

Introduction

Robust local food systems offer social, environmental and economic benefits. Purchasing local food can help preserve local farmland and reduce the distance food travels between farmers and consumers. In addition, an ample supply of local food may reduce a region's vulnerability to supply disruptions and global food safety concerns. Local food purchases can support local economies by keeping food dollars in circulation within communities. Local food can also link growers with consumers who are hungry for a connection to farms and farmers. For these and other reasons, consumer interest in local food has grown in recent years. Local food is not only in demand at farmers' markets and natural food retailers, but also in conventional supermarkets and institutions such as schools and hospitals.

Increasingly, wholesale buyers are demanding locally grown food and growers are looking for new regional markets. In order to meet the demand for local food and move significant quantities of locally and regionally grown food into markets that we all rely on, such as restaurants, mainstream grocery retailers and institutions, local food systems need to be "scaled up" or expanded from farmer-direct sales of small quantities of product to wholesale transactions. By scaling up, local food systems have the potential to borrow some of the economic and logistical efficiencies of the industrial food system while retaining social and environmental priorities such as sustainable agricultural practices and profitability for small- and mid-scale family farms and food businesses.

Scaling up local and regional food systems requires the development of organizational and production capacity across the local food supply chain. In particular, this supply chain lacks mid-scale, regional aggregation and distribution systems that move local food into mainstream markets in an effective and cost efficient manner.

Aggregation—or the consolidation of products sourced from multiple growers to generate volumes compatible with the wholesale market—is a key ingredient for scaling up local and regional food systems. Aggregated product is typically marketed, branded and distributed under a single or generic brand name; in some cases, individual farms are also identified. Product aggregation may occur through producer- and consumer-led cooperatives, buying clubs, produce auctions, private and non-profit wholesale packers and

distributors, and retailers. An aggregator is an entrepreneur or business that amasses product for distribution and marketing.

To develop informed and appropriate business development strategies for Wisconsin farmers and other supply chain start-ups, the UW-Madison Center for Integrated Agricultural Systems (CIAS) and UW-Extension Agricultural Innovation Center studied and documented eleven models of regional food aggregation and distribution. This work was made possible by a grant from the Ira and Ineva Reilly Baldwin Wisconsin Idea Endowment.

Case studies in review: Common characteristics

We selected eleven local food entrepreneurs from across the United States through a database obtained from the Wallace Center for Sustainable Agriculture, enterprises featured at conferences and in online forums, and through contacts developed by project staff. We based subject selection on three criteria: 1) diversity across geography, scale and business models; 2) emphasis on wholesale transactions; and 3) models that emphasize sustainability through sound environmental practices, fair and robust economic relationships and concern for social equity. Please refer to Appendix 2 for a list of additional distribution models for local and regional food.

Through in-depth phone interviews with CEOs and high-level managers or marketing staff at each business, we identified bottlenecks that make it difficult to move significant amounts of local product into mainstream markets. These bottlenecks, and possible solutions, include:

Controlling for product quality and consistency

In order to reach wholesale volumes, most small-scale producers need to aggregate their product with that of other growers. This poses challenges for product quality, consistency and traceability, all of which have significant implications for food safety and marketing. Ensuring that fresh product is chilled immediately after harvest and temperature controlled until it reaches the consumer is critical to its quality, shelf-life and competitiveness in the marketplace.

Innovations and solutions:

- A range of low- to high-tech product traceability mechanisms, along with the adoption and development of food safety plans, can improve product quality and consistency.
- Centralized grading and packing houses combined with co-labeling and unified production standards are effective ways to affordably facilitate organic, GAP and other certifications for small growers, and ensure product consistency.
- Increased access to capital may lead to the development of better on-farm, temperature-controlled storage.
- Refrigerated vehicles can be used to collect fresh product from farms shortly after harvest.
- Crops and varieties can be matched to the available infrastructure (e.g., limit climate sensitive crop production to regions where facilities with advanced post-harvest temperature control are available).

Seasonality

The Upper Midwest's short growing season presents unique challenges to regional growers and distributors who compete with suppliers from the West Coast and the Southern Hemisphere. Buyers and consumers are accustomed to a consistent, diverse selection of produce year-round.

