farm to plate

STRATEGIC PLAN

Chapter 3

Analysis of Vermont's Food System — Overview

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Vermont Sustainable Jobs Fund

A 10-YEAR STRATEGIC PLAN FOR VERMONT'S FOOD SYSTEM

CHAPTER 3

Analysis of Vermont's Food System — Overview

"The past is never dead. It's not even past."

—William Faulkner, *Requiem for a Nun* (1951)

Vermont's agricultural production and food consumption patterns are inextricably involved with national and world production and consumption. National food and grain exports and imports have a direct impact on Vermont and growing populations and rising expectations worldwide place ever greater demands on all supplies of food and the resources needed to produce them.

The Vermont economy, at present, is sluggish though the predictions are for a gradual upturn. While not without many great assets, Vermont must deal with stubborn economic problems. The burden of the high "survival costs" of energy, food and shelter in this northern state is compounded by a combination of low per capita income, high taxes and our expenditures for education and social services. Inflation has made the purchase of food and other necessities increasingly difficult for everyone. Unemployment, coupled with decreased purchasing power, has increased the number of Vermonts needing food assistance.

Vermont is almost totally dependent upon external sources of supply for food and the raw materials essential to agricultural production. Over the years Vermont agriculture has changed from self-sufficient, diversified farming which supplied most of the food needs of the State to a farm economy which exports almost 100% of its production. The contribution of Vermont agriculture is primarily to the State's economy, not to feeding its people.

PHOTO CREDIT: UVM Special Collections

Rock clearing, date unknown.

Agriculture in the Northeast and in Vermont in particular is typified by the relatively small scale family farm, an agricultural model that is rapidly disappearing nationwide. Although large scale, corporate farming, which is neither suitable nor desirable for this region, does not in itself represent a direct threat to Vermont agriculture, national policies which encourage this growing national model adversely affect small farms. States like Vermont, which wish to preserve agriculture based on the family farm, must assume this initiative and develop their own state and regional programs to achieve that end.

Vermont agriculture, which is 90% dairy farming, is very vulnerable to external forces. Rising costs, particularly of feed grains, petroleum and fertilizer, have not been matched by comparable milk prices. Inflated land prices, high interest rates, taxation and especially the decline in the number of entering farms all point to a steady decline in dairy farming unless remedial steps are taken. In the long term, the major problem facing Vermont agriculture is this lack of farmers.

There appears to be the productive capability to generate increased and diversified agricultural production supported by an adequate transportation system, but the absence of profitable markets, of a marketing system and of food processing plants (except for dairy products) has prevented the development of a diversified agriculture.

A substantial number of Vermonters see the necessity of keeping Vermont land rural and open and wish to provide more of their own food. An expanded diversified agriculture is the best way to achieve these objectives.

Within the State Department of Agriculture, the Agency of Development and Community Affairs and the University of Vermont there exists the authority to design and implement an aggressive program of agricultural development based on pertinent economic and agricultural research. No new agency need be created to accomplish this goal; but the existing institutions need not only appropriate staffing, financing and coordination, but also appropriate motivation and philosophical commitment.

A steadily increasing percentage of the State's population is participating in and benefiting from food buying cooperatives, farmers' markets and direct producer-consumer sales as well as home food production. Rising food prices have much to do with these trends but so also has public concern with the nutritional quality and even the safety of some of the foods for sale in conventional retail markets.

The noticeable increase in the number of people engaged in gardening and small scale farming seems to be part of a return to the personal values of independence and self sufficiency. People wish to feel more control over their lives, to derive the satisfaction that comes from working with the land and feel more competent in dealing with the natural world. Producing some of their own food is one means of achieving these goals.

The food industry in the United States is dominated by relatively few very large food corporations. Fewer than 1% of the total number make at least 60% of the total industry profits.

While supermarket aisles appear to be filled with many competing products, the reality is that they are filled with differentiated products produced by a few large corporations. This concentration of economic power in the hands of a few large corporations gives these companies control over the price, quality, variety, and availability of food.

