively? Positively?
  - What kinds of things could a county government do to make farming more viable or successful in this area?

- Are you aware of any policies or plans designed to limit development on farmland in Frederick County?
What are the most significant policies that affect people's ability to build houses in the unincorporated parts of the county?

How have these land use policies affected you personally?

If you wanted to, could you develop your property for housing?
- What would you have to do?
- How likely is it you might seek to develop some or all of your farm in the next 10-20 years?

Are you aware of any efforts to promote agriculture as part of the economic development in this county?
- How have these efforts affected your operation?

How involved is local government in regulating livestock agriculture in the county?
- What do they do? (manure, permitting CAFOs, etc.)?
- How have these efforts affected your operation?
- Are you supportive of their efforts?

Does farmland get special tax treatment in this county?
- If yes, how does this affect the economic viability of your farm?
- Would you have to pay back some taxes if you developed your property?

Are there any programs to purchase conservation easements (or development rights) from farmland owners in this county?
- If yes, have you ever participated in those programs?
  - Why did you participate?
  - How difficult was it to arrange?
  - What impact did it have on your farm enterprise?
- Do you know any other farmers who have participated in this program?
- How important are PACE/PDR/TDR programs to the survival of farms in this county?

Of all of the policies or programs we have discussed,
- Which do you think have had the largest impacts on agriculture in this county?
- Which have had the strongest IMPACT in terms of
  - Keeping land in farming or agricultural uses?
  - Keeping commercial farms financially viable?
  - Promoting new agricultural enterprises?
  - Keeping residential development out of agricultural areas
- Are there any policies that have likely made it more difficult for farmers to survive in this county (or in parts of this county)?
Farm Organizational Structure Module

• What are the leading farm-related organizations in the county?
  o How effective is each of these organizations in supporting or promoting local farming in the county?
    ▪ What kinds of activities do they engage in?
  o How would you characterize the members or leadership of these organizations? (Young, old, particular commodity sector, etc.)?
  o How well, if at all, do these organizations interface with nonfarming residents of Frederick County?

• Are there any leaders in the county recognized by farmers, nonfarmers, or both as working to promote local farming, preserve farmland, manage growth, etc.?
  o What kinds of activities is this leader associated with
  o How effective is this leader?

• Are there any festivals or events that occur in the county that celebrate the role of farming and agriculture in the community? (elicit information about all events identified)
  o Describe what the event is about and some of its history?
  o What kind of support does the event receive from farming and nonfarming interests in the community?
  o Does the event attract interest from the nonfarming citizens of the county?

• Are you aware of any forums, workshops, or related events in Frederick County that focus on issues of farmland preservation, land-use, or smart growth? (elicit information on all activities identified).
  o What was the nature of the activity?
  o Did the activity make a difference?

• Are there any programs or activities in the county to help familiarize newcomers to the county about the agricultural heritage/character of the county? (elicit information about all programs that are identified)
  o Describe the program and its history?
  o What organizations or leaders conduct the program?
  o Has the program had an impact, and how?
Extra-local Networking on Agricultural Issues
Have leaders from Frederick County traveled outside the area to events related to farmland preservation, land-use, or smart growth?
  o Who (what leaders, delegations, or organizations) attended the event and what was the nature of the event?
  o What kind of impact did their trip have on farming or land use policy in this county? (Does this type of networking have any sort of impact on farming or land-use planning in the county?)

Are there any organizations outside of Frederick County that provide support to initiatives, programs, activities in the community related to agricultural development, farmland preservation, or land-use planning?
  o What, if any, impact has this support had on local agriculture.

Investment in Agriculture in Frederick County – be aware of overlap below
Have farmers and related agri-businesses invested in any agricultural development initiatives that contribute to new economic activity related to agriculture?
  o What are the initiatives and what kind of contributions were made?
  o In general are county farmers and agribusinesses willing to invest in efforts to improving the agricultural sector?

How willing are farmers, farm organizations, or agribusinesses in the county to invest in promotion and development efforts related to local agriculture?
  o Are there examples of prominent investments they have made in the community?

What kind of public/private resources are available to support land-use, agricultural, or environmental initiatives in the county?
  o Is there any community foundations that contribute to these initiatives
  o Are there any environmental organizations or other social organizations that contribute to these efforts

How supportive is local government of efforts to preserve farmland, develop local agriculture, or manage growth in the county?
  o What type of funding exists from local government to support these efforts?
  o Are there any staff persons dedicated to work on these issues, above and beyond standard planning personnel?

If there is a farmland preservation or related conservation program that exists in the community (other than those directed by NRCS), how is it funded?
  o What local government resources support this program
  o What local NGO or citizen resources support this program
  o What extra-local resources support this program

Links between Farming and Environmental Actors in the Community
Are there any organizations in the county that focus on environmental issues or problems of at least some part of the county? (elicit information about all groups identified)
  o What are the goals of this organization?
o Does this organization include the farming community?
o How effective is this group and what has it accomplished?
o Does the organization work on land-use issues and what are the issues?
o Does the organization work on growth management issues other than those related to land-use?
o Are there any well recognized leaders of the environmental community in the county? (these might be interesting folks to follow-up with).

