

It Takes a Region...

Exploring a Regional Food Systems Approach

A Working Paper

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I. Introduction

Why NESAWG developed this working paper. The Northeast has been described – and has thought of itself – as a region for many decades. Perhaps because some of the states within the region are small and have many common borders, there is a history of the states and other entities within the “Northeast” working together. This is evident in the Northeast Sustainable Agriculture Working Group (NESAWG) itself which began with nine states and quickly grew to embrace 12 states and the District of Columbia – coincident with boundaries of the Northeast region used by USDA and others.

Some good work on food systems has been conducted at the regional level and interest in this perspective appears to be growing. We believe that the Northeast in fact is an apt and relevant laboratory in which to play out ideas about and promote regional food systems. One of the necessary first steps to advance regional food system thinking and development is to sort out the myriad ideas, concepts, definitions, and visions regarding local and regional food systems. Doing so will improve research on food system topics, practices on the ground and, importantly, communication and action among all those interested in the topic.

What NESAWG hopes to accomplish. We hope to accomplish several things with this working paper. First, we would like to elaborate a clearer understanding of regionalism and of regional food systems, including terminology and definitions. Second, we want to present a mix of vision *and* practicality through: a) engendering a healthy debate on “local” and “regional”; b) bringing to the forefront the research that needs to be done to describe the present reality and likelihood of success of different models; and (c) proposing the development of transition scenarios toward a “re-regionalized” food system.

We hope the ideas presented here will increase the discussion of regional food systems in the Northeast and in other parts of the country, and that multiple recommendations on how to build the Northeast’s food system will arise and be acted upon. This draft is a work-in-progress. We seek input and critique from groups and individuals to guide to our collective work. Many of our arguments and assumptions have not been tested yet, but may offer fruitful opportunities for analysis, ways to work together, and a useful research agenda.

II. Language and concept conundrums

One of the biggest challenges in advancing a regional food system is clarifying and agreeing on terms and definitions. The terms “local foods”, “buy local” and “local food system” have catapulted into common usage and have significant cachet in the marketplace. At best, the use of the term “local” has strong resonance among consumers/citizens, and is a rallying cry for food producers, and marketers. It has positive connotations -- not all of which are firmly grounded. In “Avoiding the Local Trap” Born and Purcell (2006) argue that local food systems are no more likely per se to be sustainable or just than systems at other scales. On the other hand, the term is

used to describe a broad array of conditions, and has been co-opted by large multi-national food corporations¹.

A. What does “local” mean?

In most surveys (Martinez et al 2010.), people consider “local” to describe a food produced within 50 or 100 miles of point of purchase. But others disagree with this designation – especially with reference to fresh produce, and generally define local as smaller than their state (Martinez et al. 2010). Local also often connotes: a) fresh and minimally processed; b) produce (fruits and vegetables), sometimes also dairy and meat products; and c) sold directly from producer to consumer or retailer (farmers’ market, farm stand, CSA, restaurants, local produce section of supermarket).

Typically local food initiatives do not focus on larger volumes or processed foods. But for some, local also includes or implies non-direct marketing, processing, aggregation and distribution. Sometimes local means “local” farmers selling to big box stores like Wal-Mart. Sometimes the term is used to embrace larger geographic areas such as “Buy Local, Buy New England².” In the 2007 Farm Bill Congress defined a local product *as one that is raised, produced, and distributed within a locality or region and is transported less than 400 miles from its origin or within a state*³, by the value added agricultural market development program administered by USDA Rural Development

USDA and other groups increasingly are using the term “local *and* regional” or “local/regional.” Linking local and regional in this way broadens both concept and geography, while at the same time implying that they are in fact different. Conflating or confusing the terms prevents analysts and advocates from touting “local” on its own merits, and from making the case for regional food systems as strong as it needs to be.

In this paper “local food system” means/includes:

- a. Self-provisioning (i.e. backyard and community gardens);
- b. Direct marketing (e.g., farmers’ markets, CSA, farm stands, farm-to-retail (restaurant, school, institution), custom meat slaughter and processing);
- c. Home- and community-scale processing of small volumes of specialty products;
- d. Primary focus on fresh food items;
- e. Some small-scale product aggregation for retail and institutional purchase;
- f. Geographic sourcing within 100 miles or less;
- g. Emphasis on producer-consumer connections, consumer awareness, “community;” and
- h. Predominantly small-scale farms but also including some mid-size farms.

Going regional. In our framework local and regional are different. *Local is part of regional.* Regional is larger geographically, and in terms of functions – volume, variety, supply chains, markets, food needs, land use and policy. Regional food systems are comprised in part of local

¹ See article: http://www.sfbayguardian.com/entry.php?entry_id=8863&catid=&volume_id=398&issue_id=440&volume_num=43&issue_num=42].

² Harvest New England <http://www.harvestnewengland.org/>

³ Section 6015 of the 2007 Farm Bill.

food systems. *Local is a necessary but not sufficient component of a regional food system.* A regional food system includes multiple “locals” within a state, or that may cross state boundaries. Regional food systems operate in relation to other regions as well as to the national and global food systems.

To some, a regional food system is a “scaled-up” local food system. Scaling up means to enlarge or increase a single node [in a system or network]. A regional food system is more than a “bigger” local food system. It is also more than a “scaled-out” local food system (i.e., more local food system “nodes”). As described by one advocate, regional is “1,000 points of local” – true enough, but regional is more than a collection of those points. It is more than the sum of the local systems within its boundaries.

A regional food system operates at various scales and geographies to supply some significant portion of the food needs of its population. In most cases “community-based” food production will address a small portion of that need, with extremely important direct and indirect benefits. But not all food production is—or ever will be—local. Thinking regionally provides the opportunity to frame food production and food needs in a larger context—within locales and regions, as well as among and across regions, however they may be described and bounded.

B. Language and concept challenges.

Here are some of the language and conceptual conundrums that we will address in this paper:

- Local and regional do not mean the same thing and are not interchangeable. If used interchangeably, the important aspects of a regional framework lose focus because most people will think direct, fresh, small volume, small-scale, small farm, niche, producer-consumer connection, limited geographic radius.
- While local has tremendous cachet in the marketplace, regional has practically none. How do advocates build awareness and engagement around a concept that is hard to capture and confused with local?
- Regional is vulnerable to the same connotation problems as local. We want to avoid the “regional trap” of thinking that certain attributes (e.g., fresh, “healthy,” sustainable, just) are – by definition – applicable to regional food systems. As Born and Purcell point out, such attributes are not necessarily a function of a particular scale (or location). However, we want to explore our hypothesis that a well-functioning regional food system is likely to manifest attributes such as more sustainable and just.
- Regional—like local—is a spatial reference. It implies geography and distance. While geography and distance are critical elements of a regional food system, they are not the only determining characteristics, as pointed out in this paper.
- Other terms—for example, foodshed—are compelling but also problematic. Foodshed is used to describe both existing and desired conditions – “as a tool for understanding the present flow of food in the food system and as a framework for envisioning alternative food systems (Peters et al. 2008a). Researchers (Peters et al. 2008b) have used the

foodshed concept to develop models to evaluate food production capacity. “Foodshed” might connote many of the elements and values of a regional food system vision, but some marketing professionals note that the term has relatively little recognition by the public.

