Local Food System Assessment

for Northern Virginia

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The Project Team wishes to thank Jim Epstein for his vision and passion for building healthy and sustainable food systems.

This study was conducted by FamilyFarmed.org in collaboration with the Wallace Center at Winrock International and through the support of Triskeles Foundation. It is released in conjunction with a separate report to the Illinois Department of Agriculture titled *Ready to Grow: A Plan for Increasing Illinois Fruit and Vegetable Production* available at www.familyfarmed.org/ReadyToGrow**.**

FamilyFarmed.org works to expand the production, marketing and distribution of locally grown and responsibly produced food in order to enhance the social, economic and environmental health of our communities. www.familyfarmed.org

The Wallace Center at Winrock International supports entrepreneurs and communities as they build a new, 21st century food system that is healthier for people, the environment, and the economy. www.wallacecenter.org

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> "You never change things by fighting the existing reality. To change something, build a new model that makes the existing model obsolete."
>
> -Buckminster Fuller

Project Stakeholders and Advisors

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Introduction

BACKGROUND

Consumer demand for local foods is strong and increasing.[1] The U.S. food industry is just awakening to the need for new and lasting models for farming and distribution. The local food movement which began among a niche of sustainable agriculture advocates is emerging into a trend among mainstream consumers. What was once the province of upscale chefs who tailored their menus to the local harvest is now the procurement strategy of not only chains such as Whole Foods, Wal-Mart and Chipotle, but even the White House and Congress.

Yet in most of the U.S. no integrated system exists with the ability to bridge the gap between a fragmented supply and the volume and scale of demand. Direct-to-consumer channels such as farmers markets and Community Supported Agriculture (CSAs) are growing rapidly, yet more than 99% of agricultural products consumed in the U.S. are purchased through wholesale channels.[2] Any serious ambition to scale up local food production requires a system that reaches wholesale markets. Informal arrangements between independent growers and retailers are common and increasing, but reliability, quality and consistent supply are persistent problems for customers, and sales, delivery and customer service activities are distractions from the core farming competency for growers. Local distribution services are emerging to fill this gap, but few have the scale to serve the large wholesale market. A different model is needed.

The Local Food System Assessment for Northern Virginia explores the infrastructure and product and service offerings that address the needs of stakeholders on both ends of the value chain. The project hypothesis is that these needs could be met through the development of a packing house: an aggregation and distribution facility that provides marketing and technical support for farmers and stable, quality supply for wholesale customers. The aim is to develop a model that can be replicated in high-opportunity markets nationwide.

> "A different model is needed."

PURPOSE

This study was conducted by FamilyFarmed.org in collaboration with the Wallace Center at Winrock International through the support of the Triskeles Foundation. The study assesses the feasibility of building a successful fruit and vegetable aggregation and distribution system in the Northern Virginia agricultural crescent around Washington D.C. that contributes local and regional products into the existing wholesale commercial food system. The outcome is intended to inform local food system business development efforts in this region and other analogous markets.

ASSOCIATED RESEARCH

This study was conducted concurrently with an Illinois food systems assessment led by FamilyFarmed.org for the Illinois Department of Agriculture (IDOA) titled *Ready to Grow: A Plan for Increasing Illinois Fruit and Vegetable Production.* The Project Team's research informed both studies, and readers of both reports will note that many of the findings are similar. Both explore the potential for creating successful fruit and vegetable aggregation and distribution systems, but the methodologies and intended outcomes differ. The Illinois study collected data from fruit and vegetable growers to assess the barriers that prevent them from scaling up, quantify the increase in production if those barriers

were removed, and model the economic feasibility of developing a system of packing houses throughout the state. The intended outcome of the Illinois report is for the IDOA to pursue five actions to reduce barriers, the first of which is supporting the development of packing houses which were found to be economically feasible. This report can be found at www.familyfarmed.org/ReadyToGrow.

