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**Influences of Social Networks on Food Choices: A Comparison of Local, Regional, and National Perspectives**

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## Abstract

There has been a growing interest in the U.S. to study local and regional food systems with respect to economic, social, and enterprise development. This paper discusses a series of on-going projects funded by the USDA focusing on two aspects of the relationships between social network and food choices – producers, and interactions between producers and consumers (buyers). Preliminary results showed distribution and opportunities for agricultural producers to exploit and implement new strategies that would enhance marketing and management by taking advantage of the capacity of social/economic networks in/around communities. Long-term goal on completion these studies will compare and contrast local, regional, and national approaches to design and implement effective marketing and management strategies that aim to promote local/regional food networks from social, economic, and ecological perspectives.

## Introduction

The term “food” has changed significantly in the 21<sup>st</sup> century. A very basic definition of food involves *“material consisting essentially of protein, carbohydrate, and fat used in the body of an organism to sustain growth, repair, and vital processes and to furnish energy”* (Merriam Webster Dictionary). Food is one of the most crucial elements to support and sustain our life; as important as air, water, shelter, and other necessities. As societies and countries experience intensive transformation in technology and industrial development, “food” becomes a complicated form with embedded influences in our lives. Studies of food have been expanded beyond understanding simple relationships between demand and supply. Scholars have begun exploring and examining the origins of food, characteristics of food, functions of food, and purposes of food from social, economic, and ecological aspects. These new research topics of food introduced new meanings of food to producers and consumers. Innovative production, marketing, and management strategies have been designed, developed, and implemented in food industry. Consumers have begun paying more attention to the quality of food. Most importantly policy makers have drafted and introduced new programs with growing number of funding opportunities to encourage, promote, and support food safety and food security at local, regional, and national levels (USDA, 2013). For example, the USDA created the Know Your Farmers, Know Your Food initiative in 2009 to help connect producers with new opportunities in local and regional food markets. Since 2009, USDA has funded over 2,600 projects including creating new community food projects, supporting farmers’ market promotion and establishment, and strengthening beginning farmer and rancher development.

One thing is very clear through all the new movements in local and regional food systems – to help producers and consumers connect with food issues beyond conventional business model and practices traditionally embedded in the food industry. New programs like farmers markets and Community Supported Agriculture (CSA) offer new opportunities for consumers to purchase foods directly from farmers. There is also a growing trend in local and regional food issues focused on availability, affordability, accessibility, and accountability with respect to food production and consumption. These new ways of doing business between farmers and consumers have explicitly changed the relationships between growers, buyers, and foods from a simple distribution channels to a networking diagram. Existing economics literature provides limited information about how the interactions between

producers and consumers influence food choices, and how to make the best choices in production, selling, and acquiring foods while considering social, economic, and ecological implications.

This article introduces some preliminary findings from series on-going projects funded by the USDA programs to examine the formation and impacts of social networks on farm sector and food market. The overall purpose of linking these projects is to explore and analyze innovative food networks in the U.S. Specific objectives include: (1) to identify types of multifunctional agriculture activities strategies adopted by farmers; (2) to examine categories of multifunctional agriculture activities associated with social and economic networks; (3) to categorize types of innovative food networks and practices that have improved and encouraged profitability and wellbeing for producers, consumers (buyers), and communities; and (4) to develop strategies and best practices that would assist in establishing sustainable food networks in the long term. The first project, *Examining Impacts of Multifunctional Operations on Long Term Sustainability and Prosperity for Small and Medium-Sized Farms and Rural Communities*, started in July 2011 and served as the underpinning vehicle to collect secondary and primary data with respect to multifunctional farm and activities in New England region. The second project, *Do Networks Improve the Effectiveness of Promotion for Vermont Wine Producers?* started in July 2011 which provided an opportunity to design and develop a new marketing framework using network theories. Finally the third project, *Understanding and Designing Long-Term Resilience in the US Food System: the Role of Entrepreneurship and Innovation in Supporting Regional Food Networks (RFNs)* beginning in July 2014, will introduce a novel approach to study integrated and entrepreneurial/innovative concepts of RFNs and their contributions to resilience at both the enterprise and the community level, which directly relates to identifying new and creative economic and social opportunities for rural communities.

We note that there is no widely-accepted definition of “local” and “regional” food systems in this evolving field. In general terms, “a local food system comprises the actors and process of growing and processing food near its end market, the consumer” (Jensen, 2010). For regional food systems, “regions are described as having a wider land base, more varied food products, and larger markets than local systems” Clancy and Ruhf (2010:6). We concur that regions are a good unit of analysis for many purposes because agricultural issues are regional issues: “topography, water availability, land and other inputs, farm scale, crop options, and market proximity are operable at the regional level” (Clancy and Ruhf, 2010).

The definition of multifunctional agriculture refers to farmers utilizing existing resources to expand their farming activities beyond producing traditional food and fiber to include new, non-traditional production functions and benefits of tangible and intangible goods and services, such as agritourism, direct sales, value added, organic practice, landscape preservation, and balancing/maintaining the health of the eco-system and community well-being (Liang, 2012; Liang and Su, 2013; Liang, Su, Dunn, and Pescatore, 2012). In the project, multifunctional agriculture was defined as any activities associated with agritourism, direct sales, value added production, and off-farm work.