How well do the environmental interests/organizations in the community interface with the agricultural interests/organizations of the community?
o Is the relationship confrontational/oppositional?
o What examples of the two interests working together can you think of?
o What examples of the two interests clashing over some local issue can you think of?

OTHER GENERAL AG-COMMUNITY NETWORK QUESTIONS
- How influential are farmers in county or local government in Frederick County?
  o Can you think of individual farmers who are particularly involved in local government?

- How are farmers generally viewed by the nonfarm leaders of Frederick County?
- What do most farmers think about the current county leaders in Frederick County?
  o Do they feel that their interests are well represented in county government?
  o What about in local city or township government decisions?
  o Are farmers well represented in land use decision-making?

- Are there any official boards or organizations that have membership from both the farming and nonfarming communities in Frederick County?
  o If so, describe what they are and what they have been doing
Agricultural Adaptation Module

- Are there many commercial farmers expanding or intensifying their operations in this area?
  - If so, what kinds of farm operations are doing this?
  - Where in the county are they located?
  - Have they been successful?
  - Have you had any large scale farms move into Frederick County from somewhere else?
    - If so, why did they pick this area?

- How well are traditional commercial farms doing in Frederick County?
  - What kinds of farms would you consider to be ‘traditional’ for this region?
  - How well have they been able to survive over the last 10-15 years?
    - What kinds of strategies or techniques have helped them to survive?

- Are many young people willing or able to take over farms from their parents in Frederick County?
  - Why or why not?

- What new kinds of agriculture have been successful in Frederick County over the last 10-15 years?
  - What kinds of people are running these farms?
  - People already involved in farming in this area, or people moving in?
  - Why do you think these new kinds of farms are successful?

- How have markets for agricultural products changed in this area over the last 10-15 years?
  - Are there outlets for traditional commodities in the county?
    - If not, where do people take their products?
  - Are there any new marketing outlets for area farmers?
  - Are there any opportunities for local residents to buy food directly from Frederick County farmers? (Describe them)

- How has the agricultural processing sector changed in this area over the last 10-15 years?
  - How much of the local farm output is processed in the county?
  - What are the most important farm processing industries?
    - How much of their raw material is coming from Frederick County farmers?
  - Are there many farmers who try to add value by processing some of their own commodities?

- How dependent are most farm households in Frederick County on off-farm income or benefits?
  - Where do most of them find work?
  - How much has this changed in the last 10-15 years?

- How hard is it for farmers to find hired help in this area?
  - Where do most farmers in this area find people to work on their farms?
  - What are the most important sources of farm labor or farm help in this area?
Are there many people running hobby or recreational farms in this area?
- What are the most common kinds of recreational farms?
- Are there more of these now than there were 10-15 years ago?
- What kinds of people run these types of farms in Frederick County?
  - Long-time part-time farmers vs Retired commercial farmers vs New residents
Community Land-Use & Policy Module

Observations & Experiences with Rural Residential Development

• How much of the new development in this area is...
  o Residential == Industrial == Retail == Other....

• Where is most new residential development occurring in your county? (where do most new houses get built...?)

• What share of the new houses are being built in the more rural or agricultural areas of the county?
  o What form is rural housing development taking?
    ▪ Is it suburb-type development or is it frontage lots?
    ▪ Entire subdivisions or independent single houses?
      ▪ Are new residential developments clumped or scattered?
    ▪ What is the average or typical lot size?
  o What urban services are usually extended to new rural residences?
    ▪ How much do these new people rely on private septic systems or wells?

• What kinds of people are building these new houses?
  o Are they from the area?
  o Where do they typically work?
  o How do they use their rural land?

• Where do most people who live in Frederick County work?
  o How has this changed from 10-15 years ago (if at all?)

Policy Environment in Frederick County – targeted mostly at experts
In general, how are local land use decisions made in this county?

  o At which levels of government does land use policy-making happen?
  o How does the process work?
  o Who are the key players in the process?
  o Can people build houses in the rural or agricultural areas of the county?
    o What is the process they have to go through to get permission?
    o How difficult is it to get permission?

SPECIFICS: Planning & Visioning

  o What kinds of planning documents have been developed by the county
    o master plan or comprehensive plan?
    o Specific plans? (Economic development, transportation, housing, open space or recreation plan, Others?)
    o When were they created /last updated?
  o What process produced these plans?
  o Can I get copies of these?
  o What other local units of government have developed plans?
    o What types
  o What are the enforcement or implementation ordinances associated with the plans?
• In practice, how are plans actually used by land use decision-makers?
  o How is the formal planning process different from day-to-day procedures?
  o What is the implementation process for the various policies, ordinances and planning
documents mentioned in previous questions?
  o How well do the policies meet expectations?
  o How often are waivers and exemptions granted that differ from the intent of the guiding
planning document?
  o If there is a disconnect where is it occurring? In the community? In the farming
community? Among elected officials? Within the professional city or county staff?

SPECIFICS: ZONING
  o Do you have zoning in this county?
  o What types of zoning categories exist in non urbanized or unincorporated areas?
    o How much of the unincorporated area is in various zoning categories?
  o Who administers these zoning ordinances?
  o Is there an agricultural zone?
    o What are the limitations placed on new development – particularly housing – in
      this zone?
  o Are there minimum lot size requirements tied to zoning categories?
  o When someone seeks to build a house on agricultural lands, do they usually require a
rezoning?
    o If so, who has to grant that rezoning?
  o Does the county zoning ordinance have any:
    o open space overlay?
    o natural resource protection overlay?