The Virginia study pursued more qualitative research methods including interviews with a wide range of players in the current food economy and studying case histories of analogous aggregation models in the region and elsewhere. Many of these case histories can be found at www.wallacecenter.org/our-work. The intended outcome of this report is to encourage development of a local food system in Northern Virginia by offering a roadmap and insight to those embarking on the business development process.

White House Garden Tour, photo by Pete Souza

STUDY AREA

Northern Virginia was chosen as the study site for its proximity to the greater Washington DC metropolitan market and to engage leadership from the United States Department of Agriculture as well as the Wallace Center which are both headquartered in the region. And with some of the nation's best-known restaurants committed to local sourcing including Restaurant Nora and The Inn at Little Washington, and now a White House organic vegetable garden, Washington DC is a lively arena of local food activity.

The study explores local food systems throughout the state and nation, but is staged primarily in an area known as the Piedmont region of Northern Virginia. The Piedmont valley runs from Northern Virginia through the Carolinas, Georgia and Alabama (see Figure 1 in Appendix). In the region nearest to Washington DC there is a vibrant agricultural heritage, and interests in organic farming and food activism are creating strong demand for locally produced and sourced food. Culpeper County was chosen as the radial center for the study because of its geographic position in the region and along the major transportation route into Washington DC.

The economic impact in this region can be significant. As a representative example, Culpeper croplands are producing primarily livestock feed, grains and commodity corn and soybeans, yielding under $250 average revenue per acre.[3] Average income per acre in production can exceed $3,000 with net margins from 5-10% for farmers selling local fruits and vegetables to wholesale urban markets where local food is in high demand.[4]

Executive Summary

There is a business opportunity for the development of a local food system supported by an aggregation center in Northern Virginia. The market and political environment is favorable, wholesale demand is not even close to being met by local suppliers, and the local food sourcing trend is expected to gain even more momentum. Local supply is a current concern and as such further investigation is recommended to better understand growers' perspectives and possible challenges to scaling up.

Existing infrastructure is not meeting the high demand, yet some of what exists is working. Investing in both supply and infrastructure can better bridge the enormous gap between Piedmont market demands and the current local supply.

Key Findings:

1. $16.8 billion is spent annually on fruits and vegetables in the tri-state area surrounding and including Washington DC (Delaware, Maryland and Virginia), and less than 7% of that expenditure is currently produced in the region. A large percentage of the remainder can be captured by a local food system in Northern Virginia.

2. There is strong federal, state and local public as well as private support for such a system as evidenced by trending federal policies, state leadership, and stakeholder engagement in this study.

3. While current production levels are not adequate to supply an aggregator if the goal is to source fruit and vegetables from within the study area alone, there are production opportunities in other areas of the state. And, there is now an opportunity to further explore the barriers to scaling up supply faced by growers within the study area.

4. There are successful models of local food system aggregation centers, and features of these centers combined with other study findings suggest a business model. This model is a for-profit enterprise with profit centers in the packing operation and sales, and is built on values-based, collaborative relationships with buyers and growers.

5. To mitigate potential risks, attention must be paid to strategies such as ensuring strong management team skill, developing a wide and cooperative network of growers, collaborating with other intermediaries to strengthen the market, and engaging all stakeholders to maintain a supportive climate. A healthy local food system is based on values that recognize the interdependence of players within the supply chain: a values-based value chain.

methodology

Methodology

The study was conducted from February through July 2010. Through phone interviews, meetings, field visits and secondary research, the Project Team sought to:

a) Evaluate market and political factors that influence the level of demand for and availability of local produce

b) Assess the productive capacity of the growing region

c) Survey current aggregation facilities and assess the need for additional capacity

d) Determine an appropriate business model for an aggregation facility that participates as a partner in the value chain

e) Identify the business risks should a facility be developed

INTERVIEWS AND MEETINGS

The Project Team met with a large number of stakeholders to understand their role in the value chain, the potential compatibility between stakeholders, and how to structure a food system based on cooperative rather than hierarchical relationships to strengthen the value chain. Members of the agricultural and economic development communities in Northern Virginia were consulted through phone interviews throughout the study and meetings March 29-April 5 and May 24-27. These stakeholders have a keen interest in a local food system and lent extremely valuable insight and support to the study.