The problems facing the small and independent retail grocer are caused mainly by externalities over which the state has no control. In the view of the Vermont grocer, however, the major exception to this is the Vermont non-returnable deposit law. Despite the problems caused by increased labor, utilities, fuel and transportation costs, the small, independent retail grocer, according to the Vermont Retail Grocers Association, is surving in Vermont.

BACK TO THE FUTURE

The preceding 13 paragraphs were written in January 1976 in *Proposals for Vermont's Agriculture and Food Future*, a report of Governor Thomas Salmon's Commission on Food. **As will be seen throughout Chapter 3, in nearly every respect, the challenges (e.g., rising farm input costs) and opportunties (e.g., increasing diversification) facing Vermont's food system are essentially the *same* 35 years later.** The duration of these challenges poses several important questions: Are these challenges fundamentally intractable because Vermont's food system operates within, and is influenced by, social, political, economic, technological, and environmental contexts that are regional, national, and global in scope? Were the solutions proposed by and tools available to the 1976 commission inadequate to address these challenges or embrace these opportunities? Can the Farm to Plate (F2P) Strategic Plan expect to yield different results than the 1976 commission?

As the most comprehensive examination of Vermont's food system undertaken in the state's history, the F2P team believes this Strategic Plan represents "something new under the sun." The F2P Strategic Plan focuses on the things we *can* change to produce more local food for all Vermonters, generate more wealth and jobs across the food

system, and protect our natural environment and working landscape. Vermont's food system organizations and entrepreneurs have more information, tools, and resources than ever before to create solutions that make a break with the challenges of the past, including a new *Farm to Plate Network* made up of dozens of nonprofit organizations, government agencies, educational institutions, investors, and other food system support organizations. An ominous threat—climate change—provides a powerful incentive for the Farm to Plate Network and all Vermonters to ensure that the Plan successfully prepares Vermont for a changing world.

Analysis of Vermont's Food System

The components of Vermont's food system, as depicted in Figure 3.1, are explored in depth over the course of seven sections in Chapter 3. Each section focuses on current conditions, analyzes gaps and barriers to strengthening Vermont's food system, identifies emerging opportunities, and provides a series of objectives and strategies aimed at reaching the 25 goals presented in Chapter 2.

Section 3.1: *Understanding Consumer Demand* attempts to quantify the gap between local food production and consumption and local food expenditures as a percentage of total food expenditures, describes some of the health impacts of our current food system, analyzes consumer education and community outreach activities.

Section 3.2: *Farm Inputs* focuses on resources such as land, soil, fertilizer, animal feed, seed, labor, equipment, energy, and farm input businesses that are essential for food production, as well as opportunities for reducing farm production expenses.

Section 3.3: *Food Production* looks at issues impacting growing and raising food products in Vermont, including expanding food production for local and regional consumption. Major categories include dairy production, livestock grown for meat, maple syrup, fruits and vegetables, grains, honey, beer, wine, and fish.

Section 3.4: *Food Processing and Manufacturing* examines challenges encountered during the transformation of raw products into value-added products (e.g., livestock must be slaughtered, processed, and packaged before entering the marketplace for sale as meat).

Section 3.5: *Wholesale Distribution and Storage* analyzes the process of aggregating and delivering food from the primary producer to end consumers at supermarkets, restaurants, schools, convenience or general stores, and other retail outlets.

Section 3.6: *Retail Distribution* covers the variety of locations where Vermonters purchase food, such as grocery stores, country stores, food co-ops, farmers' markets, CSAs, restaurants, superstores, schools, and hospitals.

Section 3.7: *Nutrient Management* explores the management of food waste, livestock manure, fertilizer, and other inputs in order to minimize the negative impacts of nutrient losses on the environment and to provide sufficient nutrients for crop and animal growth throughout their life cycles.