SPECIFICS: OTHER REGULATORY LAND USE TOOLS:
  o Does the county use LAND DIVISION & SUBDIVISION ORDINANCES?
    o What do they require?
  o What role does the BUILDING PERMIT process play in regulating rural residential
housing?

SPECIFICS: OTHER REGULATORY POLICIES WITH AN AG-FOCUS
  o Is there a “Right to Farm” ordinance or notification law?
  o Is there a county or local manure management ordinance
  o Are there setback rules regarding distances between farms & residences?
  o Is there a permitting process in place that allows local government review before the
siting (or expansion) of large livestock facility expansions?

SPECIFICS: COMPENSATION POLICIES
  o Are there any tax benefits granted to owners of agricultural lands?
    ▪ Use value assessment?
    ▪ Others?
What are landowners required to do in exchange for these benefits?

- Are there any programs to purchase conservation easements / development rights in the county?
  - Who administers them?
    - State? County? Other local government?
    - Non-profits or private orgs (e.g., land trusts)
  - What kinds of lands are targeted for protection?
    - Does your county have an official system in place to rank the value of parcels?
    - Land Evaluation and Site Assessment (LESA)? – get copies!
  - Are the easements permanent or for a fixed time period?
  - What are the funding sources for the programs?
  - How much land has been placed under easements?

**SPECIFICS: Ag-oriented Economic Development**

- Does this county have an active local community economic development program?
  - Who leads these efforts?
  - Are any of them targeted toward agriculture?

- Is agriculturally-oriented economic development part of the official master plan (if there is one)?

- Have local actors taken any actions to promote local agriculturally-oriented businesses?
  - Ag Extension activities
  - Community economic
  - Marketing support
    - facilitating local marketing of ag products
    - development of local-identity based labeling or marketing
    - institutional programs to buy from local food providers

**Community involvement in shaping land use policy**

- How is the public involved in various levels of planning and at various levels of government?
  - Is there a participatory planning process?
  - Has there been a visioning process?
  - Has there been resistance to particular policies or types of policies?
  - By whom?
  - Over what issues?

- Does the community participate in any regional growth management, farmland preservation, or land-use conservation organizations? *(Elicit information about all activities identified?)*
  - What is the regional activity and who else is involved in it?
  - What are the goals of this regional organization?
LINKING POLICY AND AG

- Which of the policies that we have discussed do you think have had the largest impacts on agriculture in this county?

- Which have had the strongest IMPACT in terms of
  - keeping land in farming or agricultural uses?
  - keeping commercial farms financially viable?
  - Promoting new agricultural enterprises?
  - Keeping residential development out of agricultural areas

- Are there any policies that have likely made it more difficult for farmers to survive in this county (or in parts of this county)?
Closing Module
Are there any leaders in the county that are recognized by a large number of farmers, nonfarmers, or both, as working to promote or support farming, preserve farmland, manage growth, etc.? (elicit information on all leaders identified for possible follow-up interviews)
  o What kind of actions does this leader take?
  o How effective is this leader
  o How well does this leader interface with both farmers and nonfarmers?

Do any groups exist in the county that bring together diverse farming and nonfarming stakeholders of the county with an interest in farmland, farming, local growth, or development?
  o Who is a leader of this group? (to possibly be contacted and follow-up with)
  o How effective is this group and what have been its accomplishments?

Have there been any recent controversial issues or conflicts in the community related to farming, land-use planning, or growth and development? (elicit information about all issues/conflicts identified)
  o What was the issue and what is some of its history in the county?
  o What were the different positions/views on the issue?
  o What organizations or leaders were aligned with particular positions on the issue?
  o How was the conflict resolved (if it has been)?
  o Has the issue generated permanent divisions in the community?

Do the local newspapers and other media cover farming, land-use or growth issues? (elicit information about specific papers or media identified)
  o What is the nature of the coverage of farming, land-use and/or growth?
  o Does the paper/media have an editorial bias related to farming, land-use, or local growth?
  o How well does the paper/media allow diverse views an opportunity to be heard?

What do you think are the three biggest threats to the future of farming in Frederick County?
1.______________________________________________________________

2.______________________________________________________________

3.______________________________________________________________

Closing Module (cont.)
A. On a scale of 1 to 7 (where 1 is ‘very pessimistic’ and 7 is ‘very optimistic’) are you optimistic or pessimistic about the future of agriculture in Frederick County?

```
   1  2  3  4  5  6  7
Very Pessimistic  Mixed  Very Optimistic
Pessimistic      Opinion  Optimistic
```

B. On a scale of 1 to 7, do you think population growth and development in Frederick County is having a positive or negative impact on the quality of life in the county?
C. On a scale of 1 to 7, do you think population growth and development in Frederick County is having a positive or negative impact on farming in the county?

D. For each of the following statements related to agriculture and its future in Frederick County, please indicate whether you strongly disagree, disagree, are neutral, agree or strongly agree.

Closing Module (cont.)

