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RESEARCH BRIEFING

Sustainable Food Systems Cluster, Vermont Style

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ABSTRACT *Vermont, as one of the most rural and independent states in the U.S., has always relied heavily on agriculture and its natural environment to underpin its economy. This article examines the state's agricultural economy as a sustainable food systems cluster and how it is adapting to the global economy, corporate agriculture, and environmental concerns. It describes the scale and concentration of the cluster, its support structure, and the ways it impact other sectors of the economy, including energy, tourism, and the arts. It also explains how a cluster of largely small-scale and artisan enterprises that often represent lifestyle rather than economic choices can be innovative, collectively create a wealth-producing and branded cluster, and the implications of the new agricultural model for the state's educational system.*

Introduction

Vermont is America's second smallest state in population and first in proportion of its population residing in rural communities. Vermont's economy, like its progressive politics, is based on clusters that reflect its history, demography and culture. Its history of populism and independence date back to the mid-eighteenth century when it was a republic for 14 years before choosing to become a state in 1791, and these traits have been retained through more than two centuries.

Yet today, Vermont is increasingly ensconced in a global, urban, knowledge- and technology-based economy. It finds itself at a crossroads in choosing its future, the competitive advantages that will best create economic opportunities, wealth and quality of life for its citizens while retaining the environment, culture and lifestyle—the flavour that distinguishes it from other places.

In the past, the state's economy has been tightly linked to agriculture, natural resources and environment. That interdependency is likely to remain important to talented people and firms across all sectors that are doing business in or considering moving to

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Vermont. The state wants, and already has in some places, the new clean, high-tech industries that pay good salaries, such as computer software, aerospace and biotech companies. And it is very likely to grow or attract more of those businesses.

But Vermont's core cluster strength remains rooted in its food systems. While agricultural employment in the US dropped steadily from 3.4% of employment in 1981 to 1.8% in 2002, due largely to the growth of technology-driven, cost-efficient, factory farms, Vermont remained dominated by small family farms. This has given the state an edge in meeting the rapidly growing demand for organic, local and authentic, healthier, more aesthetically appealing and tastier foods and in addressing concerns about the effects of corporate agriculture on the environment, on public health and on local economies.

Modifying the food systems cluster with the term "sustainable" changes the nature and even terms of reference of the cluster. It defines it not just by dollar value of output or jobs but by the long-term ability of the land to produce food and plants, of the environment to support healthy lives, of the economy to generate wealth and of the community to retain wealth. Sustainability, in this analysis, is closely associated with "triple bottom line" outcomes, which take into account economic, social and environmental impacts.

The economics of operating in more demanding but more segmented markets require more creative business plans and more diverse business operations. The ability to earn a living income from relatively small acreage requires adding new types of value to products, which may be based, for example, on the authenticity of the process and product, the ability to provide the consumer with an experience based on both process and product, reaching certain niche markets or producing complementary products for the energy or other sectors. For example, Central Vermont Public Service draws electricity from cow manure of Vermont farmers, and about 4000 utility customers have agreed to pay a premium for this source.

The state realized that agriculture was changing in 2003 when the Vermont Sustainable Agriculture Council recommended in its Report and Recommendations on Sustainable Agriculture in Vermont that the state "Assist farmers in conducting economic analyses of alternatives to expansion, such as diversification, value added production, management intensive grazing, and agritourism, which would reduce risks associated with commodity marketing. . .".

However, this new vision of the agricultural enterprise complicates the task of defining the cluster because it now encompasses farm-based activities for which there are no industry classifications, e.g. agritourism, gastri-tourism, farmers' markets, teaching farms, bioenergy and other renewable energy production and alternative health products. The organic Tanglewood Farm in Middlesex, for example, sells gift certificates, has an annual pig roast and harvest, provides recipes and menu suggestions and teaches children about food and farming, all in addition to a whole host of local pickups and packaged local buying arrangements.

This article describes the cluster (1) quantitatively, to estimate scale; (2) qualitatively, to clarify features that differentiate it and (3) interdependently, as it relates to and influences other clusters, because clusters do not operate independently in vacuums. Then the article discusses the most relevant elements of the support system and the changes in the educational system necessary for regeneration and economic success, the primary purpose of a research project on the cluster and its educational system that was conducted in 2009–2010 for the Vermont Department of Education (Rosenfeld, 2010).