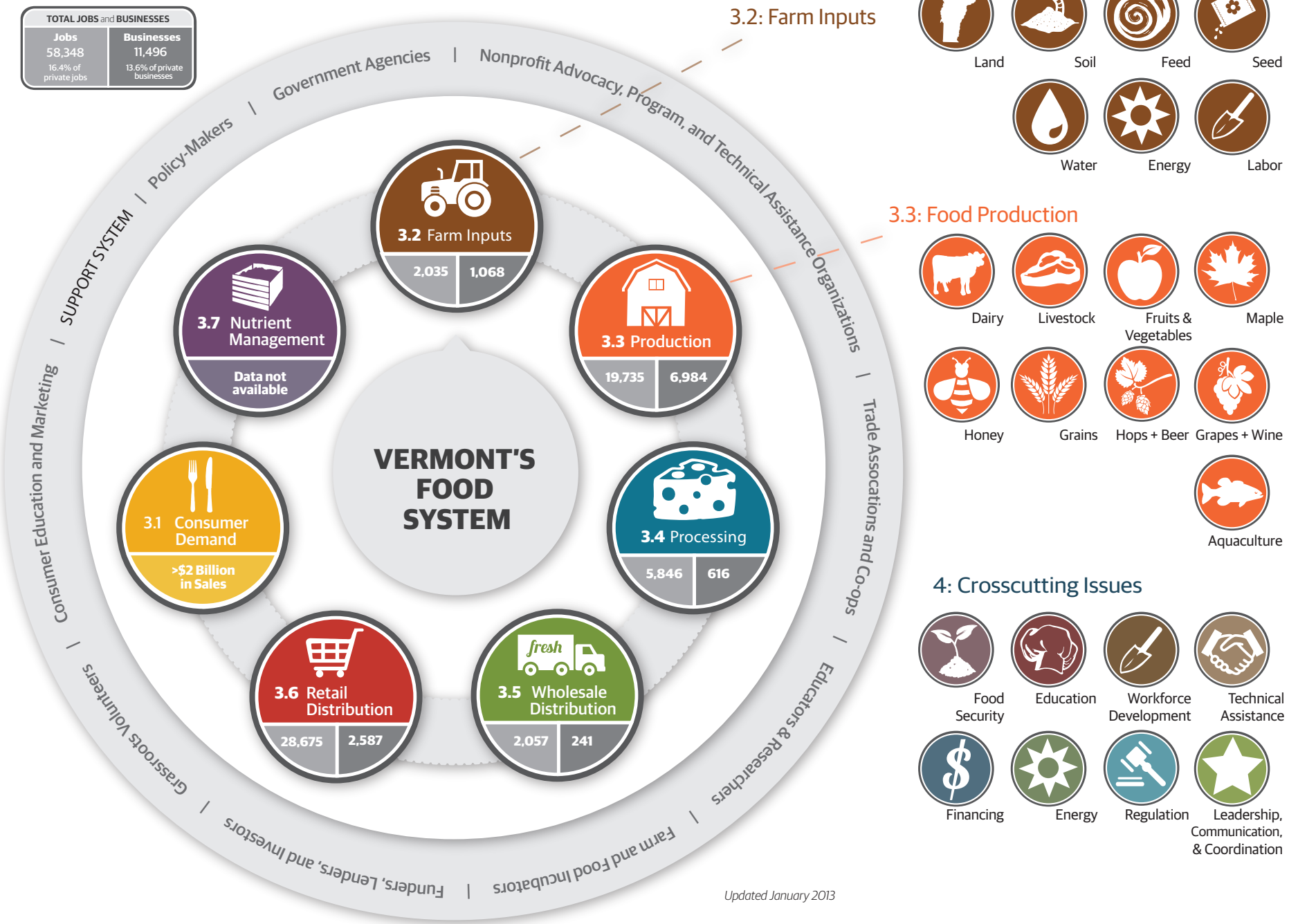
Chapter 4 examines crosscutting issues that impact the whole food system, including food insecurity; education; workforce development; business planning and technical assistance; financing; energy; regulation; and leadership, communication, and coordination across the food system.