- **Optimizing or optimization:** This is the process of trading off various elements while maximizing a number of variables so that some individuals /enterprises are not made worse off when others are made better off. This notion complements food self-reliance -- defined as supplying as much of the food in a region as is physically possible without degrading the resource base.

III. What is regionalism?

A. Descriptions

What is regionalism? Regionalism is a framework for economic, policy and program development that: 1) responds to regional differences and needs; and 2) encourages regional approaches and solutions. A regionalist approach is based on the assumption that regions are unique, and both uniquely appropriate for and capable of addressing economic and social issues. Effective public policies, economic development and programming will reflect and respond to regional characteristics and differences (Hance et al. 2006). According to Wallis (2002) regionalism is characterized by visioning, benchmarking of performance, regional reporting in different media, the development of leaders who understand and champion regional issues, formal and informal networks, and building collaboration and conflict resolution skills.

Definitions of a region. Regions can be described in many ways; their boundaries are fluid, not rigid. A region may be defined by political or administrative boundaries (e.g., county or counties, New England states, EPA Region I, Appalachian Regional Commission), watersheds or bioregions (e.g., Chesapeake Bay watershed, Mid-Atlantic Highlands, Hudson Valley) or culture (e.g., Cape Cod, Down East Maine, the Big Apple). In the global context, a region can be quite large, as in “Europe” or “the West.” A region may be a sub-area of a single state, as in the Finger Lakes region of New York. In this paper, a region is always more than a single town or city. It may be multiple communities or multiple states.

Regions may be composed of sub-regions. They overlap. They “nest” in larger regions. For example, the Berkshires and Cape Cod are regions of Massachusetts, which is part of New England which is part of the Northeast. The Chesapeake Bay is a part of the Mid-Atlantic which is often (but not always) considered part of the Northeast.

All regions can be characterized in terms of basic structural features that highlight both commonalities and differences among them. These include physical characteristics, socio-economic factors, political dynamics, and socio-cultural features. In other words, regionalism is not just about geography. It is also about scale, trade, market options, cultural identity, economics, politics, values and relationships. Regions connect with and relate to other regions.

Goods are transported from one region to another; they trade. Regions collaborate. They compete. And they overlap especially in large urban areas.

These ways of understanding regions can provide a basis for developing policies and programs that are responsive to regional needs, leveraging regional economic and institutional strengths, and allocating resources in ways that are efficient, effective, and politically acceptable.

Regionalism applied to food systems. Regionalism is particularly relevant to food systems. Unlike in the manufacturing and service sectors, which are less dependent on the natural capital and resource bases of particular regions, agri-food systems are characterized by “the geographic fixity of primary factors in production, including suitable farmland, regional climate conditions, natural resource base, and proximity to primary upstream industry” (Canning and Tsigas 2000)⁴. Topography, water availability, land and other input costs, farm scale, and crop options play out at the regional level.

These factors invariably influence and reflect regional cuisines, and consumer food preferences.⁵ A practice, technology or market strategy that works in one region may not work in another. Likewise, regional differences in transportation, processing and distribution infrastructure, local, domestic and international market access, as well as food insecurity and access, for example, shape a region’s comparative advantages and challenges.

Agri-food regions can be defined in terms of the interplay between various factors including:

- **Landscape characteristics** such as soils, water resources, and climate;
- **Agricultural land uses** and production systems that develop on the natural resource base;
- **Broader socio-economic factors** such as demographics, development patterns, infrastructure, and markets; and
- **Political relations and identities** established through congressional delegations, federal administrative offices, interstate commissions, associations of state legislators and administrative officials, and various regional non-governmental associations.

Important political dimensions play out at regional (including multi-state) levels: land and water use policies, transportation, food-related infrastructure, economic development, responses to energy needs and climate change. Regional population demographics (density, movement and settlement trends, racial and ethnic distribution) directly affect demand, supply, self-provisioning, and importation, for example.

One of the most important relationships in a regionalism context is that between so-called rural and urban interests. Although often pitted against one another, “it is to the benefit of neither city nor rural residents to be framed in terms of their divisions and differences. The emphasis should be on the complementarity and interdependence of [their] futures”(Dabson 2009) In the food

⁴ The USDA Economic Research Service maps various commodity production regions based upon similar production practices and natural resources. <http://www.ers.usda.gov/data/CostsAndReturns/oldregions.htm>

⁵ For a good example of a regional Northeast cuisine based upon available natural resources, see “Cuisine of New England” in Wikipedia. http://en.wikipedia.org/wiki/New_England_cuisine

system context, rural and urban need each other; they are inextricably related. (See, for example, Pastor et al. 2000, McKinney and Johnson 2009 and Katz 2000.)

B. The Northeast region

Description. The Northeast is comprised of twelve states from Maine to West Virginia and the District of Columbia (north to south, a distance of about 1200 miles). The population of the Northeast region in 2004 was just over 68 million people, with a population density four times the national average. As a region, it has a modest amount of prime farmland (5-15% of the available farmland), abundant water, and 60% of the total land base in forest. Average farm size is about one-third of the national average of 418 acres (USDA 2007). Much of the Northeast region's agricultural production value is located near urban areas; 55% of Northeast farms and 45% of its farmland are in metro areas. Agricultural land values in some areas of the region are ten times the national average (Hance et al. 2006).

A great diversity of products are grown and raised in the Northeast. Nearly three quarters of the value of agricultural products come from dairy, floriculture, and poultry products. In 5 of the Northeast's 12 states, non-food products (horticulture/greenhouse) account for the highest sales. Specialty crops (including both food and non-food) make up about one-third of total farm sales.

With its competing land uses and diverse economic base, the Northeast is the only region in the U.S. with no counties dependent upon farming—i.e. no county receives at least 15% of its earnings from agriculture or has 15% of its employment in agriculture (USDA ERS 1997). Nevertheless, a number of sub-regions in the Northeast—notably southeastern Pennsylvania, northern Maine, southern New Jersey, and parts of western New York and Pennsylvania—have farm payroll ranges consistent with other agricultural production regions in the U.S.