What the Numbers Reveal About the Cluster

Anyone remotely familiar with the state of Vermont does not need data analyses to know that Vermont has a prominent food systems cluster, one that is easily distinguishable from, for example, food systems clusters in California, Kansas or Iowa. The numbers do, however, validate what is obvious to the casual or local observer. A 2004 study of New England state agricultural and food clusters found that Vermont's concentration of employment in 2001 exceeded the national average by 50% or more in 10 of 12 food processing sectors, with the highest being chocolates and cacao (14 times the US average) and dry, condensed and evaporated dairy products (9 times the US average).

Based on 2008 data, Vermont's sustainable food system cluster employed 30,499 workers in more than 9366 establishments (Table 1). That total superimposed on the "Competitive Benchmarking of the Vermont Economy" conducted for the National Governors' Association (NGA) in 2007 would place it first among the state's clusters well above the sum of the two food-related clusters in the NGA report, "perishable processed foods and non-perishable processed foods" (4391 employed). Moreover, the majority of farms in Vermont are mainly family-operated businesses or owned solely by an individual, and most of these were not included in the NGA or US Department of Commerce analyses. Further, family- and individual-owned farms in the state have grown by more than 2% over the past 5 years—although farming is often not the owner's primary occupation. The 2007 Census of Agriculture indicates that half of all owners report their primary occupation as farming. More than 37% of the principal operators work more than 200 days off farm each year, up from 26% in 1992. Dairy cattle and milk production farms accounted for a very large share of sales in 2007, \$538 million; and they exported more than 90% of product out of the state.

Vermont's unusual strengths show up in other less conventional analyses. Direct sales to consumers through farmers' markets and community-supported agriculture (CSA),¹ local contracts with restaurants, stores or institutions and sales on site have been rising steadily, from \$3.8 million in 1982 to \$9.6 million in 2002 to \$22.9 million in 2007. While this still represents only about 4% of sales, the value retained by the farmer is higher than it is from other sales, and its potential is being further developed through state-supported Farm-to-Plate projects.

Vermont's clusters are distinguished by a greater predominance of smaller enterprises, a long-standing commitment to conservation (green before the term came into use) and, perhaps most strongly, by the long-standing interdependence with the state's cultural

Table 1. Employment and establishments in Vermont's sustainable food systems cluster

	Employment	Establishments
Crop and animal production	8552	6823
Agriculture and forestry support activities	1042	771
Food and beverage manufacturing	4661	496
Farm machinery and equipment supplies	1243	207
Food wholesalers	2987	282
Food and beverage stores	10,607	628
Warehousing and storage	930	47
Others	477	112
Total	30,499	9366

Note: 2008 employment includes 2007 non-employer data and 2007 Census of Agriculture data on farms.

heritage, populism, lifestyle and image. One of every 2.2 in the cluster is a self-employed farmer or freelancer in the value chain, a population overlooked by most cluster studies. The Northeast Organic Farming Association of Vermont was formed in 1971, long before organic foods became a growth industry. Vermont had passed Act 250 a year earlier, which was designed to protect Vermont's environment, community life and aesthetic character by requiring any development—except in agricultural, at that time—to pass certain tests.

Vermont's Special Place Among Food Systems Clusters

The problem with using industry classifications to define clusters is that they miss the very place- or cultural-based attributes that so often distinguish clusters with similar titles from one another. Vermont's sustainable food systems cluster, for example, is a nationally recognized leader in reaching local markets, which results in fresher, better tasting and healthier foods; greater profit margins by eliminating intermediaries by selling directly to local markets and retaining more wealth within the community.

The state stands head and shoulders above other states with strong agricultural economies based on (1) its concentrations of local farms, (2) CSAs and (3) farmers' markets *per capita* compared to the national concentration and organic farms (Figure 1). In organic farms *per capita*, Vermont stands about 30 times above the national average and 50% above the state with the second highest concentration. Vermont also ranks first, at five times the national average, in the proportion of its agriculture sold to local markets, which is of growing importance to consumers seeking greener and fresher foods.