Aligning Stage of Development, Scale of Operation, and Market Outlet

A soil-to-soil analysis of Vermont's food system clarifies supply chain challenges that have to be addressed to boost local food production, increase economic activity and the number of jobs in the food system, and ensure that healthy food is available for all Vermonters. Vermont's small size, relatively short growing season, and topography (which is more suited to small-scale than large-scale farming) have been barriers to generating the volume of products needed to access larger markets. Vermont has an underdeveloped and fragmented agricultural infrastructure that makes it difficult for smaller producers to serve larger markets by scaling up or aggregating products.

The consolidation and concentration of retailing, distribution, and processing over the past several decades has made it difficult for small and medium-sized farms and food enterprises to gain access to traditional retail markets. Given the scale limitations of Vermont agriculture, competing in a volume-oriented, low-cost environment is extremely challenging. The price points in institutional and other medium- and large-scale markets' business models are commonly not viable for small-scale farmers, and

Figure 3.1: Food System Diagram



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these institutions frequently lack the flexibility to manage local food sourcing. Many small producers are unaware of procurement specifications, and the scale and stage of development of many producers are not matched with particular markets.

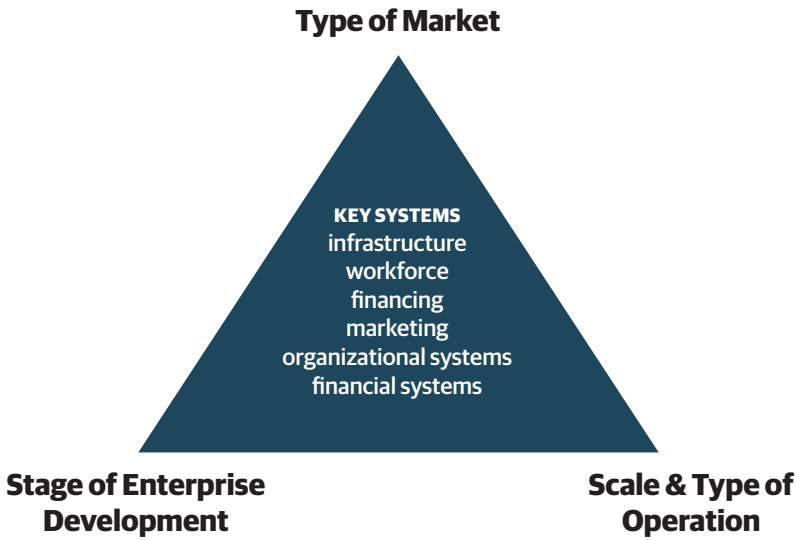
At the same time, demand for locally sourced food is growing throughout the Northeast region, and direct sales (e.g., via farmers markets, CSAs, farm stands, online markets) are booming. Increasing Vermont producers' access to all types of local and regional grocery stores, restaurants and institutions—where the majority of food purchases are made—is a necessary precursor to significantly expanding the consumption of locally grown products.

In speaking with a broad cross section of Vermont producers, F2P researchers heard accounts of successful marketing of Vermont-grown and -processed food as well as difficulty accessing grocery and institutional outlets. Likewise, in speaking to experts in retail groceries, restaurants, and institutions, we learned about the existing structure of these mainstream outlets and the efforts being made to increase the sales of local products. To increase the amount of local food found in institutions, traditional supermarkets, and restaurants, food producers need to fully understand the current system of food distribution. Likewise, retail outlets and wholesalers need to understand the costs associated with producing food, especially in places such as Vermont and New England.

A framework that examines the **stage of farm and food enterprise development**, the **scale of operation**, and the types of **market outlets** was developed to analyze the specific needs of different types of food system enterprises. The framework has two primary purposes: (1) to help businesses navigate the value chain and align with the most appropriate market outlets based on their stage of business and scale and type of operation; and (2) to reveal gaps, barriers, needs, and opportunities for improvement in the food system value chain for different stages of business development, scales and types of operation, and market outlets.For example, improving the connections between (1) small-scale producers who self-distribute and direct sales venues (e.g., farmers' markets); (2) medium-scale producers, wholesalers, and medium-sized retailers (e.g., co-ops, restaurants); and (3) large producers, wholesalers, and large markets (e.g., grocery stores) can increase the overall availability of locally produced food. A number of emerging models that embrace supply chain collaborations, including regional aggregation facilities and incubators, regional food centers, and subscription services, hold great promise and opportunity for the future of Vermont's food system.