Background Questions: Finally, we need to ask a few questions about your background. This information, as with all information provided in this interview, will remain strictly confidential.

A. How old are you? __________________________ years

B. (observe, don’t ask…) 1. Male 2. Female

C. Which best describes your racial or ethnic background?
   1. African American
   2. Asian
   3. Hispanic/Latino
   4. Native American/American Indian
5. White
6. Other ___________________________

D. What is (was) your primary occupation? __________________________

E. How long have you had (did you have) this occupation?___________ years

F. Your highest level of formal education attained?
   1. Less than 9th grade
   2. 9th to 12 grade, no diploma
   3. High school graduate (includes equivalency)
   4. Some college: no degree; associate degree; or, completed technical school program
   5. Bachelors degree
   6. Graduate or professional degree

I. Are there any persons in Frederick County you would recommend we visit with to learn more about farming or how it is changing?

_________________________________________________________________________

_________________________________________________________________________

Thank you for your cooperation!!!
Appendix C. Landowner Survey
Agriculture at the Rural-Urban Interface

A National Study of Trends and Adaptive Strategies

Funded By the USDA National Research Initiative
TELL US ABOUT THE FARMLAND YOU OWN IN FREDERICK COUNTY

A1. Do you currently own at least 5 acres of farmland in Frederick County?
☐ NO → return survey in blank envelope
☐ YES → continue

Thinking of the farmland you own in Frederick County, please answer the following questions.

A2. How long have you owned any farmland in Frederick County? _____ years

a. Was any of your land in this county originally owned by your (or your spouse’s) parents?
☐ NO ☐ YES

b. How would you describe your current uses of farmland in this county? (Check all that apply)
☐ I currently operate a commercial farm here
☐ I rent my land to someone else who farms it
☐ I live on farmland I own in the county
☐ I use this land for recreation
☐ I have a second home on this land
☐ Other (explain): ________________________________

c. How would you describe the area where most of the land you own is located? (Check the one category that best applies)
☐ Mostly commercial farms
☐ Mix of commercial and hobby farms
☐ Mostly hobby farms
☐ A mix of non-farm residences and farms
☐ Mostly non-farm residences
☐ Mostly open land and forests (non-farming uses)

The next question is meant to identify people who are actively farming in Frederick County. Some sections of our questionnaire only apply to active farmers and ranchers. Please answer the question and follow the instructions carefully.
A3. Do you or members of your household currently farm any of the land you own in Frederick County?

☐ NO → PLEASE SKIP TO QUESTION F1 on page 10
☐ YES → Continue on the next page

TELL US ABOUT YOUR FARM

The next questions are for people who are currently farming in this county. We are interested in capturing details about current farming operations, as well about any recent or planned farm changes.

B1. How much land in Frederick County do you currently operate as part of a farm or ranch? (Include both owned and rented farmland.)

Total acres operated _______ acres

Of these operated acres, how many are:

- Owned _______ acres
- Rented _______ acres

B2. In 2006, roughly how many acres in your operation were used for the following purposes?

- Land used mainly for harvesting crops _______ acres
- Land used mainly for grazing livestock _______ acres
- Land that is idled or fallow _______ acres
- Land that is forested _______ acres

B3. Overall, how would you compare your farmland soil quality to the average in your COUNTY?

☐ Much worse than average
☐ Worse than average
☐ About average
☐ Better than average
☐ Much better than average

B4. Which agricultural commodities were produced on this land in 2006? (Check ALL that apply.)

<table>
<thead>
<tr>
<th>LIVESTOCK</th>
<th>CROPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Milk</td>
<td>□ Corn (either grain or silage)</td>
</tr>
</tbody>
</table>
Dairy cattle (breeding stock)  Hay or haylage
Hogs  Soybeans
Beef  Small grains (oats, barley, etc.)
Sheep or Goats  Vegetables (fresh or processing)
Poultry  Tobacco
Horses  Nursery or Greenhouse crops
Other: _________________  Fruit, nut, or orchard crops
Other: _________________  Other: _________________
Other: _________________  Other: _________________
Other: _________________  Other: _________________

B5. PLEASE CIRCLE the single commodity above that provided the most gross farm income on this land in 2006.

B6. In 2006, did you sell any of your farm products direct to consumers or other local outlets?

<table>
<thead>
<tr>
<th>Sales to hobby farmers</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct sales to consumers from farm (ex. farmstand, U-Pick, pumpkins)</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Direct sales to consumers at a Farmers’ Market or through CSA</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Sales to local institutions or businesses (ex. restaurant, school, grocery)</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

B7. In 2006, did you make any money from any of the following farm-related enterprises?