Innovations and solutions:

- Fresh product can be preserved through the development of small- and mid-scale regional processing infrastructure, and the expansion and improvement of storage capacity.
- Some aggregators source product locally when possible and view this as a special service to their clients. They then source from a larger geographic pool during the off-season.
- The growing season can be extended through high tunnels, greenhouses and other technologies.
- Consumer education about seasonal product availability can change eating habits.

Matching supply and demand

While buyers report that demand for local food is outpacing supply, many growers report that their produce is going to waste in the fields or must be sold for less than the cost of production. Reasons for this include a shortage of outlets for

blemished products, lack of pre-season coordination between growers and buyers, unanticipated weather conditions and a shortage of efficient, cost-effective storage, transportation and logistical support.

Innovations and solutions:

- Pre-season planning among grower pools can help match supply to demand and give growers a better idea of what it costs to produce specific products.
- Buyers, growers and distributors can collaboratively project product sales in advance of the season, and growers can plant according to these projections.
- Aggregators and distributors can provide buyers with product availability updates at least weekly during the growing season.
- Growers and entrepreneurs can pool their resources to improve their capacity for storage, transportation and logistics.
- Development of processing infrastructure can build markets for blemished produce that may not make the cut for fresh market sales, but can serve as ingredients in processed foods.

Food origins and product differentiation

Typically, once product is aggregated it is no longer identified with the farm where it was grown. To capture a premium, buyers and consumers need to know about the unique origins of local and regional food, and how it is grown. Many enterprises communicate this information through multiple marketing strategies tailored to distinct market segments. These case studies indicate that, in many instances, storytelling and transparency about production practices supersede third party certification as means of product differentiation.

Innovations and solutions:

- Small-scale growers can conduct outreach to their buyers through farmers' market stands, in-store tastings and demonstrations, and other "high touch" marketing strategies. If these activities are done in partnership with mid-size growers, producers can simultaneously ensure availability of the volume necessary to enter larger markets.
- Stories can be communicated through packaging, online farmer profiles and other point of sale merchandising that includes information such as farm names, photos of and information about the farmers, and how far the food traveled. This works best when values and marketing strategies are communicated across the supply chain.

- Businesses across the supply chain, such as processors and retailers, can communicate their unique stories related to sustainability, thereby adding to the authenticity of local and regional products.

Supply chain infrastructure

Small-scale growers often can't fulfill the product volumes and standardization typically required by large, mainstream wholesale customers. In addition, both growers and buyers express a need for more mid-scale food processing to better utilize number two product and improve efficiencies in institutional food preparation. A variety of strategies and partnerships have emerged to address these issues. Successful strategies are tailored to fit each enterprise's scale, target market(s), leaders' skills, service area and access to capital and preexisting infrastructure.

Innovations and solutions:

- Utilization of third-party logistics enterprises can improve warehousing and distribution efficiencies and allow producers and entrepreneurs to focus on production, marketing and branding.
- Vertical integration, typically funded by a parent or associate enterprise, can improve supply chain coordination and create access to downstream distribution channels that are otherwise inaccessible.
- Supply chain partnerships with distributors who have established markets can achieve similar benefits to vertical integration, while reducing investment costs. The disadvantage is that supply chain partners do not necessarily share power, profits and risks equally, and so explicit contracts are useful for ensuring equitable relationships throughout the chain.
- Do-it-yourself strategies, usually funded through grants, investors or in-kind contributions, are typically used by entrepreneurs who fill gaps in supply chains by repositioning themselves through expansion or transformation of their services.
- Facility upgrades and institutional kitchen design can be tailored to accommodate the cleaning and preparation of fresh product.

Capital

Lack of investment capital, particularly for supply chain infrastructure such as vehicles, temperature-controlled storage facilities and processing plants, can be a significant barrier to starting local and regional aggregation and distribution

businesses. While some entrepreneurs stress that skilled leadership is ultimately more important than state-of-the-art equipment, enterprises with access to funding and/or in-kind resources for infrastructure, professional marketing and other services have clear advantages in the marketplace. Capital and physical infrastructure are, however, no substitute for product quality and consistency.