Figures 3.2 and 3.3 depict the relationships between the stage of food enterprise development, the scale and type of operation, and market access opportunities. As indicated by the center of Figure 3.2, it is important that internal organizational systems (e.g., financial systems) be aligned with the needs and demands of the size and scale of operations and the markets being accessed.

Figure 3.2: Food System Enterprise Development Framework



To be successful, a food enterprise requires an appropriate regulatory framework, financing options, technical assistance, access to land, and so on, and these must be matched with the stage of development of that enterprise.

Stage of Enterprise Development

Every successful food enterprise goes through various stages of development over the course of its existence—from start-up stage to growth stage, from growth stage to a mature stage, and frequently then to a revitalization and/or succession stage. Each of these stages is marked by specific organizational, financial, infrastructure,

workforce needs, sales, and marketing needs. Enterprises need to know what stage of development they are in and to pay attention to when they are transitioning from one stage to the next so they can adjust their operations accordingly.

The **pre-venture** stage refers to a nonexistent or nascent product or service. In this stage, opportunities for new products or services are identified, but the supply chain and market outlet are unclear and "proof of concept" is not yet established. Planning and research through, for example, testing recipes at the *Food Venture Center*, writing a business plan, and finding start-up funding are the primary activities of the pre-venture stage of enterprise development.

The **start-up** stage is characterized by launching a business, hiring employees, setting up organizational systems, achieving break-even sales targets, building a customer base, and establishing a track record for product quality and service. This stage of development can last many years depending on how long it takes to firmly establish the business in the marketplace. Technical assistance for farmers and entrepreneurs in this development stage include incubator programs, equipment sharing, mentorship programs, pilot or demonstration projects, specific market feasibility studies, and efforts to organize and promote the market.

Enterprises in the **growth** stage experience an expansion in overall sales volume and in the number and variety of customers, an expansion of products or services offered, and the development of an established brand identity in the marketplace. They hire more employees, improve infrastructure and equipment, make improvements to internal systems, and improve their efficiency and productivity. However, business expansion requires more than just increased sales and employment. It often requires an assessment and adjustment of the organizational structure; the delegation of management control; and the development of longer-term strategies for human resources, access to capital, and expansion through a strategic planning process.

Mature companies have achieved a solid business that, because of either market conditions or the preferences of owners, appears sustainable. However, without dramatic change, companies in this stage are unlikely to expand significantly. Even though they have achieved strong brand recognition, and a solid repeat customer base, mature businesses often face many challenges. Sustaining themselves in a rapidly changing and competitive marketplace or in the face of declining sales can be difficult. A focus on problem solving, leadership, and quality improvement is often necessary for a mature business to maintain its position in the marketplace. Sometimes, planning for the succession of leadership or creating an exit strategy for the business is an appropriate strategy.

A **revitalization** stage arises when external or internal activities (or both) force a mature business to a tipping point. A downward trend may ensue, or innovative "challenger firms" may introduce new ideas, products, or services to revive the sector. Taking action in the maturity stage can send an organization in new directions. Innovation and diversification can lead to new products and new markets. Companies can be reorganized to provide the flexibility needed to meet the new challenges associated with new directions, markets, and products.

Many kinds of nonprofit and public sector organizations, as well as private consultants, provide assistance at various stages of development. That assistance can take many forms, including the following:

- Business planning or enterprise budgeting
- Marketing or market research
- Mentoring or coaching
- Accounting and taxes
- Production process improvement
- Permitting assistance
- Employee training

These organizations also play an important role in helping the overall marketplace evolve and serve the needs of food enterprises (e.g., policy development, grant and loan programs).