The integration of the RFNs refers to the levels of connection and interactions of people, place, and prosperity with respect to social, economic, and ecological aspects. The entrepreneurial activities and innovativeness of the RFNs refers to recognition and creation of new opportunities which would stimulate new strategies, new practices, new products, and/or new markets to improve and enhance long-term prosperity for individual network participants and for the entire network. This concept has

been introduced and applied to study multifunctional agriculture in the U. S. (Liang, 2011; Liang and Su, 2013).

The long-term goal upon completing these projects is to use a trans-disciplinary, cross-regional comparison to critically examine the internal and external drivers for RFNs as components of resilience in the national food system by integrating our assessment across social, economic, and ecological variables.

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### **An Overview of the Network Theories in Marketing**

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Network marketing is one of the leading topics in social sciences. Experimental scientists interpret network science theory using elements connecting with each other when forming signaling molecules (Müller & Sheen, 2007). There are important consequences when the signals of the elements move within or across different molecules. Similarly, social science scholars adopt network theories to explain interactions among social actors and links between individuals and/or organizations in the form of information flows or signals (Latour, 2005). The term “network” re-defines the social notion beyond the nature of assembled groups to allow us to trace connections that would reflect the assemblages of nature (the process of assembling). Scholars study, examine and analyze the pattern and consequences of economic and social ties in which actors are embedded affects those actors in making decisions to generate profits or benefits (Freeman, 2004, p. 2; Borgatti et al., 2009: 892; Lin, 1999; Krause, Croft, & James, 2007; Otte & Rousseau, 2002; Duranceau, 2008; Rowley, 1997; Brenner, 1993; Brenner & Cochran, 1991).

Scholars have explored and introduced network science theories in wealth creation, organizational strategies, and transformation of markets (Otte & Rousseau, 2002; Castells & Cardoso, 2005; Duranceau, 2008; Benkler, 2006; Achrol et al. 1983; Bagozzi, 1978; Stern & Reve, 1980). From the marketing perspectives, network science theories have been applied to reveal various types of communication patterns, determine the conditions under which patterns arise, and discover how these patterns change or affect different actors in the market over time (Omta, Trienekens, & Beers, 2001; Lazzarini, Chaddad, & Cook, 2001; Lindgreen, 2001). In general, the literature supports network science and its linkage to marketing theories by explicitly interpreting the quality of the relationships between firms and customers, which directly influences management style and strategies that contribute to customer retention, profitability, and mutual benefits for firms and customers.

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### **Social Network and Producer’s Choices – Multifunctional Agriculture and Farm-Level Decisions**

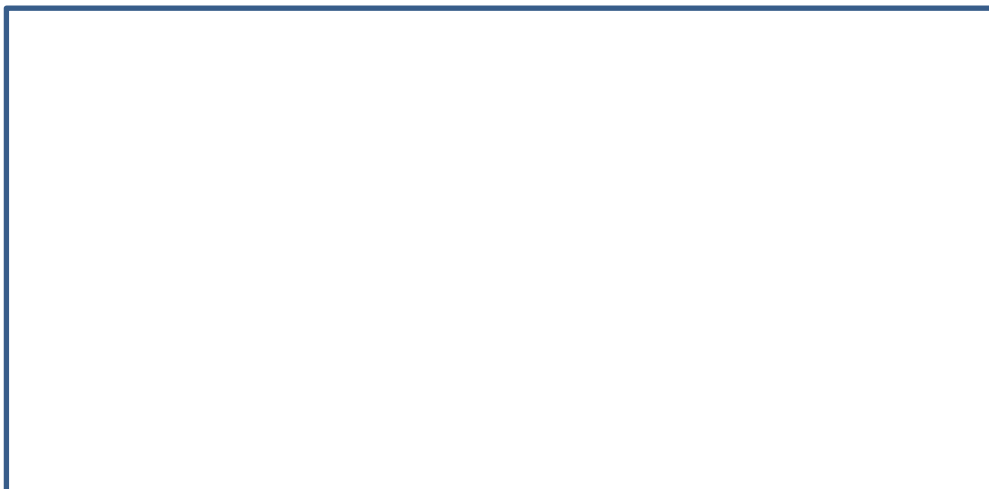
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The multifunctional agriculture concept has emerged as a key notion in scientific and policy debates on the future of agriculture and rural development among European countries (Renting, et al. 2009; Brouwer and van der Heide 2009). Broadly speaking, multifunctional agriculture refers to agricultural activities beyond the traditional role of producing food and fiber, such as renewable resource management, landscape and biodiversity conservation, and contribution to the socio-economic viability of rural communities (Renting, et al. 2009, Hajnalka and Alajos, 2009; Van Huylenbroeck and Durand,

2003). With the growing support of the local foods movement and appreciation for the amenities of farm landscapes, farm households began seeking alternative and innovative practices to increase farm-based generated income. We appear to be at the beginning of a growth cycle in the demand for both market and nonmarket goods and services produced by farms (e.g., Martinez, et al. 2010; Pollan, 2010). In the New England region, there seems to be more multifunctional agriculture activities compared to other regions in the U.S. such as agritourism, direct sales, and value added production. It is far from clear how transferable the concept of multifunctionality is to other communities.