To get beneath the national numbers, we relied on online surveys of farmers and personal interviews. Based on 107 responses,

- more than one in five earned income from bioenergy and one in five from agritourism;
- more than half process some of their own foods;

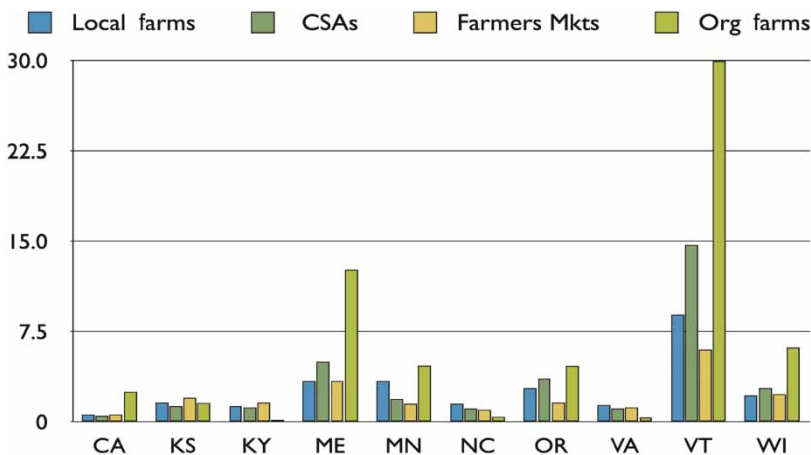


Figure 1. Location quotients (state number *per capita* compared to US number *per capita*) for Vermont and selected states for local farms, CSA, farmers' markets and organic farms, 2008

Source: Available at <http://www.sustainabletable.org/home.php> and USDA Economic Research Service, available at <http://www.ers.usda.gov/Data/Organic/>.

- 64% have operations run exclusively by family members;
- 37% earned more than a fifth of the sales on site.

Intersections and Convergence

As the state's brand and image, the sustainable food system cluster has a much greater—if not easily measured—impact on many other parts of Vermont's economy. The cluster's value and impacts are increasingly blended with, for example, the state's arts and culture, tourism, renewable energy, design, apparel, wellness and retirement sectors (Figure 2).

A convergence and blending around common culture and values create an interdependency in which the sum is greater than the whole of its parts. This exemplifies the new paradigm of “territorial knowledge dynamics”, in which a distinctive knowledge base in a region influences innovation and growth in multiple sectors or clusters (Cooke & De Laurentis, 2011). In Vermont, examples of the cluster convergence and knowledge dynamics phenomena are numerous.

- Bread and Puppet Theater in Glover taps more than 1000 trees, sells maple syrup, gardens and bakes bread to supplement or help support its theatre.
- Butterworks Farm in Westfield uses a wind turbine to provide a significant share of electricity it uses to produce its organic yogurt.
- At the Annual Vermont Goat and Sheep Association festival in the fall, knitters, spinners, weavers and designers from across the state who produce yarns and wearable goods for people and animals from Vermont sheep, alpaca and llamas demonstrate their wares and abilities.
- The Weston Playhouse is located on a former working farm that produces plays and musicals in its converted barn and still produces some food.

Foods and art intersect in the “creative economy cluster” in which each is part of a valued experience that has market value in the Creative Communities Program organized by the Vermont Council on Rural Development. Six of the nine communities included priorities linked to local foods (Vermont Council on Rural Development, 2008). Grand Isle County proposed trails to local farms; Bellows Falls, year-round access to local foods and Richmond, a Harvest Festival to celebrate local agriculture. The influence of agriculture on the creative economy is obvious in the content of Vermont's arts, crafts, literature and performance. Writers' work reflects the agrarian economy and landscape.² Craft artisans and food artisans sell their products side by side at farmers' markets and fairs.

Other crossover occurs with the emerging “lifestyle and wellness cluster”. Vermont produces medicinal herbs and nutraceuticals that are used by holistic and traditional health practitioners. Zack Woods, Everlasting herb farms, Purple Cornflower and Naturally Vermont Remedies are examples of farms that sell to health markets—and also represent markets for authentic and organic food products. Even Vermont Peanut Butter (or “peanut butter” if it's not a company or brand name) is marketed for its health benefits.