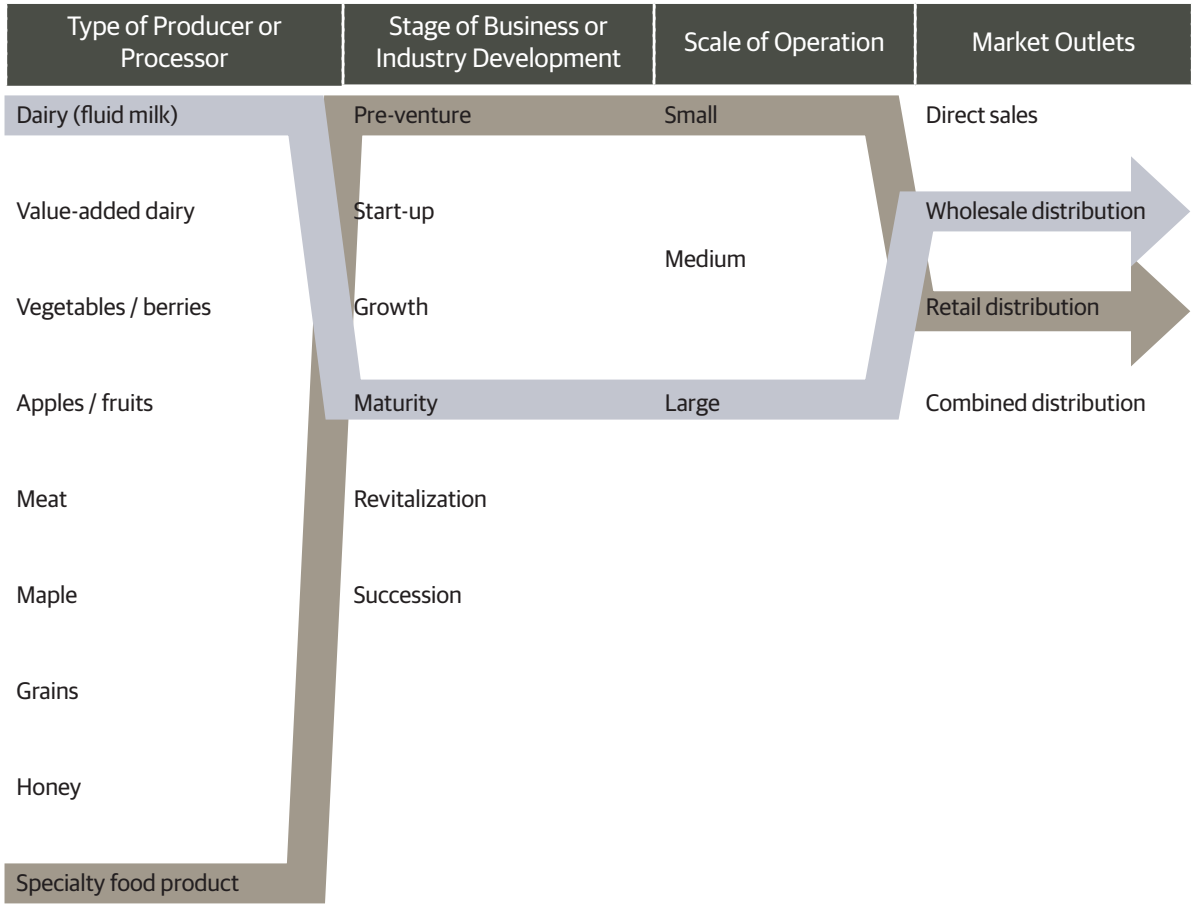
Scale of Operation

Every food system enterprise operates at a particular scale (i.e., small, medium, or large). For example, food manufacturing can be as small as a single entrepreneur making sauces out of a commercial kitchen a couple of times per month or as big as

nationally distributed ice cream or coffee. Different sizes of operations may require different levels of infrastructure (e.g., number of tractors, coolers or freezers, stainless steel processing equipment) and thus have varying levels of assets required to successfully produce at a particular scale of production.