The Northeast region—and the regions within it—have advantages, potential and challenges. In general, we have less land to feed more people than other regions. Within an overall relatively limited land base, some areas are strong in production. Most producers are not dependent on federal commodity supports, and many producers enjoy strong markets in their locale for their products. We have abundant water (no small advantage) and excellent transportation networks.

History of Northeast region food system. Before the end of the 19th century, agricultural specialization had begun to change the look of agriculture in the Northeast (and many other places). Dairy seemed to be well suited to New England and some other Northeast states because of the topography, and the development of the railroad made cross-country transport feasible. Around 1920 apples produced in the Northwest replaced New York State apples in the New York City market. By 1924 only 5 to 10% of the food supply of New England was locally produced—a situation that propelled the New England Governors to propose ways to help the region's farmers. It wasn't until the 1970s that the same efforts were remade, driven by the effects of the oil crisis on food costs and world food supplies.

It's important to realize how long the concept of a region has informed food system work in the Northeast. Serious thinking about this seems to have begun in 1988 with the Northeast Network

for Food, Health, and Agriculture led by faculty at Penn State University and Cornell University. Among the many white papers and educational materials prepared by the Network was one looking at the issues of food security, food production, and farmland loss in the Northeast region—all of which are as or more timely today as two decades ago. The Northeast Sustainable Agriculture Working Group was founded in 1992. Its mission statement says, “NESAWG is a regional network of member organizations and individuals working together to create a more sustainable and secure regional food system—one that is economically viable, environmentally sound and socially just, and produces safe and healthful food.”

At NESAWG’s first major conference in late 1992 an observer from another region of the country noted that NESAWG could be an important model for the country in using a food system-wide platform because the scope of its work went far beyond just farms. In 1995 NESAWG hosted the Northeast Leadership Congress, and a Northeast regional food guide was disseminated. In 1998 NESAWG published a set of white papers by eighteen leading food system thinkers from various background, perspectives and disciplines. In 2007 the Northeast Ag Works! Project focused on the federal Farm Bill and built strong policy arguments regarding the importance of regionalism (Hance et al. 2006). Local and regional food system initiatives have flourished in the region, many of which were featured in NESAWG’s 2009 “It Takes A Region...” conference which pulled together over 200 participants from all sectors and all Northeast states.

How this work applies to other regions. Although the Northeast may be best suited as a laboratory for regional food systems thinking and action, we recognize that important food systems development is occurring across the country, and we believe that our explorations are applicable in other regions regardless of similarities or differences in natural, social or political dimensions. Furthermore, our notion of regionalism fully embraces the notions that regions overlap, and are malleable. It is also notable that in a regional framework regions trade, compete, and act together. In this way, regionalism builds healthy connections and can overcome the zero-sum mentality that so often divides us.

IV. The major elements of a regional food system: making the case

As mentioned above, the focus on local food systems has been quite strong over the last decade, and the phenomenon has appropriately been given a lot of attention by consumers, researchers, and food supply chain participants. While many food system advocates think of—and use—the concepts as synonymous, we argue that such conflation obscures critical distinctions and fails to provide a meaningful framework upon which to build a more economically viable and environmentally sustainable food system. As mentioned above, we posit that a regional food system includes “local” but operates in a larger, more comprehensive scale. We argue that topography, water availability, land and other inputs, farm scale, crop options, and market access are largely operable at the regional level.

An ideal regional food system describes a system in which as much food as possible to meet the population’s food needs is produced, processed, distributed and purchased at multiple levels and scales within the region, resulting in maximum resilience, minimum importation, and significant economic and social return to all stakeholders in the region. This is known as “self-

reliance”—as opposed to “self-sufficiency” wherein everything consumed is supplied from within the target area.

A. Regional Food System Attributes

There are two ways to talk about food systems. The first is to describe “what is,” and the other to describe a desired vision. Using a regionalism framework to describe “what is,” we would explain how our food is produced, processed, transported, imported, and consumed in the Northeast. This in itself is a huge (and ultimately un-doable) task⁶. In this paper we use “regional food system” primarily in the second sense – that of a desired vision. A regional food system -- or perhaps more accurately -- a *regionally focused* food system is the goal.

A regional food system ...

1. *Produces a volume and variety* of foods to meet as many of the dietary needs and preferences of the population as possible (~ definition of self-reliance).
2. *Does not seek or claim* self-sufficiency (wherein all food needs are met within the geographic bounds). This is not the 100-mile diet, a “buy local campaign” or locavore orthodoxy.
3. *Emphasizes differentiated products*. Commodity-based food systems are strong on volume, “cheapness” and certain efficiencies of scale, and function best at national and global levels. But they tend to sacrifice quality, environmental stewardship, and equity to farmers and other workers. Regional food systems emphasize higher quality products (differentiated by place and/or other attributes) and more equity for producers and other workers in the chain than do commodity systems. However, this does not mean that there is no commodity production nor that commodity producers are not land stewards. Regional food systems have a wide variety of scales and market outlets to meet food demands, and farm types.
4. *Is “beyond local”*. Local food systems are strong on relationships and identity, but most will be limited in volume, availability, product range and affordability. Direct marketing works best at very local levels. Local food will rarely achieve the volume and range to securely and affordably feed a population. A regional food system provides more volume and range of product and more market options than local. It relies less on relationship and identity than local, but embeds information useful to consumers about the product in the label.
5. *Has attributes of both commodity and local systems*. It is an alternative framework to the polarized “local-global” dichotomy in that it includes both but proposes neither as “the solution.”
6. *Connects with both local and national/global levels*. It includes commodity production, and national and global trade, at least in the short term, as a necessary option for some producers and some products, and to the extent necessary to provide consumers with a

⁶ See, for example, Northeast Farms to Food: Understanding Our Region’s Food System. Northeast Sustainable Agriculture Working Group, 2002 <http://www.nefood.org/page/publications-1>

desired and available range and volume of products. It provides significant volumes of a broad spectrum of “good” foods through many institutional and retail outlets.

7. *Is not just about geography.* It’s about scale, markets and values. Optimal/appropriate scale is a cornerstone of a regionalist approach, from farm equipment to processing facilities to retail space. Market systems should deliver an appropriate range of food broadly and affordably, in which all participants in the food chain are treated equitably. Our vision of a regional food system is about equity, choice, control and stewardship.
8. *Works to provide more affordable good food options to the mass market of consumers/eaters.* Regional scale and significant volume of products into mainstream markets may work to reduce both cost to supply chain players and price to consumers.
9. *Encourages decentralization where appropriate.* Decentralization can pertain to political, administrative, fiscal, market and physical dimensions. A regional approach can foster democratization of decision-making, citizen engagement, and community control over resources, including those that relate to food. In the present conventional food system food processors/manufacturers and distributors operate out of a small number of locations -- relying on cheap fuel supplies and being closer to production sites to rationalize long transport routes to markets. This increases the risk of food shortages in the case of natural disasters, energy shortages, and political acts (strikes, sabotage, etc). It also is the reason for the significant loss of processing capacity in many states. Regionalism argues that physical decentralization of supply chains may be the optimal framework for security against these phenomena.