The “tourism cluster” is perhaps the most obvious area of convergence. The Vermont Sustainable Agriculture Council's 2003 report recommended that “economic development and other public policies should recognize not just the value of ‘farm gate’ production but also the indirect value of agriculture to tourism”. The state is home to some two dozen food festivals, cheese-makers and maple syrup trails and agricultural-related tourist activities

like those at Shelbourne Farms. Tourists come to follow mapped trails of Vermont's cheese making, maple syrup production, culinary centres and gardens or for fall foliage tours. Hardwick's Center for an Agricultural Economy organizes monthly day-long "Farm and Agri-Business Tours" of its surrounding area.

The Branding & Marketing Group of Moving Vermont Agriculture Forward recommended that agriculture work with tourism to "experience Vermont farms year round", training farmers in tourism. These events "tell the story of agriculture in the state, how it is rooted in farm families and the working landscape of the state, and celebrate the stories of Vermonters and the flavors of VT fresh and value-added products" (Bramley *et al.*, 2007).

The on-farm "renewable energy cluster" is one of the most promising areas of cluster crossover. The Vermont Sustainable Jobs Fund is supporting a variety of biofuels projects across the state, with funding support provided by the US Department of Energy and the Office of US Senator Patrick Leahy. The more than 20 recipients of the grants include Ekolott Farm in Newbury, Gervais Family Farm in Bakersville, Clear Brook Farm in Shaftsbury and Rainbow Valley Farm in Orwell. A recent report recommends innovation networks or hubs among farmers working together for scalable energy solutions (Delhaugen, 2008).

Biofuels are increasingly being supplemented or replaced by more energy-efficient and economical farm methane digesters, switchgrass, biodiesel and wind power. Vermont has the greatest number of methane digesters in the entire US, with a number of additional units scheduled to come online in the next few years (Zezima, 2008). The Vermont Agency of Agriculture, Food and Markets provides small grants to farmers interested in renewable energy project feasibility studies, while the Vermont Farm Viability Program can help farmers develop business plans for on-farm energy-related projects.

The "design and fashion clusters" represent important if less obvious areas of convergence. The state's sustainable food systems and natural resources influence styles, provide materials and traditions from which woven textiles and apparel are produced and create a market for packaging and branding design. Although most of Orvis' products of Orvis³ are now imported, they continue to sell goods designed and made in Vermont that are closely connected to the state's natural resources. Boysenberry fleece and organic wool clothing is a Vermont company using Vermont materials.

Moreover, like the creative economy, this cluster also influences where talented people choose to live and work. In South Burlington, a developer is setting aside a 16-acre property for organic farming so residents can have their own CSA (Applebaum, 2009) (Figure 2).

The Cluster's Support System

The economic sustainability of a cluster depends on advice, knowledge and assistance from a vast array of public and private organizations and institutions. Vermont's support infrastructure for sustainable food systems and natural resources is among the most sophisticated in the US. The key elements are education and training, social or associational infrastructure, a demanding customer base, technical and business assistance and a supportive state government. Research and development are also important, and the University of Vermont has a strong research capability, but the cluster can and does also draw from national and international sources.