The level of revenue generated by a farm or food enterprise has a profound impact on the potential to utilize other businesses of the supply chain such as wholesalers, and the ability to access additional capital for expansion over time. A myriad of factors including production capacity, access to a skilled workforce, and marketing ability are critical in determining the success of a farm or food enterprise.

Figure 3.3: Stage of Development — Scale of Operation — Market Outlets



Distribution Channel

Food distributors and wholesalers also range in scale and function, from sole proprietors with small trucks handling a limited range of products, to sophisticated wholesaler operations able to source and deliver a wide range of products, servicing grocery stores, restaurants, and schools. Travis Marcotte, executive director of the *Intervale Center*—which also operates the *Intervale Food Hub*, sees the potential for small distributors to significantly increase the amount of Vermont-grown product consumed in Vermont restaurants and institutions by collaborating with several producers to ensure a steady supply of product: "I think there are opportunities for larger farms to keep more product in state and reduce their marketing time. Ours is a collaboration of many different types of growers who are interested in making money by serving the local market together. We will not meet our needs or goals by thinking small. We need to think medium."

Market Outlet Options

Increasing Vermont producers' access to all types of local and regional retail grocery stores, restaurants, and institutions is necessary to significantly expand the consumption of locally grown products. The stage of food enterprise development and scale of operation are important considerations for understanding the type of market outlet (small, medium, or large) an enterprise can reasonably expect to access, as depicted in Figure 3.4.

Figure 3.4: Raw Product Production Scale and Market Outlet Flow Chart

PRODUCTION	DISTRIBUTION CHANNEL	MARKET OUTLET	EXAMPLES
For Self (very small scale)	X	X	*Community and School Gardens*
For Others (very small scale)	Foodbank / Shelf	X	*Charitable food sites* *Grow an extra row programs*
For Small Markets	Direct	**DIRECT SALES:** farm stands; farmers markets; CSA; restaurants; small retailers; medium retailers	*Cedar Circle Farm; Flack Family Farm; Cafe Provence;Chester Farmers Market*
	Wholesale Distributor (micro, regional)	**SMALL RETAILERS:** restaurants; food coops; independent grocers; schools; country stores	*Buffalo Mountain Coop; Kismet Restaurant; Old Brick Store; Sharon Elementary; Richmond Market*
For Medium Markets	Direct	**MEDIUM RETAILERS:** food coops; restaurants independent grocers; schools; institutions; regional supermarkets; natural food stores	*Hunger Mountain Coop; Shelburne Supermarket; Fletcher Allen Health Care; Healthy Living; U-32; Hannafords; Shaws; Whole Foods; Champlain College Dining Service*
	Wholesale Distributor (micro, regional, national)		
For Large Market	Wholesale Distributor (regional, national)	**LARGE RETAILERS:** large supermarket chains;'Big box' stores; Institutional food services; contract growing / livestock; commodity raw products	*Stop-n-Shop; Walmart; Costco; Sodexo; Cascadian Farms; Tyson Chicken; St. Albans Coop; Agrimark; Organic Valley*

Figure 3.5: Processor Scale-to-Market Outlet Flow Chart

PRODUCTION	PROCESSOR SCALE	TYPE OF PRODUCT	PROCESSING FACILITY TYPE	DISTRIBUTION CHANNEL	MARKET OUTLET
Farmers who produce for themselves or a processor to make a value-added product	**For Self**	Farmstead	On-farm	X	X
	Small Scale	Farmstead Small Specialty Niche	Custom Meat Processing Food Centers Food Venture Center Community Kitchens	Direct or Wholesale Distribution (micro, regional)	Small & Medium Retail
	Medium Scale	Branded: Regional Specialty or Commodity	Commercial-Scale Facility / Food Centers *(Vermont Smoke & Cure, Cellars at Jasper Hill)*	Direct & Wholesale Distribution (micro, regional, national)	Small & Medium Retail + Gov. + Institutional Outlets
	Large Scale	Branded: National Specialty or Commodity	Commercial-Scale Facility *(Cabot, Ben & Jerrys)*	Wholesale Distribution (regional, national)	Small, Medium & Large Retail + Gov. + Institutional Outlets

The first two rows of Figure 3.4 refer to non businesses (e.g., home gardeners, community gardens, school gardens, grow an extra row programs) that generally produce food for themselves or for donation to charitable programs such as the *Vermont Foodbank* or a local food shelf. In this instance, producers typically do not access the food distribution system, except in the example of providing food for the *Vermont Foodbank* or food shelves, and the scale of operation is small.