This interest in decentralization applies not only to food. In one writer’s opinion, “First, we need to encourage distributed and decentralized production of vital goods like energy and food” (Dixon-Thomas, 2005). Emergency food plans could (and should) expand beyond what is required at the county level to multi-county and across state lines, but it would not make sense to have a single, concentrated plan to address emergencies. Decentralized market structures such as regionally focused supply chains and regional processing facilities may have advantages, for example regarding transportation energy use. However, decentralizing is not always efficient, nor does it assure that adequate resources and capacity are available to act.

B. Regional Food System Dimensions

For this discussion we use “regional” to refer to multi-state regions although we recognize at different times regions will be defined differently. We see four crucial dimensions to the regional food system framework. These are:

1. Food needs and supply;
2. Natural resource sustainability;
3. Economic development; and
4. Diversity.

1. Food needs and supply. The parameters and the content of the elements of a food system start with the food needs/demands of the population versus the food supply. The latter is determined by several things: 1) geography, climate and water resources of the region (including season extension technologies); 2) cropping and integrated farming patterns based on knowledge of farmers and new research on which cropping patterns can be modified to meet requirements; and 3) scale of farms.

Self-reliance is a way of looking at the food needs (demands) of the population along with the food supply. It is fairly easy to calculate dietary needs; we can make it more practical and complex by modeling a variety of different types of diets—for example, vegetarian—and including cultural preferences. The next step is calculating the number of acres of cropland, pasture, and fresh or saltwater required to produce the diet under present or future circumstances.

In 2007 researchers reported that the New York land base could support about 20% of the state's population with a diet containing one-third less meat than at present (Peters, Wilkins and Fick 2007). Using some of the same assumptions, the Greater Philadelphia 100-mile "food shed" contains only 60% of the crop and pasture land needed to feed the population (Delaware Valley Regional Planning Commission 2010). These are useful parameters to help people understand the limits or capacity of an area to meet the real food needs of a population now and in the future.

A related notion is food security that has over time come to take on multiple meanings which need to be distinguished in order to be asking the right questions and proposing the right answers. The original meaning is 'a country's ability to produce enough food (or the staple cereal foods) to support its population'. This translates here into the concept of self-reliance (described above).

In the 1980s another meaning emerged that describes food security as access by low-income households to an adequate and healthful diet. Historically, the largest amount of public resources directed to this domestically is the food stamp program. But in the last fifteen years or so, the links between food access and health as well as farmer welfare have been addressed by programs such as the USDA Community Food Projects grant program and Farm-To-School. A third and even more recent meaning of food security deals with the ability of local, state and federal entities to protect the food supply from acts of terrorism. In this debate, some argue that a strongly centralized supply is easier to "protect." We would argue that a decentralized food supply is the better strategy.

At least for the foreseeable future regional food security will come from local, regional, national, and global levels. Some local areas may be able to produce a larger volume of some food, but, even with more extensive farming and urban agriculture, it is unlikely that most can produce the volume to make them self-reliant for their dietary needs. One of the obvious ways to expand volume and variety is to expand the geographic area from which food is sourced in a sustainable way. An example of this type of thinking includes the Good to Grow project in the Upper Mississippi River Valley (Fuksen 2008) in which geographers have mapped the key areas in which crops are produced and processed across four states. .

Recently, urban gardening (primarily self-provisioning) and farming (commercial) have received much attention. Both are essential elements of a self-reliant and resilient regional food system, with multiple ancillary benefits (e.g., community building, youth engagement, neighborhood revitalization). Yet even the most ambitious vision for urban agriculture is unlikely to make a substantial dent in meeting food needs. Further, candid analyses should be engaged regarding the implications of concentrating on urban production versus greater investment in local (peri-urban) farms.

2. Natural resource sustainability. The second critical dimension is the sustainability of land, energy, water, and other resources. It does not make sense to develop a new, alternative food system at any scale without requiring that food be produced by sustainable practices, because without them the ability to produce food in the future is jeopardized. We start with the availability and quality of land upon which the food supply is based. By definition, a region will have a larger land base than a local area to go toward meeting food production needs. But that land base has to be kept for—and in—production. And in many places that requires a regional approach.

Local land use decisions are important for getting community buy-in and identifying priority areas for preservation and agriculture economic development. But most local land use decisions are made in a vacuum, and without any quantitative analyses of the area's food or water demand and supply. In fact, local control that favors development can undermine an areas' food security. We believe that a region is the most useful unit of analysis for mapping land use and growth patterns and trends, and for promoting Smart Growth initiatives. Furthermore, a regional approach could best address multi-community and multi-state priority areas or bioregions, and develop comprehensive land use and economic development plans.

Decreased energy use and transportation time are being used as key arguments for local food. However this argument can be challenged. Pirog et al. (2001) looked at three food sources—conventional (national or global), Iowa-based regional, and Iowa-based local. They showed that the local system used more energy and emitted more carbon dioxide than the regional system because the trucks were smaller and required more trips. Important efficiencies may be gained in, for example, aggregating sufficient volumes of supply, and back-hauling. Organic Valley's regional “milk pools” were developed so that milk was not hauled from the Northeast and other regions to Wisconsin.

In fact, energy, land, water and marine resource management should, and sometimes do, take place at regional levels. From production capacity to water pollution to fisheries, resource use and protection are not only local issues. Good examples exist of regional, often multi-state, resource management initiatives: the Northeast Greenhouse Gas Initiative (www.rggi.org/states), the Chesapeake Bay Program (www.chesapeakebay.net), the Great Lakes Commission (www.glc.org) and multi-state regional planning commissions.

3. Economic Development. A third dimension is economic development. A hallmark of a regionally focused food system is that economic returns stay within the region. Making that happen requires addressing markets, new business models, branding, infrastructure, financing, and trade. A regional food system is comprised of multiple market options for farms of all sizes

that include local markets as well as broader regional supply chains, thereby providing farmers with more market opportunities that play out through various supply chain structures. In emphasizing the importance of new supply chain approaches to rural development, Marsden and his colleagues (2000) tout the benefits of ‘short food supply chains’ that ‘short circuit’ long and complex industrial chains. Short food supply chains do this not by necessarily lessening the number of times the food is handled or the distance it travels but by embedding information in the product via its label.