There is a significant difference between “multifunctionality” and “diversification”. Diversification often refers to different operations or management strategies that producers apply to broaden the line of products and services. Multifunctionality represents both explicit changes and implicit benefits offered by the enterprise. For example, a dairy farm could renovate an old barn to establish a petting zoo, an on-farm education center, or a Bed & Breakfast. This dairy farm diversifies its operation and management by introducing new products and services using existing resources. The multifunctionality of this dairy farm will include all the new endeavors plus additional benefits by preserving the working farmland, attracting visitors to enjoy the farm view, and becoming an integrated component of a unique community setting. Multifunctional agriculture seems to be a reasonable concept to improve farm opportunities and profitability given resource constraints particularly for small to medium sized farms. However there has been no empirical data to verify that hypothesis.

A census based survey was designed, pre-tested, and mailed to over 29,000 agricultural producers in New England region between October 2011 and February 2012 with the assistance of the New England National Agricultural Statistics Services. The survey instrument was a postcard including four categories of multifunctional agriculture: agritourism, direct sales, value added production, and off-farm work. Figure 1 is the image of the real postcard and all questions. We received 4,636 responses or a 14% return rate. Apparently most of the farms participated in off-farm work, followed by direct sales, value added production, and agritourism (Figure 2).



- Q1: Have you had any agri-tourism operations on your farm since January 2011? NO  YES   
 If YES (Choose All That Apply) Petting Zoo  Farm Tour  Special Events   
 Bed & Breakfast  Outdoor Recreation  Others
- Q2: Have you participated in any direct sales since January 2011? NO  YES   
 If YES (Choose All That Apply) Pick-Your-Own  Farm Stand   
 CSA  Coop  Farmers' Market  Restaurant  Others
- Q3: Have you introduced any value-added products besides traditional farm products since January 2011? NO  YES   
 If YES (Choose All That Apply) Jam and Jelly  Cheese  Cream   
 Ice Cream or/and Yogurt  Bread or/and Butter  Wine  Syrup   
 Pickled Fruit and Vegetable  Wool  Spice  Candy  Others
- Q4: Have you earned off-farm income other than farming practices since January 2011?  
 NO  YES   
 If YES (Choose All That Apply) From Other Occupations Besides Farming   
 Income from Other Companies Besides Farms   
 From Other Individuals

Figure 1. Image of the Postcard Survey Instrument

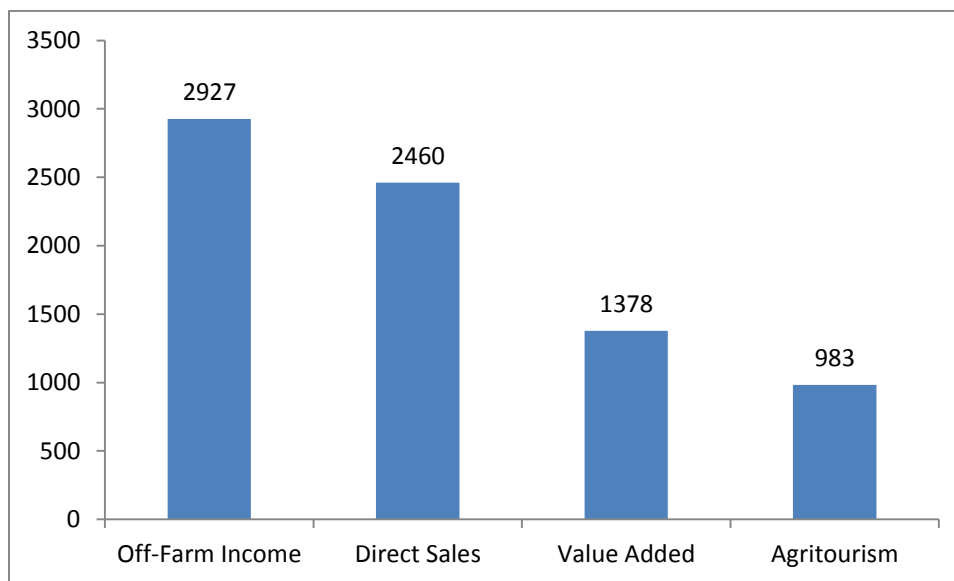


Figure 2. Frequency of Multifunctional Agriculture in Postcard Survey Results

Does network capacity influence the distribution and development of multifunctional agriculture? The results of the postcard survey were entered into ESRI ArcGIS software to get a spatial snapshot of where different multifunctional agriculture activities were occurring across New England. Figure 3 shows the distribution of all four types of multifunctional agriculture activities throughout the six states of New England. These maps also contain a data set with major interstates and populated areas.