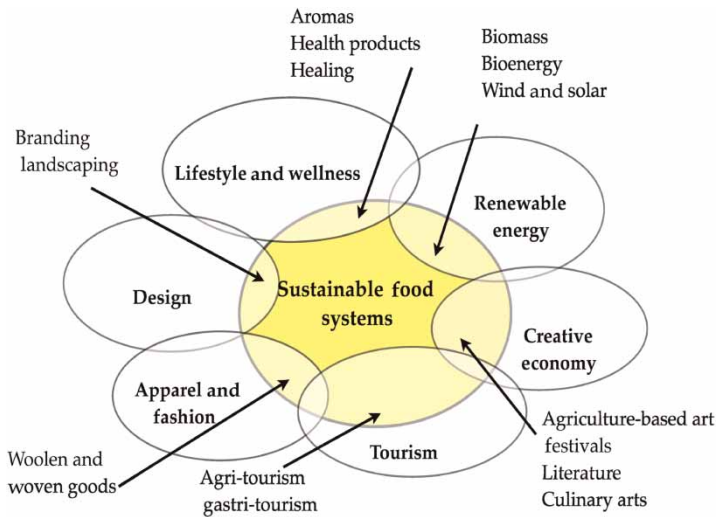


Figure 2. Convergence among clusters

Social Capital

Along with education, social capital ranks near the top of any list of cluster assets. In the US, agriculture is the nation's benchmark for effective associational behaviour, with agrarian organizations such as the Grange, Farmers Alliance and Agricultural Wheel providing real services, education and a place for farmers to learn from one another, network and help one another. In Vermont, networking and joining are still a way of life.

The Vermont Agency of Agriculture lists 48 organizations representing Vermont farmers, including beekeepers, Holsteins, Jerseys, Morgan horses, sheep and goats, turkey growers, brewers, Christmas trees, maple sugar-makers, the dairy industry and cheese-makers. Vermont Specialty Foods, the nation's oldest niche food association, is a non-profit with more than 230 members helping to set Vermont apart and to establish brands that are often quirky but almost always authentic. Members run the gamut from Vermont Mystic Pie to Cosmic Corn to Rabbi's Roots! Horseradish to Nutty Steph's Vermont Granola. Vermont Fresh Networks is an organization that links farmers with chefs to encourage the use of local foods. Deep Roots is an organic farm coop in which members pool their efforts to reach larger market outside of the state.

Many of the associations provide their members with a collective voice in public policy debates, a traditional role for US trade associations; but most do much more, with festivals and fairs, education and training, marketing, maps, websites, open houses, recipes and cookbooks, newsletters and events that bring members together.

Technical and Business Assistance

Vermont provides extensive access to technical and business assistance and research, making it relatively easy for the sustainable foods system cluster to keep abreast of the latest technological and business systems advances, market trends and opportunities and new farming methods. Much of this comes from the University of Vermont and from state-supported regional centres, farm associations and government agencies. The

“Resource Guide for Vermont’s Aspiring Farmers” supported by the University of Vermont is an exceptionally useful sourcebook for assistance and resources, including education and training. Vermont also has an unusually strong local support system operating through seven regional centres.

Vermont’s Regional Food Centers Collaborative consists of nine different and distinctive organizations that are dedicated to supporting the viability of local farms and educating and ensuring that residents have access to local and affordable food produced with sustainable methods. Organized as a system in 2009 at a meeting of the Northeast Organic Farming Association, each has its strengths that match its region’s needs.

The Intervale Center in Burlington, which since 1988 has had the only operating farm in the city limits, operates as an incubator for new aspiring farmers, an educational centre, and a source of business support. Its Agricultural Development Service helped 29 farms in 2009, and its new farmers produced more than a million pounds of food in 2007. Its Conservation Nursery has grown more than 5000 trees and shrubs for buffers along waterways since 2001.

A second centre is located in Hardwick, which not long ago was a struggling town in the Northeast Kingdom, the state’s poorest region. The Center for an Agricultural Economy has helped turn Hardwick into a nationally recognized food and art mecca by rebuilding the cultural and agricultural infrastructure for the entire system, from farmer to table, and encouraging cooperative ventures (Burros, 2008). The region has world-class cheese-makers led by Jasper Hill Farms, which lets other cheese-makers use its \$3.2 million ageing caves. Pete’s Greens works with 30 organic farmers to market collectively; High Mowing Organic Seeds combined with Cabot Creamery to produce “Pies for People”, with hundreds of pies donated to low-income families, and the Highlands Institute promotes community-based composting. The centre has a young farmers night (“greenhorns”) for the about 150 trying to make a living from agriculture in the area and even serves as a dating service to help keep young people in the area.

This support system also provides assistance with the environmental sustainability needs of enterprises—renewable energy use and production and soil, water, materials and energy conservation. The “Vermont Primer for Off-Farm Energy Production”, intended to help farmers reduce their energy consumption and save money, suggests sources of assistance, and the 2008 report on farm energy compiled for the Vermont Sustainable Agriculture Council recommends innovative ways for farmers to produce and conserve energy.