They identify three main types of alternative chains:

- 1) *Face-to-face*: personal interactions such as farmers’ markets or farm stands;
- 2) *Spatial proximity*: consumers are aware of local or regional origin at point of sale such as signs in supermarkets; and
- 3) *Spatially extended*: value about the product and place of production is translated to consumers outside of the region, for example, Vidalia onions.

In a regional food system, consumers would not always “Know [Their] Farmer” (face-to-face), as they purchase products that they recognize as “spatially proximate.” In this scenario, regional identity has value in the food marketplace to consumers and producers.

A regional food system is based in “place”—as is a local food system—but the “place” is conceived more broadly. Products may be differentiated, and receive a premium, according to place-based branding that plays to the competitive advantages of a locale, as well as for specific product attributes, for example “grass-based”, IPM (Integrated Pest Management), organic. Both add value for supply chain partners and consumers. Place-based branding can apply to various geographic areas and scales from the very local to multiple states, for example Lancaster County, or the Great Lakes.

Much emphasis has been placed on the dearth of infrastructure such as community/ commercial kitchens and processing facilities to support local food initiatives. For broad economic development, regionally scaled infrastructure such as meat, fish, produce and dairy processing, aggregation, warehouse and manufacturing facilities, and distribution networks for larger volumes of regional products is needed. The optimal scale, location and design of new infrastructure depend on multiple factors, which is why economic development and resource planning at the regional level are essential. One would expect more capital available for agri-food ventures at the regional rather than local level, and a higher total accrual of economic returns. Regionally focused economic development is evidenced in the historic Northeast Interstate Dairy Compact, and more recently in the New England Governor’s resolution on dairy policy. It is reflected in the Northeast’s participation in the successful campaign to allow the interstate shipment of meat.

We would argue that states and economic development agencies that reach beyond parochialism to cooperate on studying, funding, siting and managing food system-related economic development initiatives across state lines would see cost savings through, among other things, lower capital requirements, transportation-efficient locations, and full use of processing/distributing capacity. The concept of agri-food business clusters (see, for example Goetz et al. 2004) is a fruitful one to describe such synergies. Business clusters or

“concentrations of economic activity” arise out of unique local historical or geographical factors.” They are located in relative proximity, compete with each other in similar markets but also cooperate to enhance their technical skills and market access. The importance of clusters suggests the importance of removing the obstacles to the growth and upgrading of existing and emerging clusters. With the dramatic dwindling of the agricultural service sector in the Northeast, service infrastructure also has to be strategic. Several states share Extension expertise, labs and specialists. Multi-state (and multi-sector) collaborations are encouraged and sometimes required to access grant and government funds. Scarce resources are forcing universities, state agencies, lenders and the private sector to economize and avoid redundancy. We think it would be useful to explore whether there is an optimal size or scale for these business clusters.

Regional food economies also include trading activities—the importing and exporting of products within and across regions. Trade is critical for many reasons including utilizing the production advantages of certain states—for example milk production in Vermont that far exceeds the population's need (Timmons, Lang, and Lass 2008). As pointed out earlier, no area will be self-sufficient, so trade, including national and global to some extent, must bring products such as coffee into a region. At the present time two phenomena bear close scrutiny. One is that foods that states produce go out of the state, while the same food is imported into the state (for example, apples in NY). The other is that many foods that can be grown in many places are no longer grown there. People in the Northeast have discussed import substitution for many years, and it would be useful to really delve into this topic again. We must remember that for economic and other reasons there is a limit to the amount of import substitution (e.g., in Vermont 73% of its milk is exported) Similarly, there are good reasons to export. Depending on how the region is defined, a state's export would be contributing to intra-regional self-reliance!

One of the challenges in building regional supply chains is how to build personal relationships among members of spatially extended chains. Research shows that these relationships are major contributors to their success. There needs to be more effort to study and act on how to build trust among actors in spatially extended chains and with consumers. One mechanism is social networking and other uses of electronic media. This can be augmented with collaborative learning opportunities and evaluation of their effectiveness.

Another need is to understand better how the many examples of alternative “non-local” chains work. Organic Valley and Red Tomato, for example, operate as regionalized (but non-local value chains. There are also global successes of spatially extended chains such as Equal Exchange. Regarding imports, we also want to think about food miles, fair trade and the compelling concept of “fair miles” as introduced by MacGregor and Vorley (2006)— food miles through a sustainable development lens.

4. Diversity. Diversity is the last dimension and a cornerstone of a regional food system for several reasons. We believe that in a larger region a wide(r) variety of foods can be produced and processed especially if the region crosses latitudes. Because the production base (acreage) to draw from is more extensive and the types of farms, soils, climates and crops far more diverse than in the immediate community, the likelihood of meeting this goal increases at the regional level.

Diversity is important in another way: it brings resilience. Diversity of the elements just described provides strength to food systems because it preserves options, and options allow for flexibility and resiliency—the ability to persist through continuous development in the face of change. Climate change has already begun to test the ability of communities that had not previously faced this issue to partition water supplies. Some challenges of this magnitude can be addressed at local levels but many decisions about water will need to be figured out at a large watershed level or beyond that

Scale also is critical to resiliency. A resilient food system requires components of various scales, much like various sized stones produce a firm roadbed. Connectivity is another necessary facet, requiring that various scales interact and "talk to each other" (Newman and Dale 2009). Institutional and social capacity must exist at all scales within the food system to allow self-organization and adaptation. Thinking regionally catalyzes more resources, and also enables resource efficiency, for example, in the case of financially strapped land grant universities sharing agricultural specialists or laboratories.

Many regions have a diverse population base that seeks access to sufficient and culturally appropriate foods. The Northeast is no exception, with its rich cultural, ethnic and racial diversity primarily situated in metropolitan areas. This diversity is a stimulus for production and marketing of a wide range of farm products, from Brazilian vegetables to Halal goat meat. We are also seeing a more diverse farmer demographic in the Northeast, with increasing numbers of Hispanic, Asian, immigrant and women farmers. Community food security and other food initiatives bring diverse groups to the table. On the other hand, communities of color, farm laborers and supply chain workers are still largely marginalized throughout the food system, and are under-represented and under-engaged in policy development.

These four dimensions—food supply, natural resource sustainability, economic development, diversity—are key elements of a regional food system model. We believe there are others to be described over time. Underpinning these descriptors is a set of values that include stewardship, equity, conservation, and opportunity. For example, economic development should strive to support new business relationships based on fairness and transparency throughout the supply chain—models referred to as value chains or values-based food supply chains. Trade should exemplify the principles of domestic fair trade, addressing the treatment of all workers in the food system.