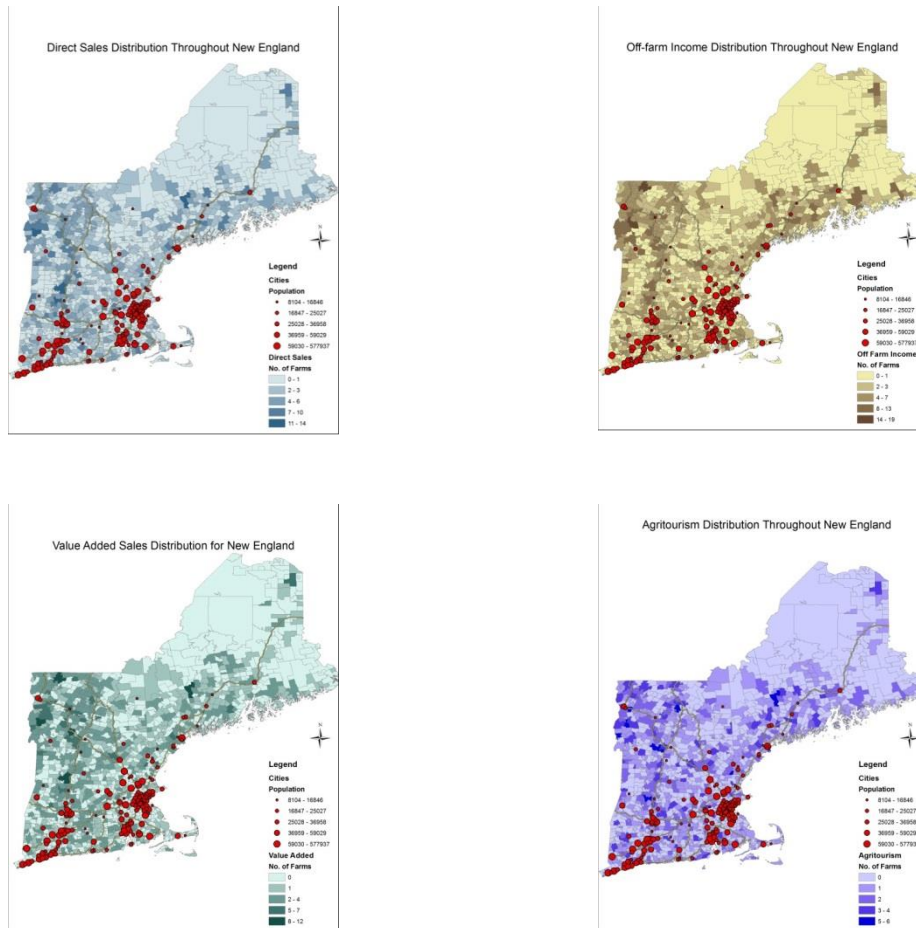


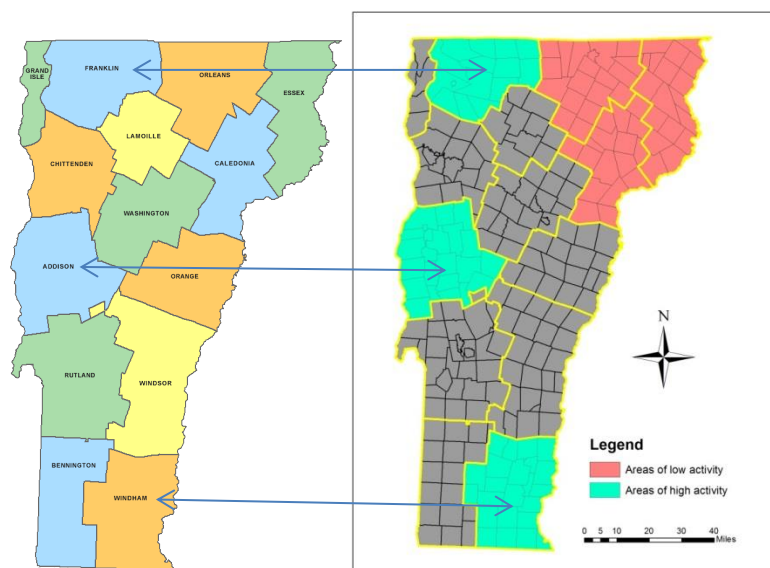
Figure 3. Spatial Distribution of Activities throughout New England

Many have assumed that farmers would choose to develop agritourism activities, farmers' markets, or obtain off-farm jobs if they had better access to areas of high population density and easy points of commute. Our survey results positively verified that assumption. The multifunctional agriculture activities were all very popular throughout the corridors that corresponded to major highways, metropolitan areas, and tourism destinations. It was very clear that the seam that ran up the lower half of the Vermont, against New Hampshire border where Interstate Highway 91 was the major transportation route for visitors traveling between New York City, Hartford, and the cities of Western Massachusetts. Coastal Maine was another area where multifunctional agriculture was popular. Obviously areas of lower population density such as the Northeast Kingdom in Vermont, Northern New Hampshire, and Northwestern Maine had almost no multifunctional agriculture activity.

Multifunctional agriculture could have a variety of impacts on the state economy given various environmental and geographical profiles within a state. A spatial analysis in Vermont was constructed to demonstrate the diversity of the multifunctional agriculture distribution, and to further analyze



multifunctional agriculture in different counties (Figure 4). Multifunctional agriculture clearly distributed at different density levels throughout the state, and the data showed three counties of high concentration for all of the multifunctional agriculture activities; Addison, Franklin, and Windham Counties. The data also highlighted specific areas where the multifunctional agriculture activities were less prevalent such as the Essex County and the larger tri-county area of The Northeast Kingdom (Essex, Orleans, Caledonia counties). One explanation was that, because ski resorts were such a large tourist draw for the state of Vermont, they would likely be contributors to supporting activities like agritourism and direct sales to visitors. Areas of high population density would also offer more opportunities for off-farm jobs and value added products. In general farmers who are closer to convenient markets or have easy access to stronger social and economic networks would be more likely to engage in multifunctional agriculture activities.