Innovations and solutions:

- Emerging businesses can access capital through close affiliations with well-established parent firms such as natural food cooperatives, distributors and non-profits.
- Some businesses raise capital by cultivating outside investor pools and/or producer cooperatives. One cooperative restricts the terms under which shareholders can sell stocks in order to foster long-term investment and development.
- Growers and their supply chain partners can contribute capital or labor to access or build physical infrastructure.
- Businesses can renovate or upgrade existing infrastructure whenever possible, developing new infrastructure only when absolutely necessary.
- Many local food entrepreneurs, regardless of their business model, have used grant funds to make critical investments in infrastructure and capacity development. Some of the businesses profiled in this report would not be viable without grant funding, which runs contrary to conventional notions of successful business development. But, short-term infusions of grant funding have helped make it possible for many of these businesses to retain social and environmental values as they become financially self-sustaining.

Capacity development

Scaling up regional food systems calls for reassessment of current practices and will necessarily draw on expertise from a variety of fields including horticulture, agronomy, food processing, transportation logistics and marketing. Improving production and supply chain management, filling gaps in regional wholesale food networks and building lasting supply chain partnerships will require investment in technical and entrepreneurial capacity, basic business acumen and drive.

Innovations and solutions:

- Grower education on issues such as pre-season planning, projecting production volume and cost of production, post-harvest handling and pest management can improve product quality and consistency, increase yields and optimize grower returns.

- Local food enterprises have an enormous advantage when they engage individuals with diverse personal and professional backgrounds, and integrate skills and contacts from previous, related professional experience.
- Enterprises can benefit from hiring consultants or outsourcing elements of the supply chain that exceed staff expertise, distract from the business's mission or are too costly to invest in directly.
- Institutional chefs and food preparation staff can be trained to design seasonal and regional menus, compost pre-consumer food waste and prepare fresh product. Chefs already working with local product can serve as spokespersons and trainers.

getting profit back to the farm. The longer the supply chain, the more likely it is that this information flow will be disrupted or distorted.

- When growers have information about cost of production and price points, they can make informed decisions about which crops are the most profitable for them.
- Sharing knowledge about production methods can result in higher-quality, more competitive products that provide profits to partners throughout the supply chain.
- Communicating information about the farm to the end consumer through point-of-sale merchandising allows the potential buyer to choose a product with a clear source and desirable production practices.

Information flow and transparency

In creating effective supply chains that embed sustainability values, information must flow freely and transparently throughout the chain—from the farm gate to the end consumer, and then back to the farmer. This feedback loop provides consumers with information to make buying decisions based on where a product comes from and how it is grown and processed. It provides farmers with essential information regarding consumer preferences and willingness to meet a particular price point. This knowledge of supply and demand allows farmers to make informed production decisions and better meet market needs.

When information is controlled by a single entity or concentrated at specific points in the supply chain, inefficiencies result and market access is compromised. Conversely, ensuring that information is transparent throughout the supply chain helps level the playing field, foster partnerships and improve the responsiveness of the entire system to fluctuations in the market.

- Dissemination of accurate, timely information about purchasing preferences, packaging specs and market trends is crucial to matching supply and demand, and

Overall, we found that diversity was an important means of overcoming barriers to local food aggregation and distribution. Enterprises that include small-, medium- and large-scale producers can deliver both stories that are attractive to customers and the high volume of product that allows access to larger markets. Diverse markets provide the stability needed to weather changes in consumer demand, economic downturns and seasonal variations in product supply.

While these case studies indicate that the demand for local product is widespread and growing, scaling up local and regional food systems will require additional research on topics such as regional production and processing capacity; season extension; and market thresholds for seasonal product variation. The case studies in this report illustrate activities that growers, entrepreneurs, extension agents and their public and nonprofit partners can pursue in the near term. These activities include the cultivation of more robust regional grower and aggregation networks; education and outreach on issues such as wholesale-compatible production and post-harvest handling; and the inclusion of food systems in local economic development and land-use planning.