V. Constraints and challenges to building our Northeast regional food system

We appreciate that food system transactions happen at multiple levels and scales, but we think that "regionalizing" the food system—*emphasizing and focusing on regions*—may be a model with real promise to meet the goals of a sustainable, secure, and resilient food system. In the framework presented here, local and regional are different. That difference enables both greater critical thinking about food systems and greater opportunity to develop truly sustainable ones. Food systems thinking is in an exciting and creative phase. Along with that creativity come challenges for producers, consumers, supply chain participants, researchers, planners and policymakers. Several of these challenges are explored below.

On the plus side, the terms “regional” and “local and regional” are being used more frequently. Consider USDA Secretary Vilsack’s FY 2011 Budget Summary and Annual Performance Plan’s strategic goal to “[develop] local and regional food systems” (USDA 2010), and New England’s agriculture commissioners meeting with USDA about “how to develop regional food systems” (The Boston Globe 2010). In the NY Times, Michael Pollan (2009) champions a regional food system in his statement: “. . .promoting the concept of a “foodshed” – a diversified, regional food economy – could be the key to improving the American diet”. The fact that “regional” is gaining traction bodes well for not only being better able to make—and convey—the concept, but for actually developing regionally focused food system initiatives on the ground.

A. Politics and political boundaries

Political boundaries both shape and reflect place-based identity. People are much more likely to say they are from a particular town or state than from “the Mid-Atlantic.” Political leaders serve—and are beholding to—their constituencies which are geographically defined by district, county or state. While there are several notable examples of multi-state political cooperation mentioned above [New England Governors Conference, Harvest New England, Chesapeake Bay Program, Delaware Valley Regional Planning Commission], most politics is parochial. States (understandably) protect their own businesses and markets. So, for example, they are not always welcoming to farmers who farm just over the state line who want to sell at “local” farmers’ markets.

State and Federal government funding typically is aimed at individual states (although multi-state collaborations are sometimes rewarded). So states wind up trying to add to their own coffers by competing against one another. For example, neighboring states might try to develop infrastructure within state boundaries rather than looking together at what the single most efficient location for the entire area might be.

As a region, we need to cultivate and reward government leaders and policymakers who reach across political boundaries in the interest of regional initiatives. We need to promote policies and programs that incentivize rather than penalize multi-jurisdictional endeavors, and train emerging leaders in systems thinking and cooperation.

B. Public preferences and comprehension

As mentioned, “local” has substantial cachet with the public as well as with marketers. In social movement parlance, “local” has resonance. People respond to it on an emotional level. As a term, “regional” has virtually no resonance—even though “local” might really mean “regional” (as in, for example, “Buy Local; Buy New England”). Some local food activists have expressed concern that the regional message undermines or competes with local, and that consumers (not to mention producers and trade buyers) will become even more confused. Some argue that the term “regional” should not be used at all, and that “local” should be used to describe what we refer to in this paper as regional. Others propose educational efforts to introduce citizens to the “regional” term and concept, thereby enriching the public’s understanding of food systems.

“Buy local” resonates with many consumers, providing lucrative markets for certain items, valuable relationships between producers and customers and some economic reward to certain communities. The downside at this time is that regionally produced foods not identified as “local” are not sufficiently recognized or desired in the marketplace. So if the berry or roast is not “local” consumers are neither encouraged nor motivated to distinguish or care about where it came from—a neighboring community, state or country. Exceptions include successful regional enterprises like Country Natural Beef and Shepherd’s Grain.

C. Dominant system

The dominant food system is national and global. It is highly concentrated, vertically integrated and commodified, and operates largely irrespective of place and distance. The local/direct market movement has gained a foothold but would not be considered by most to be part of the dominant system. Although “local and regional food systems” are more frequently mentioned by academics, policymakers and USDA, the concept is far from understood, embedded or embraced by them. It may be perceived as either a challenge to established supply chains on the one hand or as irrelevant on the other. Framed in terms of homeland security, the dominant system—and some policymakers and planners—espouse centralization of food as more secure, while a regional approach would argue that decentralization offers greater security.

Ironically, another challenge regarding the dominant system is that some large corporations are moving toward “local and regional.” The challenge is to finesse support for efforts in this direction versus the “green wash” we regard with more skepticism. Wal-Mart now prides itself on buying from local growers. The merits of this can be argued from both sides; local growers have another, sizeable market, but their treatment in the Wal-Mart supply chain does not necessarily foster stability or fairness, as they can easily be replaced by other growers near or far. Several very large food corporations (e.g., SYSCO, Sodexo, Bon Apetit) are making genuine strides toward sustainability that includes an emphasis on regional procurement. Organic Valley is national cooperative, but is organized by region, with strong producer participation.

D. Infrastructure

Agriculture and food system infrastructure at the local and regional levels has deteriorated significantly—from Extension specialists to processing facilities, from tractor repair services to inner-city supermarkets. Revitalizing both service and bricks-and-mortar infrastructure is a huge challenge. Optimal scale, geographic location and appropriate stakeholders all must be factored in. There are very few resources to develop new infrastructure, and as mentioned above, states and locales typically wind up competing with one another for them. At this point, appropriately scaled infrastructure has to be conceived in new ways—for example, multi-state aggregation, storage and transportation logistics and facilities. This, of course, is not an easy task given the preference in markets for economic efficiency and convenience (Kneafsey 2010).

E. Capacity vis-à-vis total food needs

As discussed on pages 12-13, it will be important to know a region’s capacity for food production in order to advocate for farmland preservation, to plan for imports and

exports, and to understand the overall food security and food needs of the region. In the Northeast, the Eastern Seaboard project (USDA ARS 2009) is mapping and calculating where regional food production can meet current and projected demand or not, with an eye to seasonally distributed production. Other projects are looking at the ability to bring back the production of foods once produced in large quantities in the region. For example Miguel Gomez heads up “a project with the long-term goal of a reliable year-round supply of Eastern -grown broccoli that would contribute to economic development and reduced use of transportation fuel and irrigation water.”⁷ There are regional grain projects in New York and New England.⁸

VI. Strategies

A. Vision

An ideal regional food system is just that—an ideal. Our vision must be grounded in practical strategies that account for certain realities (e.g., land availability, energy shortages, climate change, politics) and set transitional benchmarks. What is a reasonable intermediate vision? What’s doable? What has to be done first? *What can we do to make a dent and make a difference?* As a region, we have done quite a bit of thinking about regionally focused food systems, but we are still at the beginning.

Our strategy should be to continue to foster dialogue about terms, concepts and practicalities. Through regional events augmented by research and online discussion, we should continue to develop a broadly shared vision statement for a regional food system for the Northeast. The statement should build identity for Northeast as a whole, and at the same time support other self-identified regions within the Northeast—for example work led by the University of New Hampshire around a New England food system, by Future Harvest/CASA for the Mid-Atlantic, and Vermont’s Farm to Plate strategic plan. Rather than try to develop a single arbitrary 12-state plan or a parallel set of state plans, effort should be made to harmonize, reach across and integrate wherever possible.