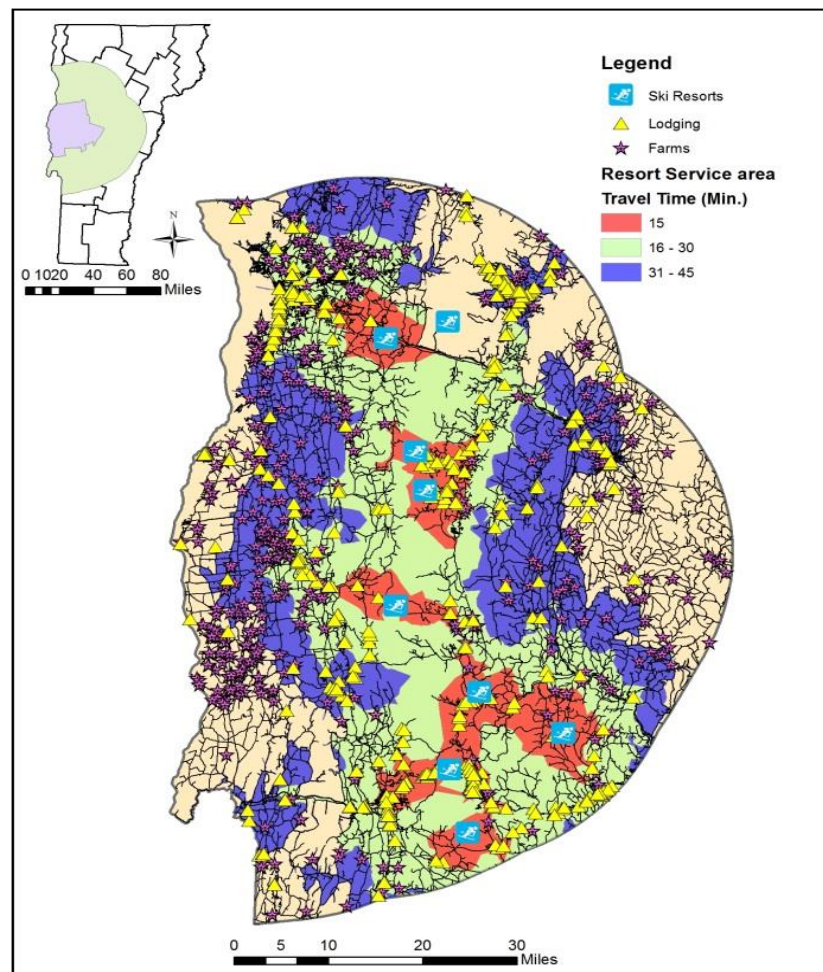
**Figure 4. Vermont County Map versus Distribution of Multifunctional Agriculture in VT**

There are a number of possible explanations why farms chose to participate in multifunctional agriculture. Although there has been a great deal of discussion to encourage diversification in farming, there is really no best answers to tell farmers what they should do or how they diversify to increase farm-based income. One thing we can help farmers to get more information on, is to analyze opportunities and market potential in their communities and surrounding areas. We chose the Addison County (the highest multifunctional agriculture activities) and the Northeast Kingdom (the lowest multifunctional agriculture activities) to conduct more detailed analysis with respect to social and economic characteristics at the county level by asking two questions:

1. What is the relationship between existing tourism in the state and the location of existing farms?

2. Is there any opportunity for underserved areas to benefit from multifunctional agriculture through existing tourism networks?

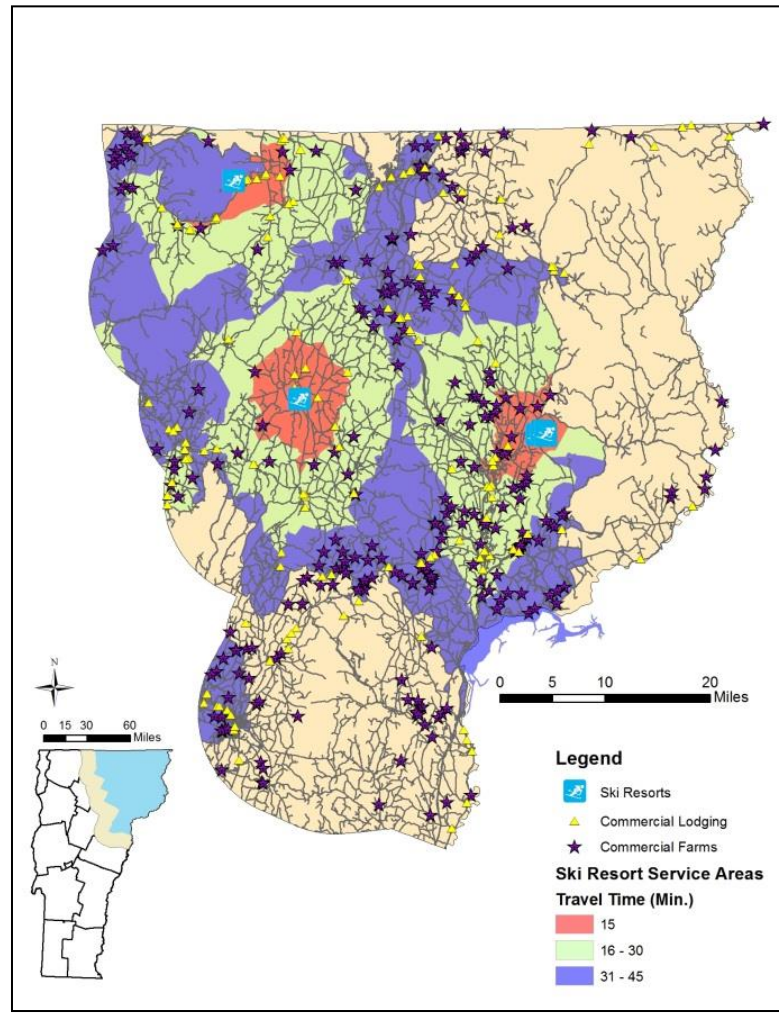
A localized network analysis was performed to look at both Addison County and the three county area of The Northeast Kingdom in Vermont. Detailed GIS analysis uncovered interesting relationships to show the proximity and accessibility of all commercial farms to lodging and ski resorts. In Addison County and a 20 mi. buffer surrounding it, there were a total of 478 farms and 751 available commercial lodging accommodations. In the Northeast Kingdom, there were a total of 254 farms and 175 available lodging accommodations (Figure 5 and Figure 6).