Sources of Skills and Knowledge

Finally—but most important—the state has an educational infrastructure that supports this cluster, and Vermont is committed to making sure that its system stays abreast of the skills needed to succeed economically on small farms, which may mean branching into food processing, branded products, agritourism, education and/or bioenergy and doing more direct marketing.

Most of the agriculture-related education of youth occurs in the public secondary schools, in 11th and 12th year Career and Technical Education (CTE), a programme supported by federal legislation since 1917 and previously called “vocational education”. Vermont has 13 career centres serving CTE students across the state in programmes of varying depth and concentration. Agricultural education has to overcome the dual

obstacles of CTE having an image of the path for lower achieving students who are not expected to go to college—an image that has plagued CTE for decades—and school guidance counsellors and parents who are unfamiliar with the cluster. Enrolments in agricultural and natural resource programmes dropped by 28% from 2004 to 2009, although the state has some very strong programmes that now are emphasizing the environmental and sustainability skills and attracting some higher achieving students who are seeking more entrepreneurial, hands-on, experiential education.

Federal funding for CTE now requires that programmes lead to opportunities in higher education. But Vermont lacks a true community or technical college system, which exists in nearly all other states and is the most common path into higher education for CTE students. Vermont Technical College (VTC) and Community College of Vermont have in effect served that role and VTC does have strong diversified agricultural education and dairy management programmes with rising enrolments. However, the institution is moving quickly towards being a 4-year college and does not provide the easy access that community colleges do in other states, and CCV has few occupational programmes. As a result, many Vermont high school graduates choose to attend more accessible community colleges in nearby New York or New Hampshire or a private Vermont 4-year college, including very good programmes at the New England Culinary Institute, Green Mountain College and Sterling College.

The University of Vermont is research-oriented and not viewed as particularly relevant to farmers' immediate educational needs. The university does have a Center for Sustainable Agriculture with a wealth of resources and information for those who choose to use it, but too few seem to know about it. The university-based cooperative extension programme is much better known, and extension's Women in Agriculture adult education programme has proven helpful to many female-run startup farms.

Despite this infrastructure, the research showed that farmers were surprisingly unfamiliar with what the state had to offer at its various educational institutions, with the exception of cooperative extension, a federal assistance programme that has been available to farmers since 1914. Most farmers rely most heavily on their respective membership associations to acquire new skills. Yet they are aware that they need, and they want, education, particularly in energy conservation, marketing, branding and organic farming.

Public Policy

Every planning report from or to the state legislature in recent years has trumpeted the importance of sustainable agriculture, with little if any opposition. This is a sharp contrast to states dominated by corporate agriculture, which have resisted the changes associated with sustainable methods (Bartlett, 2010). Studies and plans put forth by the Council on the Future of Vermont and the Vermont Council on Rural Development, all with considerable community input, have made sustainable agriculture and natural resources priorities, not only as part of the state's economy but on a par with the state's economy. The Vermont Sustainable Jobs Funds' study called "Farm to Fork" is intended to greatly increase direct marketing of foods from farm to plate through schools, restaurants, retail food stores and directly to consumers, leading to increased consumption of local foods.

In January 2009, for example, the Vermont legislature's Report on Act 154 relating to agriculture, forestry and horticulture recommended that the Department of Education act to "enhance the ability of regional technical centers and secondary schools to teach and

prepare students for careers in agriculture, forestry, and horticulture and to determine what steps are necessary to prepare the next generation for involvement in these sectors of Vermont's economy".

Conclusions

The primary purpose of the research on which this article is based was to assess the relevancy and suitability of the pre-baccalaureate education in the state and recommendations for improvements.

Prior to the 1990s, the skills for work in food systems and natural resources could be learnt in the high schools, in part because so many of the students were living their chosen field already. Tacit knowledge formed the knowledge base, and the schools supplemented and complemented what friends and families knew and passed on, corrected bad habits, created new social networks and expanded business skills. Agricultural education, FFA (formerly called Future Farmers of America) and 4H were integral parts of rural communities.