<table>
<thead>
<tr>
<th>Agritainment (ex. mazes, hay rides, petting zoos, farm events)</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hunting, fishing, wildlife viewing</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Animal boarding, breeding and training</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Value added processing of farm products</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Other on-farm business (describe: _________________________)</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
B8. In 2006, did you market any of your products as having any of the following attributes? (Check all that apply.)
- Locally Grown
- (State name) Grown
- Fresh-in-Season
- Family-farm raised
- Natural
- Organic

B9. How is your farm or ranch business organized?
- Sole proprietorship (single family or individual operation)
- Family partnership
- Non-family partnership
- A family corporation
- A non-family corporation

B10. How much of the total labor on your farming operation is provided by you or your family?
- All
- Almost all
- More than half
- Less than ½ (most labor done by paid, nonfamily workers)
- None (all labor done by paid, nonfamily workers)

B11. Do you work at any regular off-farm job (either full-time or part-time)?
- NO
- YES – full time
- YES – part-time

B12. Do any other adult members of your household work at any regular off-farm job?
- NO
- YES

B13. Have you hired Hispanic or Latino farm workers in the last 5 years?
- NO
- YES

RECENT CHANGES TO YOUR FARM AND HOUSEHOLD

C1. OVER THE PAST 5 YEARS what changes were made in your farm operation? (For each type of change, check the category that best applies to you. If certain practices do not exist -- such as you did not rent land or raise livestock -- please indicate NA or not applicable.)

<table>
<thead>
<tr>
<th>TYPE OF CHANGE</th>
<th>Decreased a Lot</th>
<th>Remained the Same</th>
<th>Increased a Lot</th>
<th>NA</th>
</tr>
</thead>
</table>
**Farmland owned**

**Farmland rented**

**Land in conservation programs (CRP, WRP)**

**Livestock sold**

**Capital investment in farm buildings**

**Investment in farm equipment**

**Value of farm commodities sold (total gross sales)**

**Number of distinct commodities produced**

**Sales of products directly to consumers**

**On-farm (value-added) processing of farm products**

---

**C2. OVER THE PAST 5 YEARS, what changes (if any) have you made to adjust to the increasing urbanization in your area?**

<table>
<thead>
<tr>
<th>TYPE OF CHANGE</th>
<th>Not Done</th>
<th>Done</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changed crop spraying activities (to reduce drift or smells)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Changed tillage, planting or harvesting practices (to avoid bothering neighbors)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Move equipment during low traffic periods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Changed in manure storage &amp; management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Held an open house or tour for nonfarm neighbors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sought out and met nonfarm neighbors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shifted to crops or livestock that generate more sales per acre</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raised new crops or livestock to sell to new urban customers</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Adjusted my marketing strategies to sell to new urban customers

Avoided new investments in farm operation

Sold land for non-farm development

Idled or left fallow some of my farmland

C3. In the last 5 years, how much have you changed your farming operation, such as what you grow or how you grow it, due to nonfarm development near the land you farm?

<table>
<thead>
<tr>
<th>No Changes</th>
<th>Some Changes</th>
<th>Substantial Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

C4. OVER THE PAST 5 YEARS what changes were made in your household?

<table>
<thead>
<tr>
<th>TYPE OF CHANGE</th>
<th>Decreased a Lot</th>
<th>Remained the Same</th>
<th>Increased a Lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation by household members in off-farm work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proportion of total household income from farming</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household income from nonfarm self-employment</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

C5. People farm for a variety of different reasons and these motivations affect how they manage their land. Please tell us how important each of the following goals and strategies are for you when making decisions about your farm.

<table>
<thead>
<tr>
<th>DECISION-MAKING GOALS</th>
<th>Not Important</th>
<th>Somewhat Important</th>
<th>Extremely Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximize net farm income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ensure household income is adequate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plan</td>
<td>Circle Selection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximize sale value of farmland</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimize debt</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stay ahead of competition, even if it entails risk</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desire to keep living in rural area</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desire to keep this farm in the family</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desire to be my own boss</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To spend more time with family</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Being a good steward of the land</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintain or improve quality of my soil</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimize nutrient &amp; chemical runoff from farm</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protect scenic quality of the property</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desire to stay on good terms with neighbors</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (specify):</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>__________________</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
D1. Over the NEXT 5 YEARS, what changes do you expect to make in your farm operation? (For each type of change, check the category that best applies to you.)

<table>
<thead>
<tr>
<th>TYPE OF CHANGE</th>
<th>Decrease a Lot</th>
<th>Decrease Some</th>
<th>Remain the Same</th>
<th>Increase Some</th>
<th>Increase a Lot</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmland owned</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmland rented</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land placed in conservation programs (CRP, WRP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Livestock sold</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital investment in farm buildings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment in farm equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value of farm commodities sold (total gross sales)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of distinct commodities produced</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales of products directly to consumers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On-farm (value-added) processing of farm products</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

D2. Overall, on a scale of 1 to 7 (where 1 is ‘very pessimistic’ and 7 is ‘very optimistic’) are you optimistic or pessimistic about the future of your farm?
D3. How important is selling your farmland to your ability to afford retirement?
☐ Not Important ☐ Somewhat important ☐ Important ☐ Very important

D4. How important is selling some of your farmland to allow you to keep farming?
☐ Not Important ☐ Somewhat important ☐ Important ☐ Very important

D5. How many more years do you personally expect to continue farming?
(Give your best estimate in years. If you plan to farm indefinitely or are not sure, check the appropriate circle to the right.)

_____ years ☐ indefinitely ☐ not sure

D6. How many more years would you estimate that this farm enterprise will be in business?