B. Collaboration

A basic premise is that an ideal regional food system engages and meets the needs of all stakeholders in the region. Food system advocates have struggled for decades over what social movement theorists call the “master frame.” (See, for example, Warrior, Builder and Weaver Work: Strategies for Changing the Food System. (Stevenson et al. 2007).) The master frame is the umbrella—the tent that holds all stakeholders. We know that food system transformation

⁷ Miguel Gomez, Cornell University. Personal communication 8/28/10.

⁸ <http://www.theatlantic.com/food/archive/2010/03/the-breadbasket-of-america-new-england/37830/> and http://www.usda.gov/wps/portal/usda!/ut/p/c5/04_SB8K8xLLM9MSSzPy8xBz9CP0os_gAC9-wMJ8QY0MDpxBDA09nXw9DFxcXQ-cAA_1wkA5kFaGuQBXeASbmmu4uBgbe5hB5AxzA0UDfzyM_N1W_IDs7zdFRUREAZXAypA!!/dl3/d3/L2dJQS_EvUUt3QS9ZQnZ3LzZfUDhNVIZMVDMxMEJUMTBQ01IMURERDFTODU!/?printable=true&contentidonly=true&contentid=2010%2f07%2f0372.xml

needs a big tent. But this raises many questions. Who is at the table, or not -- and why? Which people and sectors are most suited for which conversations? When do more chairs get added? What is the best assemblage and structure to address which problems?

The relevant stakeholders will depend on the boundaries of the region of interest and upon the needed function. For example, stakeholders working on the greater Philadelphia foodshed may overlap to some extent with those working on getting more healthy regional food into New York City. Our strategies must include sectors not historically at the “food and agriculture” table such as: land use, rural, urban and transportation planning; public health; energy; fisheries; and workforce/labor. We need to proactively make these connections, stimulate conversations and pursue joint endeavors. A place-based framework will help disparate sectors find common ground. An example of this is the Northeast Farm Bill Summit that NESAWG hosted in 2006 at which a broad spectrum of groups coalesced around a regionally focused agenda of Farm Bill priorities.

The Northeast is blessed with an abundance of groups engaged in food systems work. They bring vitality, diversity and resources to the ongoing work in the region as well as nationally. Veteran food system players observe with gratitude and relief a new generation of dedicated leaders, from new activist farmers to urban youth to young food entrepreneurs to emerging policy wonks. We need to be even more conscious and proactive about cultivating, training and supporting new leaders and groups at both the community and regional level through networking, mentoring, education, and exposure to happenings at all levels.

C. Policy

Where are the biggest policy challenges? How can we be most effective in identifying them in other conversations? What needs to be done to prepare for policy discussions at regional levels? Policy strategies depend on the level of policy—local, state, multi-state or federal. Within our Northeast region there is a lot of interest in state level policy. Our strategies should include finding and sharing good models and innovations across states. (NESAWG has produced several documents that do this.) Where appropriate, we should foster multi-state policy discussions and solutions, for example in the areas of market development, transportation, energy and climate. We should try to dissolve parochial attitudes that get in the way of potentially rewarding regional-level policy initiatives. One fruitful example is the New England Governors’ Conference—a regional economic development association of state (and Eastern Canadian Province!) leaders that passed a land conservation resolution in 2009 that included a New England Farm and Food Security Initiative.

With federal policy, the strategy includes identifying and advocating for policies that both: (a) address specific Northeast needs and priorities; and (b) are designed to accommodate regional differences in general. We will need to acknowledge and try to work through the reality that interests within a defined region, or between regions, may be in conflict. Where possible, we need to find common cause with other regions such as value-added agriculture and beginning farmers. In areas where we have strength, we can find strategic opportunities to lead national policy reform. For example, we have strong constituencies around food access, nutrition

programs, farmland protection, and alternative marketing. In the two years leading up to the 2008 Farm Bill, NESAWG facilitated a multi-sector and multi-state process to establish a Northeast Farm Bill agenda. This agenda outlined priorities for the region that advocacy groups were able to champion with unprecedented successful results.

D. Research and untested assumptions about regional as well as local

As stated above, this paper is an exploration of regional food systems. We posit that an ideal regional food system may be the most sustainable, but much needs to be tested. We must avoid the “regional trap.” We have to expose and investigate assumptions about regional food systems and transportation distance and energy use, cost and price, access, production practices, and political feasibility.

We know that data and case studies to guide us in making good choices toward regional food systems are missing. There are excellent research and assessments underway in the Northeast. NESAWG and colleagues have brought together scholars and researchers who are communicating, meeting, compiling a list of existing food systems research pertaining to the region, and forming a research agenda. Such efforts are essential to develop a solid analytical and practical foundation for food systems work. We need to make sure that all our strategies have to include a research component. We have to ask the right questions and test the assumptions put forth in this paper. We also need to work on identifying benchmarks and indicators regarding the various food system elements we want to develop in the region.

E. Market-based strategies

In our region, where direct marketing and farm-to-institution initiatives are burgeoning, there also is new, exciting work going on in the area of regionally focused supply chain development. Many farmers do not or cannot direct market their products because of what they produce, their volume of production, their location or personal preference. Alternative supply chains are aggregating significant volumes of product and wholesaling through regional channels to mainstream and specialty outlets. In a recent study by NESAWG (Clancy and Ruhf 2010), nearly 40 such enterprises were surveyed. They face significant challenges: transportation logistics, aggregation infrastructure, buyer education, producer readiness, product reliability, and management, for example. We need to study the successes and address the challenges with technical assistance, research, feasibility studies, policy reform and networking.

At the same time, we need to continue to strengthen, replicate and scale up direct and farm-to-institution (school, hospital, etc.) markets, and encourage solutions to the lack of healthy food access in low income rural and urban areas with appropriately scaled retail outlets and well-provisioned corner stores. Innovations such as Pennsylvania’s Healthy Food Financing Initiative look promising.

F. Communications

We need to address the “language conundrum” so that we can pursue meaningful conversations among stakeholders and engage the public. First, those most engaged in this work need to

achieve shared comfort with terms and concepts. We need to develop a concrete “marketing plan” to promote regional food systems with citizen consumers as well as with trade buyers, retailers, researchers and policymakers. Above all, we must not appear to pit local “against” regional or metropolitan against rural. In a regional food system they all complement and are inextricably dependent upon each other.