Agricultural education (formerly vocational agriculture) was among the last of the high school occupational programmes to move into area vocational centres—if it did at all. While providing what may have been the best entrepreneurial education in America, the students rarely went on to higher education except for the small number who wanted to teach or do research. Furthermore, learners were mostly young people who had grown up on farms, and there was nothing for those who chose to become farmers later in life.

This has put new pressures on public education to expand the content of high school agricultural education, to extend the learning opportunities beyond grade 12 into higher education and to meet the needs of career changing adults, many of who may be highly educated but not in operating in a food system.

Programmes related to agriculture—other than horticulture—have been rarities in America's community colleges, largely because, according to national employment data, they do not meet the criteria for high employment growth, high wage or high tech. Public policy has long undervalued the scale and importance of the sector, at first because it limited the scope to farms and not agribusiness. Three decades ago, "Even though labor statistics show only 3 percent of the workforce in farm work, they are misleading as an indication of vocational agriculture demand: It is estimated that 30 percent of all work utilizes agricultural competencies" (Rosenfeld, 1980).

Today, policy-makers still view agriculture as a corporate enterprise producing for commodity markets, and they greatly underestimate the scale and scope of expanding markets for specialty, local and artisanal foods. A ranking of 200 jobs from best to worst in early 2009 ranked dairy farmer at 199th (Needleman, 2009). Conventional data-based analyses undervalue clusters that are dominated by self-employed and small enterprises with incomes that are not easily measured, that operate in multiple sectors of the economy, that have unconventional work schedules and, at least in some places, are populated by a work force choosing a lifestyle.

Success in the new food systems cluster has very different educational requirements. With the convergence of economic activities across clusters, it is no longer only about growing food or raising animals. Except for Vermont's largest dairy farms, economic survival and growth depend on supplementing food commodity income through innovative market opportunities. Farms may offer weekend farm stays and catering services, process their own foods, make direct sales to local markets, create artisan products and

brands, educate young people and produce and move into renewable energy by selling biomass, wind power or operating methane digesters. All of this will require a new, more creative, entrepreneurial and technologically proficient individual, which in turn will require more expansive and different skills and knowledge and the ability to visualize and adopt a different business model. It also will depend on a better-informed public as consumers and supporters and a public sector that understands the full ramifications of this widening of the scope of food systems.

In the future, the successful food-based enterprise in Vermont will use sustainable practices, provide consumers with a special experience by differentiating its products from off-the-shelf competition, develop a brand, find new marketing methods ranging from direct sales to web-based sales and/or mix and match ways to generate income with a variety of economic activities such as agritourism, culinary arts, alternative health and renewable energy. Vermont's CTE system is well on the way to revising its curricula and already effectively integrating renewable energy and conservation and operating school-based businesses that teach direct marketing but not yet organic farming, product branding and tourism.

Many of the young people who will create Vermont's future in sustainable food systems and natural resources did not grow up on farms. Others will be adults from other places moving to Vermont for a new career and/or lifestyle. And still others will want the skills without ever intending to earn their full living from the enterprise. Nevertheless, the educational programmes are offered in career centres with the expectation that programme completers will continue on to some type of post-secondary education.

These changes create a new set of opportunities for Vermont to (1) alter the perceptions of CTE programmes from reflecting the past to reflecting the future, (2) adjust the measures of economic opportunity and impact to reflect the entrepreneurial, diverse, interdependent and even artistic nature of the cluster, (3) serve the adult population and, working in collaboration with higher education and extension, become part of a lifelong learning system, (4) continue to strengthen the academic content and rigour and (5) develop or find routes for further education. The Vermont State Department of Education is well on the road towards these outcomes, but it will take a systemic effort involving other agencies and organizations.

Notes

1. CSAs, which originated in Europe in the 1960s, represent a community of individuals who share the risks and benefits with the farm operators. Members are "share-holders" who pledge to cover anticipated costs of the farm operation in return for shares of the farm's production.
2. They include poet Louise Gluck and authors Noel Perrin, David Mamet and Don Bredes, whose latest mystery, "The Errand Boy", is about conflict between family and factory-style farms in Vermont.
3. Orvis is a Vermont-based company that was founded in 1856 for mail order fishing and hunting gear and clothing and now sells high-end casual and outdoor clothing and sporting in its own retail stores and on the Internet.

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