_____ years ☐ indefinitely ☐ not sure

D7. What category best describes your plans for passing on your farm? (Pick one)

☐ I have identified a successor → What is their relationship to you?
   ☐ Child ☐ Grandchild
   ☐ Other family member
   ☐ Other Nonfamily Member

☐ There is a potential successor

☐ There is not an obvious person; our succession plans are uncertain

☐ There is no successor available

☐ Not Applicable, it is too early to tell

D8. What will probably happen to this farm when you decide to retire or quit farming?
(Check the one category that best applies to you.)

☐ It’s too early to tell
Don't know  
A relative will take over the operation  
I will keep the land, but will idle it  
I will keep the land, but rent the farm to another farmer  
I will sell to another farmer (not a relative)  
I will sell to a developer  
Other (please specify):  

D9. To what extent do the following local conditions represent a problem for your farm business?

<table>
<thead>
<tr>
<th>Condition</th>
<th>Not a Problem</th>
<th>Modest Problem</th>
<th>Severe Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulty applying ag chemicals due to nearby houses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neighbor concerns about our fieldwork</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neighbor concerns about our livestock</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic congestion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost of farmland</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New housing development near my farm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land-use policies in this county</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of local farm input suppliers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of local processors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of local marketing outlets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of farm labor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost of hiring farm labor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health of key operator(s)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of a farm successor</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
o. Availability of nonfarm work to supplement income
   □ □ □ □ □

p. Long term weather issues (drought, climate change)
   □ □ □ □ □

q. Recent weather events (floods, storms, etc)
   □ □ □ □ □

---

**D10. To what extent do the following regional, national or international conditions represent a problem for your farm business?**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Not a problem</th>
<th>Modest Problem</th>
<th>Severe Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. More restrictive federal immigration policies</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>b. Cost of health insurance</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>c. Current prices for farm products I produce</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>d. Net farm income from this farm</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>e. Cost of farm inputs</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>f. Increased global competition in the farm sector</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>g. Mergers among farm input suppliers</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>h. Consolidation in the farm processing sector</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
To better understand the dynamics of farm changes in this county, it is very helpful for us to have a profile of the economic situation of each farm in the study. We realize that this information is sensitive, and we want to assure you that your answers will be treated as strictly confidential.

E1. Which of the following categories represents the total farm receipts for this farm business in 2006? (Please place a check beside the category that comes closest to your total farm receipts. Include all receipts from the sale of crops, livestock, milk products, government payments and refunds, and income from custom work for other farms.)

- [ ] Less than $10,000
- [ ] $10,000 to $24,999
- [ ] $25,000 to $49,999
- [ ] $50,000 to $99,999
- [ ] $100,000 to $249,999
- [ ] $250,000 to $499,999
- [ ] $500,000 and above

E2. What percentage of your 2006 total gross farm receipts came from the following sources?

<table>
<thead>
<tr>
<th>Source</th>
<th>% in 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>% from sale of livestock</td>
<td></td>
</tr>
<tr>
<td>% from sale of crops</td>
<td></td>
</tr>
<tr>
<td>% from all other sources</td>
<td></td>
</tr>
<tr>
<td>Total = 100%</td>
<td></td>
</tr>
</tbody>
</table>

E3. What percent of your 2006 sales of crops and livestock came from direct sales to consumers, other farmers, or neighbors? (If you had no direct sales, write “0”)

<table>
<thead>
<tr>
<th>Source</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>% from direct sales</td>
<td></td>
</tr>
</tbody>
</table>

E4. Taking into account the current market value of all of your farm business assets (land, buildings, equipment, etc.) and all of your current farm business short and long-term debts, what is your best estimate of the ratio of debts to assets on your farm?

- [ ] We have no outstanding debts
- [ ] Our farm debts are below 10% of our assets
- [ ] Our farm debts are between 10 to 40% of our assets
- [ ] Our farm debts are above 40% of our assets

E5. What proportion of your total household income comes from farm sources?

- [ ] All of our income is from farm sources (no off-farm or non-farm income)
More than half of our income is from farm sources

Our household income is evenly split between farm and off-farm sources

Less than half is from the farm; most of our income is from off-farm sources (wages, salaries, pensions, income from non-farm businesses, or dividends and interest)

Very little is from the farm; almost all of our income is from off-farm sources
LAND USE ISSUES IN FREDERICK COUNTY

We are particularly interested in land use change in this county, and the role of local community groups, leaders, and policies in shaping the future decisions of landowners.

F1. Approximately how many houses are adjacent to the land you own or rent? (i.e., they share a property line with land you own or rent or are across a road from this land)

____ Houses

Of these adjacent houses,

• In how many of them do you know at least one household member?
  ____ Houses

• How many were built in the last 5 years?
  ____ Houses

F2. On a scale of 1 to 7, do you think population growth and development in Frederick County is having a positive or negative impact on the quality of life in the county?

Very Negative     Mixed Impact     Very Positive
1  2  3  4  5  6  7
☐  ☐  ☐  ☐  ☐  ☐  ☐

F3. On a scale of 1 to 7, do you think population growth and development in Frederick County is having a positive or negative impact on farming in the county?

Very Negative     Mixed Impact     Very Positive
1  2  3  4  5  6  7
☐  ☐  ☐  ☐  ☐  ☐  ☐

F4. On a scale of 1 to 7 (where 1 is ‘very pessimistic’ and 7 is ‘very optimistic’) are you optimistic or pessimistic about the future of agriculture in Frederick County?