Food system change advocates have addressed communications challenges for several decades with mixed success. A fairly new approach called reframing could be helpful by researching the question of how different people hear and process messages. (Reframing research on the question of local food has determined that the term food system means nothing to the general consumer. (W.K. Kellogg Foundation/Frameworks Institute N. D.)

It continues to be a top priority to reach under-served, under-represented and under-engaged groups with messages that resonate and invite participation in the work of reshaping the food system. New frontiers in electronic media hold great promise, and our new generation of food system leaders will assist with social networking, video, and other forms of communication.

* * *

A regional framework offers a vision and a working template for a larger and sustainable food system. Many of our assumptions and hypotheses have not been explored or tested, and we want to avoid the “regional trap” of ascribing unfounded virtues to the approach. Our collective efforts are essential to develop a solid analytical and practical foundation for food systems work. We believe a regional food system is greater than the sum of its essential “locals.” We also believe it offers real promise to foster fundamental change in the way we feed ourselves.

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REFERENCES

- Born, Branden and Purcell, M. (2006). Avoiding the Local Trap. *Journal of Planning Education and Research*, 26(2), 195-207.
- Canning, Patrick and Tsigas. (2000) M. Regionalism, Federalism, and Taxation A Food and Farm Perspective. USDA Economic Research Service. Available online: <http://www.ers.usda.gov/publications/Tb1882/tb1882a.pdf>.
- Clancy, Kate and K. Ruhf (2010). Regional Value Chains in the Northeast: Findings from a Survey. Northeast Sustainable Agriculture Working Group. http://api.ning.com/files/WAFzvztbJNjQVlglsHHegv*VwDfNbVjqOfGweByGwziZ7kR1j-naG721B9E0rHkx88*OpwwE87k0VuMFSWdQou-cVWVFSowT/NESAWGValueChainsReport12710updated.pdf
- Dabson, Brian.(2009). in “Perspectives on Future Opportunities in Philanthropy”. Funders’ Network for Smart Growth and Livable Communities, pp 106-109.
- Delaware Valley Regional Planning Commission. (2010). The Greater Philadelphia Food System Study.
- Fyksen, Jane. (2008). Wisconsin ‘Good to Grow’ to Capture Consumer Hunger For Regional Food. *Agri-View*. February 20, 2008. Available online: http://www.agriview.com:80/articles/2008/02/20/crop_news/crops02.txt
- Goetz, Stephan et al. (2004). Agricultural and Food Industry Clusters in the Northeast U.S.: Technical Report, <http://nercrd.psu.edu/Publications/rdppapers/rdp26BW.pdf> and <http://www.nera.umd.edu/2007ESSMeeting/Session3IndustryCluster.pdf>
- Hance, Allen, K. Ruhf and Hunt, A. (2006). Regionalist Approaches to Farm and Food Policy: A Focus on the Northeast. Northeast Sustainable Agriculture Working Group. Available online: [NESAWG-RegionalistApproachesToFarmFoodPolicy.pdf](http://www.nesawg.org/RegionalistApproachesToFarmFoodPolicy.pdf)
- Homer-Dixon, Thomas, (2005) NY Times Op-Ed, 8/13/05.
- Katz, Bruce, ed.(2000). Reflections on Regionalism. Brookings Institution Press, Washington DC.
- Kneafsey, M 2010. The region in food -- important or irrelevant? *Cambridge Journal of Regions, Economy and Society*. 3:177 -190.
- MacGregor, James and B. Vorley, 2006. <http://www.iied.org/pubs/pdfs/11064IIED.pdf>
- Marsden, T., Banks, T. and Bristow, G. (2000). Food Supply Chain Approaches: Exploring Their Role in Rural Development. *Sociologia Ruralis* 40 (4), 424-438.

Martinez, Steve, Michael Hand, Michelle DaPra, Susan Pollack, Katherine Ralston, Travis Smith, Steven Bogel, Shellye Clark, Luanne Lohr, Sarah Low, and Constance Newman. 2010. Local Food Systems: Concepts, Impacts and Issues. USDA Economic Research Report #97.

McKinney, Matthew J. and S. Johnson. (2009). Working Across Boundaries: People, Nature and Regions. Lincoln Institute of Land Policy, Cambridge, MA.

Newman, L. and Dale, A. (2009). Large footprints in a small world: toward a macroeconomics of scale. Available online: <Http://ejournal.nbii.org/archives/vol5iss1/0803-0111..newman-print.html>.

Northeast Sustainable Agriculture Working Group. www.nefood.org.

Pastor, Manuel, Jr., P. Drier, J. E. Grigsby III, and M. Lopez-Garza. (2000). Regions That Work. University of Minnesota Press, Minneapolis, MN.

Peters, Christian, Wilkins, J. and Fick. G. (2007). Testing a Complete-Diet Model for Estimating the Land Resource Requirements of Food Consumption and Agricultural Carrying Capacity: The New York State Example. *Renewable Agriculture and Food Systems* 22(2), 145-152.

Peters, Christian, N. L. Bills, J.L. Wilkins and G.W. Fick. (2008). "Foodshed Analysis and Its Relevance to Sustainability" *Renewable Agriculture and Food systems* 24(1) 1-7.

Peters, Christian, et al. (2008). "Mapping Potential Foodsheds in NY State: A Spatial Model for Evaluating the Capacity to Localize Food Production". *Renewable Agriculture and Food Systems* 24(1) 72-84.

Pirog, Rich et al. (2001). Food, Fuel and Freeways: An Iowa Perspective on How Far Food Travels, Fuel Usage and Greenhouse Gas Emissions. Leopold Center for Sustainable Agriculture. Available online: www.leopold.iastate.edu/pubs/staff/ppp/food_mil.pdf.

Pollan, Michael op. ed. 9/13/09 NY Times.

Stevenson, G.W., K. Ruhf, S. Lezberg and K. Clancy. (2007). in *Remaking the North American Food System*. C. Clare Hinrichs and Thomas A. Lyson, Ed. University of Nebraska Press, Lincoln, NE.

USDA meets with NE commissioners on regional food. (2010, January 30). *The Boston Globe*.

USDA Agricultural Research Service.

USDA Census of Agriculture (2007).

USDA Economic Research Service (1997).
<http://www.ers.usda.gov/publications/aib710/aib710g.htm>

USDA Agricultural Research Service. (2009). In the Eastern United States: A Multi-faceted Focus on Farms and Food. *Agricultural Research*, 57(8), 4.

USDA. (2010). Office of Budget and Program Analysis.

Wallis, Allan.(2002). The New Regionalism: Inventing Governance Structures for the Early Twenty-first Century. Available online: www.munimall.net/eos/2002/wallis.

W.K. Kellogg Foundation/Frameworks Institute. No date. Perceptions of the US Food System: What and How Americans Think about Their Food.