Businesses in the early stage of development, small to medium-scale operations, and some businesses in the growth stage need direct distribution to achieve profitability. Direct distribution may also be a necessity in more remote locations of the state where distributor routes do not currently exist. As a business develops and its scale of operations grows, it has increasing access to larger market outlets.

Having clarity around its stage of development is a food enterprise's first step toward success. Intentionally choosing the type of markets in which to sell its products can help an enterprise choose its scale of operation. Alternatively, if the enterprise wishes to operate only at a particular scale, then having a clear understanding of the types of market outlets that will be most accessible to its operation can be very helpful.

Let's take the example of a farm that converts raw inputs (e.g., apples) to a value-added product (e.g., cider). If the scale of production is small and the product is made on the farm, the business may make only enough cider to sell during the fall. Therefore, to make a sufficient margin on the product, the farm will likely deliver the product directly to a small retail outlet that is looking to source locally produced cider in season or will sell it directly at a farm stand. However, if that farm is a medium-scale processor and can produce its product year-round, then a larger on-farm or commercial facility is likely to be used to make the product. Again, the processor may choose to distribute some, or all, of its product directly (thus doing everything necessary to maintain those retail accounts in-house), or it may choose to use a wholesaler. The use of a wholesaler is often necessary to reach larger, regional market outlets or restaurant and institutional markets (e.g., hospitals and schools).

The same stage, scale, and market outlet size considerations apply to farms that create value-added products as well as to value-added food processors (Figure 3.5).

Market Development Framework

Each section of Chapter 3 analyzes existing data sets, published materials, and public feedback for strengths, weaknesses, opportunities, threats, gaps, barriers, and needs affecting different aspects of Vermont's food system. The "stage-scale-market outlet" framework is used as a lens for understanding and improving the "navigational flow" along food system supply chains. Another lens, *VSJF's market development approach*, is used to develop objectives and strategies to overcome obstacles, realize opportunities, and strengthen Vermont's food system. The VSJF market development approach operates from the premise that there is no "invisible hand" guiding markets, but rather, consumers, governments, businesses, nonprofits, farmers, and others continuously make and shape markets. The intention is to highlight specific market development needs that, if met, would strengthen Vermont's food system.

Market Development Needs

- **Research** (e.g., new data, mapping, market research, and new product research)
- **Natural Resource, Physical Infrastructure, and Technology** (e.g., land use and land access issues, developing new equipment, building needs, energy needs)
- **Sales and Distribution** (e.g., matching supply and demand, working with super markets to adjust business models to work with smaller growers)
- **Marketing and Public Outreach** (e.g., need for consumer food literacy and education and building consumer awareness)
- **Technical Assistance and Business Planning** (e.g., producer alignment with processor and wholesaler specifications, trainings, and financial management)
- **Financing** (e.g., for specific types of businesses and stages of development)
- **Network Development** (e.g., support for existing networks and trade associations or the creation of new ones)
- **Education** (e.g., food system education at elementary schools, tech centers, and institutions of higher education)
- **Workforce Development** (e.g., need for skilled labor, health care and workers compensation needs, needs of H-2A/guest workers)
- **Regulation and Public Policy** (e.g., new regulations or state and federal policies).

CHAPTER 3

Analysis of Vermont's Food System — Overview

Credits

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Vermont Sustainable Jobs Fund

farm to plate STRATEGIC PLAN

farm to plate NETWORK

VERMONT FOOD SYSTEM ATLAS