Very Pessimistic     Mixed Opinion     Very Optimistic
1  2  3  4  5  6  7
☐  ☐  ☐  ☐  ☐  ☐  ☐
F5. If you wanted to sell some or all of your farmland for residential home development, how easy or difficult would it be for you to get permission from local government?

<table>
<thead>
<tr>
<th>Very Easy</th>
<th>Neither Easy Nor Difficult</th>
<th>Very Difficult</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

F6. Overall, when it comes to allowing housing development on farmland, do you think local land use policies are too restrictive, about right, or too permissive in this county?

<table>
<thead>
<tr>
<th>Much too Restrictive</th>
<th>About Right</th>
<th>Much too Permissive</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

F7. There are a range of policies used by local governments to manage land use changes in their rural areas. For each of the following types of policies, please indicate how you and your family have been impacted by the policy. (If the policy does not exist in this county, check the circle)

<table>
<thead>
<tr>
<th>Type of Policy</th>
<th>Policy does not exist</th>
<th>Strong negative impact</th>
<th>No impact or mixed impact</th>
<th>Strong positive impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Countywide Comprehensive Plan</td>
<td>○</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Zoning Ordinance that defines permitted uses of different parcels of land</td>
<td>○</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Zoning ordinances that requires a large minimum lot size in the Agricultural District</td>
<td>○</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Rules and regulations restricting ability of property owners to subdivide their parcels</td>
<td>○</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Voluntary Agricultural Preservation District program that protects a farm for a minimum of five years from non-farm development</td>
<td>○</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
Voluntary programs to purchase/acquire agricultural easements from landowners

Economic development projects or programs to support agriculture in the county

Right-to-Farm ordinance protecting farmers from nuisance complaints

<table>
<thead>
<tr>
<th>F8. Thinking of the land use policies in this county, what would you say the overall (or net) impact of these policies has been on the following outcomes?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strong negative impact</strong></td>
</tr>
<tr>
<td>Keeping land in this county in farming or agricultural uses</td>
</tr>
<tr>
<td>The viability of commercial farms in the county</td>
</tr>
<tr>
<td>Enabling new farms to get started in the county</td>
</tr>
<tr>
<td>Keeping residential development out of agricultural areas</td>
</tr>
<tr>
<td>Protecting the rights of property owners</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>F9. In general, how consistently are land use regulations enforced in this county?</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Very consistently</td>
</tr>
<tr>
<td>□ Usually consistently</td>
</tr>
<tr>
<td>□ Not very consistently</td>
</tr>
<tr>
<td>□ Not consistently at all</td>
</tr>
</tbody>
</table>
F10. In the past five years, have any neighbors complained about agricultural operations on the land you own?

☐ NO    ☐ YES

F11. How supportive of farming in the county are the following people and institutions?

<table>
<thead>
<tr>
<th>TYPE OF CHANGE</th>
<th>Not at all supportive</th>
<th>Somewhat supportive</th>
<th>Very supportive</th>
</tr>
</thead>
<tbody>
<tr>
<td>County government</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>City/Municipal governments</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Economic development organizations</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Media (such as newspapers)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Farm Bureau</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>General Public</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Banks/financial institutions</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Local environmental organizations/activists</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

F12. Over the next 5 years, how likely are you to do any of the following with your land?

<table>
<thead>
<tr>
<th>TYPE OF CHANGE</th>
<th>Definitely will</th>
<th>Not sure</th>
<th>Definitely won't</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rent land to a farmer</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Sell land to a farmer</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Sell housing lots directly to individuals</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Sell any of my land to a developer</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Develop my own land for housing</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

F13. For each of the following statements please indicate whether you strongly disagree, disagree, are neutral, agree or strongly agree.
<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Neutral</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most residents of Frederick County agree that farming positively contributes to the quality of life in the county</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Overall, farmers and nonfarmers in this county get along well</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>More should be done to promote and develop agriculture here</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Diverse agricultural groups in this county work well together</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Local government does a good job of allowing public input into land use decisions in this county</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Land use policies in this county are effective at preserving farming in the county</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>In general, the citizens of this county are very supportive of farming in the county</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Background Questions:

Finally, we need to ask a few questions about your background. This information, as with all information provided in this interview, will remain strictly confidential.

G1. How old are you? _____ years

G2. Are you male or female? □ Male □ Female

G3. How many years have you lived in this county? _____ years or □ all my life

G4. What is your highest level of formal education attained?
   □ Some high schools, but no diploma
   □ High school graduate (includes equivalency)
   □ Some college (no degree), associate degree, or completed technical school program
   □ Bachelors degree
   □ Graduate or professional degree

G5. Please indicate your principal occupation or whether you are retired. (Check the one category that best applies to you.)
   □ Farmer
   □ Nonfarm wage or salary job
   □ Nonfarm self-employment
   □ Retired from farming
   □ Retired from another occupation
   □ Other (Specify: _______________________________________________)

G6. Do you belong to any of the following kinds of groups?

<table>
<thead>
<tr>
<th>Group Description</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm organization (Farm Bureau, Grange, Farmers Union, etc.)</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Farm commodity group</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>A property rights organization</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>A smart growth/land-use related organization</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
Any other types of local farm-related association

G7. What would be the approximate range of your total household income in 2006?