**Figure 5. Network Analysis for Addison County**

The maps for Addison County and The Northeast Kingdom can be interpreted as follows. Each shaded area represented proximity in driving distance to and from major ski resorts in the area (represented by the blue boxes with white skiers at center). Most of the multifunctional farms in this area were in both close proximity to lodging and, the vast majority within 31-45 minutes of travel time to a major Vermont

ski resort. For the Northeast Kingdom, a larger percentage of multifunctional farms located within shorter driving distances of major ski resorts and equal distribution amongst lodging options.



**Figure 6. Network Analysis for the Northeast Kingdom**

In the study area surrounding Addison County, 73% of commercial farms fell within a 45 minute service area of the downhill ski resorts. With such a large proportion of the commercial farms within a close proximity to major tourist areas of the state, there is an opportunity for these farms to benefit from developing multifunctional agriculture. Compared to our survey respondents, more farmers indeed implemented agritourism, direct sales, and value added production in their operations. Given the distributions of lodging and tourist destinations so close to most of the commercial farms, producers have a high potential to develop collaborative efforts to sell agricultural products to restaurants, retailers, or other tourist-based enterprises. Farmers who are interested in offering agritourism services could work with lodging establishment to advertise and promote their services to visitors.

There were significantly fewer farms in the Northeast Kingdom area. The postcard survey data also showed a significantly low rate of participation in multifunctional agriculture in the Northeast Kingdom. The lack of multifunctional agriculture in this area could relate to the remoteness of the area. Similar to Addison County, we see a high percentage of commercial farms falling within a 45 minute travel time of the downhill ski areas in the area, 80%. Because multifunctional agriculture includes the activities of off-farm income and value added sales, the lack of activity in the area may be due in larger part to the lack of immediate access to greater market areas, which is something that Addison County greatly benefits from. Based on the results of two counties in Vermont, it is clear that multifunctional agriculture deserves our attention in helping producers to design and apply creative strategies to improve their wellbeing.

### **Social Network and Interactions between Producers and Consumers (Buyers) – Network Marketing and the National MarketMaker™ Program**

Moving away from the community-level analysis, it is important to elaborate the network analysis to examine network impacts at regional and national level. One of the most popular theories in marketing was developed by Ansoff in 1980 (Figure 7). Ansoff's matrix describes the relationships between products and market decisions, which introduced firms' strategic issues in management and marketing (Ansoff, 1980, 1993).

#### **Ansoff Matrix**

	<b>Existing Products</b>	<b>New Products</b>
<b>Existing Markets</b>	<b>Market Penetration</b>	<b>Product Development</b>
<b>New Markets</b>	<b>Market Development</b>	<b>Diversification</b>

Figure 7. The Conceptual Framework of the Ansoff Matrix

The Ansoff matrix actually demonstrated the complexity of the interactions between firms and their potential influences on each other. Interestingly, the firm-to-firm and firm-to-market interactions illustrated by Ansoff established a foundation for the newly-established theory of inter-organizational and inter-market relationships in marketing moving toward a network paradigm. Achrol and Kotler (1999) described four concepts differentiating network from economic theories of organization – *internal market network, vertical market network, inter-market network, and opportunity network*. The

*internal market network* represents an enterprise organized into internal sub-organizations that operate semi-independently to seek the best returns by forming decisions of buying, selling, and investment with respect to the overall enterprise policies. The *vertical market network* is a group of resource firms formed around a focal enterprise to support the objectives of the focal enterprise. The *inter-market network* shows a series of interactive relationship between different types of enterprise groups supporting each other to satisfy the coalitions' best interests. Finally, the *opportunity market network* focuses more on the customers and motivates enterprise to provide expert knowledge and information that can satisfy customers' requests and needs.

Combining the Ansoff Matrix with the newly developed market network theories, we could demonstrate how enterprises develop strategies to move from a one-dimensional marketing channel to multiple venues and interactions with other producers, buyers, resources, and services by incorporating the circulation of information and knowledge across actors. Inter-market network and vertical market network are combined as an *inter-organizational network* since both involve multiple entities to support a subset of firms' decisions (Figure 8).