□ Less than $15,000
□ $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 and over
OTHER COMMENTS:

If you have any other comments that you would like to share with us at this time, please write them here (or on additional paper) and include them in the mailing envelope provided.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
We would like to **THANK YOU** for taking the time to complete this survey. We know that you are busy and appreciate your help. Your responses will be combined with those of others across the country.
Curriculum Vitae

Lori Porreca
465 East 700 South
Logan, UT 84321
856-630-1635
loporreca@gmail.com

EDUCATION

Doctor of Philosophy
Department of Sociology, Social Work and Anthropology, Utah State University, 2010
Dissertation: "The Influence of Collective Action and Policy in the Development of Local Food Systems"

Master of Landscape Architecture
Department of Landscape Architecture and Environmental Planning, Utah State University, 2005
Certificate in NEPA analysis

Bachelor of Arts (cum laude)
English Literature, The Catholic University of America, 1998
Minor in Philosophy

Study abroad, Loyola University, Rome, Italy, 1996

EMPLOYMENT

Planner
Bio-West, Inc. May 2008 to present

Instructor of Sociology
Utah State University, August 2008 to December 2008

Research Assistant
Utah State University 2005 to 2008

Guest Lecturer in Landscape Architecture
Utah State University August to December 2006

Research Assistant
World Learning for International Development, Washington, DC, May to August 2006

Planner/Landscape Architect
MGB+A, Salt Lake City, Utah, 2005 to 2006

Environmental Planner Intern
Jones and Stokes, Salt Lake City, Utah, May to August 2005
Recreation Planner Intern
Brigham City Corporation, Brigham City, Utah, 2004 to 2005

Research Assistant
Utah State University, 2003 to 2004

Project Assistant
Office of Community Services, Fort Lewis College, Durango, Colorado
2001 – 2002

Outdoor Educator/Trip Leader
Wilderness Ventures, Jackson, Wyoming, 2001

RESEARCH AND PROJECTS

Current Research
“Agricultural Adaptation at the Rural-urban Interface: Can Communities Make a Difference?”
USDA-funded national study looking at how and under what conditions local communities are able to influence the trajectory of agricultural change and adaptation at the rural-urban interface

Completed Research
2008 “Theorizing Segregation: Taking Space Seriously”
Currently under revision

2005 “Social Capital and Implementation: A Comparative Analysis of Trail Planning”
Study explored how social variables influence the implementation of community action projects in a rural Utah community

2005 “Bear River Greenway Master Plan”
Regional master plan to guide future land use decisions in Cache Valley, Utah

2005 “Brigham City Trails Master Plan”
Developed master plan to be adopted by Brigham City, Utah

2005 “Landscape Cycles: Connecting People to Place through Agriculture”
Sustainable Landscapes Conference
Explored the connection between food and human life cycles to better understand how people are connected to the places in which they live through food systems

2004 “Desert Water: Shaping Our Future”
Sustainable Landscapes Conference
Addressed water-related issues including ethics, restoration, policy, use and conservation, regional planning, and regenerative design

2004 “Wetland Functional Assessment”
Developed wetland assessment protocol for the Utah Department of Transportation
2002  “People and Fire: Community Understandings of Fire and Fire Management”
BLM-funded study that explored community attitudes towards fire in the five southwest counties in Colorado

SELECTED PRESENTATIONS
2006  “Decline of Public Life in American Communities: the Spatial Variable”
Presented at American Sociological Association Annual Conference in Montreal, Canada

2006  “The Decline of Sociability in American Public Life”
Presented at American Sociological Association Annual Conference in Montreal, Canada

2005  Bear River Greenway Master Plan
Presented plan to public, clients, partners and public officials in Logan, Utah

2004  Brigham City Trails Master Plan
Presented plan to Brigham City Council and residents in Brigham City, Utah

GRANTS AND AWARDS
Awards and Honors

2005  American Society of Landscape Architects Student Honor Award for Analysis and Planning
2005  The Honor Society of Sigma Lambda Alpha - Zeta Chapter
Council of Educators in Landscape Architecture
2004  Student Leadership Award
Department of Landscape Architecture, Utah State University

Grants and Fellowships Received

2008  Graduate Student Senate Award
2007  R. Welling Roskelley Scholarship
2007  Calvin and Janet Mauer Scholarship
2006  Graduate Student Senate Professional Development Grant
2006  Women and Gender Research Institute Travel Grant
2006  Graduate Student Senate Travel Award

SERVICE
Sustainable Landscapes, Logan, Utah, 2003-2005
  Chair of the student-run non-profit
  Major activities included organizing two regional conferences on topics related to sustainability and fundraising

Durango High School, Durango, Colorado, 2002
  Helped sophomore-level class design and implement water-wise native plant design for sections of the high school campus
  Helped students apply for funding for the project from the Bureau of Reclamation
Willing Workers On Organic Farms, New Zealand, 2000
  Worked as a volunteer on an organic perma-culture farm on the South Island

LANGUAGES
  English – Native
  Spanish – Proficient
  French – Basic
  Italian – Basic

COMPUTER SKILLS
  ArcGIS
  SPSS
  Adobe Suite
  AutoCAD
  Document Design and Layout