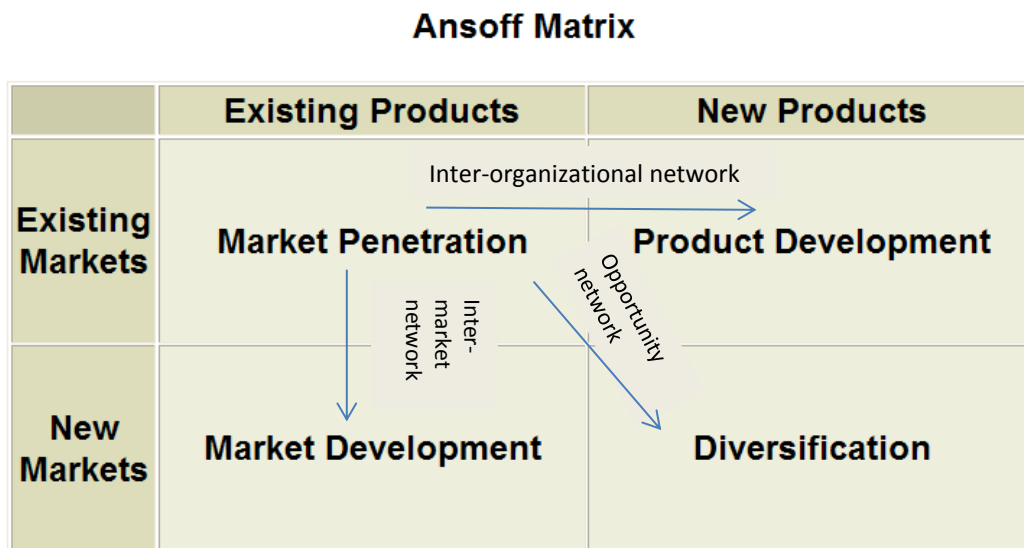


Figure 8. A Combination of the Ansoff Matrix and Network Marketing

The MarketMaker™ program offers one of the best examples to illustrate how network marketing helps producers connect with customers directly, whether the customers are individuals, intermediaries, institutions, or commercial buyers. The basic functions and services provided by MarketMaker™ were directly derived from Figure 8, and MarketMaker™ further developed an effective marketing web for producers, service providers, and buyers in agricultural and non-agricultural industries. The evolving

perspective and structure of the MarketMaker™ program can be described by an integrated framework derived from the Ansoff matrix and the network marketing theories (Figure 9).

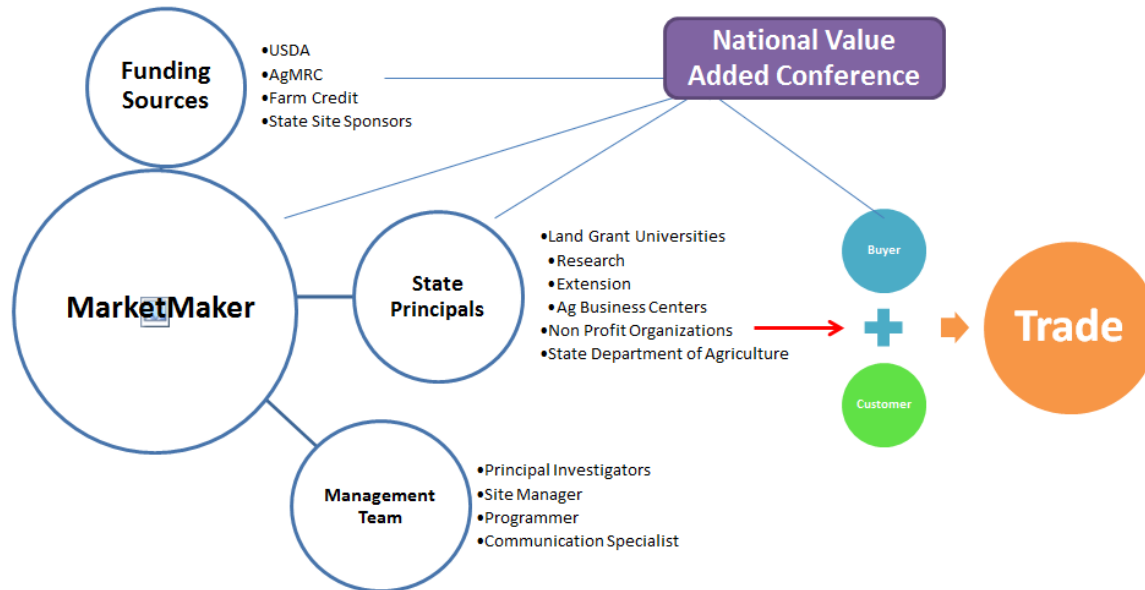


Figure 9. The Network Framework of the MarketMaker™ Program, presented in Liang, C. Chapter 2 “Innovative Marketing Strategies using Network Analysis”, *Innovations in Services Marketing and Management: Strategies for Emerging Economies*, Editor: Anita Goyal, 2013, IGI Global Publishing. ISSN: 2327-5502.

Founded in 2004, the MarketMaker™ program has introduced an interactive and effective communication channel for producers, buyers, service providers, job seekers, educators, researchers, and policy makers to exchange information and to fulfill each entity’s need. The purpose of the MarketMaker™ program has evolved from a simple communication channel to a sophisticated marketing network that allows for product development, market penetration, market development, and diversification as described in the Ansoff matrix. It also offers the potential for participants to exercise marketing power in the inter-organizational marketing network, inter-market network, and opportunity marketing network. There are currently 20 states in the United States participating in the MarketMaker™ program (Figure 9). Each state is responsible for the funds to build its MarketMaker™ portal through a collaborative effort with state governments. Typically, multiple organizations within each state pool resources to help cover the cost of implementation and outreach. Supplemental funding comes from grants. The service and functions of the MarketMaker™ include:

- (1) A user-friendly searchable comprehensive online database to include researchers, producers, buyers, state agencies, and other entities. MarketMaker™ is currently one of the most extensive

collections of food industry related data in the country, containing over 600,000 profiles of farmers and other food related enterprises in Illinois, Iowa, Georgia, Mississippi, Nebraska, Kentucky, Michigan, Indiana, Ohio, South Carolina, New York, Colorado, Arkansas, Florida, Louisiana, Pennsylvania, Texas, Alabama, Wyoming, and the District of Columbia. Each partner state has its own unique site or portal but all sites access a common database. This allows users to conduct multi-state searches for information.

- (2) A monthly newsletter to promote new participants, showcases special food related programs, update business and market connections, and advertise employment/market opportunities. Key elements of the newsletter are:
- MarketMaker™ Farms and Businesses in the Spotlight.
  - Showcases of special local programs collaborating with the MarketMaker™ programs.
  - Introduction of new farms and businesses on the MarketMaker™ lists.
  - Gathering feedback and comments from the users of the MarketMaker™ programs.
  - Conference and program announcements.
  - Highlights of the emerging research projects and findings that would be of interests to the users of the MarketMaker™ programs.
  - Tips of applying specific technology or strategy in promotion such as social media and e-commerce.
- (3) A web-based information exchange forum (*Buy and Sell Forum*) to benefit both producers and buyers. This online forum directly connects producers with buyers to identify economically viable new markets and opportunities, as well as to develop quality-driven commodity exchanges. This online forum also allows enterprises and organizations to post employment opportunities, request for assistance, and other special needs.

MarketMaker™ exercises network marketing theories by focusing on key principals with respect to the success of the networking strategies: trust, mutual respect, confidentiality, rewards, and customer-oriented services. All state collaborators share information and work together to identify new opportunities, new initiatives, and new programs that will offer joint values to all members across states and regions (Inter-organizational Marketing Network). MarketMaker™ assists producers in each partner state to identify new markets by looking into non-conventional ways of distributing excess produce or food such as making a donation to local food banks, churches, or homeless shelters. The interactive online forum translates information knowledge for all members and offers producers and buyers to communicate efficiently (Inter-market Network). The services provided by MarketMaker™ allows customers to learn more about producers and projects in different state and to identify the origin of the food which has embedded value and culture. For example, it allows farmer market managers to identify potential vendors; it allows producers to identify potential farmers' markets to be their outlets; and it allows customers to find farmers' markets whether they are in their resident state or out of state during their vacation travels (Opportunity Network) (Liang, 2013).

the MarketMaker™ program successfully designed, planned, and implemented mixed strategies of inter-organizational network marketing, inter-market marketing, and opportunity marketing to encourage and improve communications between buyers, sellers, public sectors, government organizations, and

educational institutions. MarketMaker™ relies on revolution of the internet system to offer network participants the opportunity to exchange information, create knowledge, and provide services across time and geological boundaries thus generating values and benefits for all.

### **Future Development of the Regional Food Networks**

The recent “local food” movement emerging across the country has touted the assumed social, ecological, and economic benefits of producing and consuming at the local-to-regional level. Developing and sustaining food systems at local and regional levels involve re-shaping the knowledge, skills, and thinking of producers, consumers, and policy makers. Some argue about their relative benefits for enterprise robustness and persistence, and food security (Born and Purcell 2006; DuPuis and Goodman 2005). Some suggests that local/regional production and marketing can enhance food security and quality of life. Others believe that our dependence on the commodity food system may, in fact, undermine food security and the ability of regions to provide for themselves (Diamond and Barham 2012; Gross 2011; Allen 1999; Evans 2009; Hudson 2007). Recent literature supports farmers’ involvement in designing and implementing innovative strategies to strengthen the relationships between agriculture and communities (Brown, Goetz, Ahearn, and Liang, 2013; Liang, 2011; Liang and Su, 2013; Liang, Su, Dunn, and Pescatore, 2012; Liang, 2012). Many new programs and initiatives have been introduced, designed, and planned to stimulate the development of local/regional food systems. However there is a stunning lack of systematic research on the Regional Food Networks with respect to their characteristics, and their linkages and interactions between *People* (farmers, local residents in farming communities, and consumers), *Place* (communities and eco-systems), and *Prosperity* (farm income and profits, well-being of local communities, quality of life for farmers/farm families and consumers or local residents).

The food network concept is different from the food system concept. The food system describes a framework, an environment, or a structure which includes a comprehensive procedure of production, distribution, exchange, and impacts on plants, ecology, animals, people, and communities. The food network involves both the concept of food systems and the relationships among all actors. Referring to the multifunctional agriculture analysis, farming activities provide benefits that are *“beyond its primary function of producing food and fiber, agricultural activities can also shape the landscape, provide environmental benefits such as land conservation, the sustainable management of renewable natural resources and the preservation of biodiversity, and contribute to the socio-economic viability of many rural areas.”* (OECD Declaration of Agriculture Ministers Committee as cited by DeVries, 2000). Producers seek new ways to collaborate and to expand their own market opportunities. Consumers seek new information and knowledge to make healthy and safe decisions for their families. There needs to be a reasonable and affordable approach to connect all actors associated with food issues by working together to enhance and improve the overall quality of food safety and security, and to reach the balance of social, economic, and ecological development.

The examples presented in this article only showcased the beginning of the journey for us to learn about food networks. We have explored and exposed “the tip of an iceberg” in understanding how various



strategies like multifunctional agriculture and network marketing could guide producers and consumers to make better decisions. More innovative approaches should be developed and designed to enhance community well-being. These projects and others can provide a research base for the further development of network based local and regional food systems policies that can lead to additional innovative strategies to aid farmers in continuing to improve their future opportunities and prosperity of rural communities.

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