Rappahannock-Rapidan Regional Planning Commission provided the regional perspective to the study because they work with a multiple-county area and are familiar with the politics, demographics, geography and economics of both individual counties and the region.

Extension agents from all 12 counties* in the study area provided perspective on current supply within the region, explained the historical context which led to limited fruit and vegetable production, and provided a framework to expand production in the future. Extension agents discussed previous studies with similar goals and the reasons why a centralized aggregation facility has not been pursued to date. The agents also provided valuable grower contacts and recommended other stakeholders for the Project Team to contact.

The Culpeper County Administrators Office provided insight into the politics and processes for business development in the county. This office worked with the State of Virginia and private interests in the development of a cyber valley anchored by Terremark in Culpeper.

The Culpeper County Economic Development Office supports agricultural development as a growth engine for the economy. The Project Team was introduced to several potential sites and facilities that may be suited for an aggregation facility.

The Piedmont Environmental Council was instrumental in connecting the Project Team to governmental and private parties with complementary interests in building a regional food system.

The Natural Resources Conservation Service provided technical information regarding soil quality in the area and insight into how existing farmers are dealing with soil issues. They also offered ideas for developing fruit and vegetable production through helping turf farmers transition to specialty crops.

The Virginia Farm Bureau provided history on the creation of state-owned packing houses and private efforts to establish fruit and vegetable aggregation centers, both successful and unsuccessful. They also provided information about current

* Loudoun, Rappahannock, Fauquier, Prince William, Culpeper, Madison, Orange, Greene, Louisa, Fluvanna, Albemarle, Nelson

aggregation and distribution efforts across the state.

American Farmland Trust shared the national perspective of farming and land conservation, and provided contacts of potential partners and projects to model.

FRESHFARM Markets, which owns and operates farmers markets in Washington DC and Maryland, demonstrated the demand from local consumers that they see each week in their 11 markets. They are looking for new market locations and site expansion as this business continues to grow.

Local Food Hub, a non-profit providing aggregation and education services to small family farms in Central Virginia, shared how they began as an aggregator and expanded their strategy to include farmer training. They added an Educational Farm encouraging more young people to become interested in farming and helping them through beginning farmer training. Inadequate supply of locally grown food and a lack of trained specialty crop farmers in the region prompted the addition of this strategy.

The Virginia Department of Agricultural Consumer Services Farm to School and Sales and Marketing groups provided more information regarding how to best market food, state packing houses, the status of Virginia Farm to Institution programs as well as tips on how to navigate certifications and liability insurance.

Northern Neck Packhouse, photo by Justine Epstein

A group of local stakeholders explained their interest in creating a processing facility and potentially collocating with an aggregator if one were to enter the region.

The owner/operator of a produce distribution company in Charlottesville confirmed both the regional availability of supply and the demand for fresh produce in the area.

The private operators of the *Southeast Virginia Farmers Market in Courtland, VA* provided a tour and explained their business model. Half of this facility is occupied by the Virginia Department of Corrections and uses inmate labor. It is the transfer point for some of the food supplied to prisons.

The private operators of the *Northern Neck of Virginia Farmers Market in Oak Grove, VA,* provided a tour and overview of operations. This regional aggregator works with over 35 growers through the Northern Neck Vegetable Growers Association.

DC Central Kitchen, a non-profit in Washington DC, trains people in transition to handle food service jobs and provides meals for shelters and private events and receptions. They have committed to buying more local food and are currently doing so through a produce auction, but could be a potential buyer or collaborator.

Chipotle Mexican Grill provided information about its current supply chain and insight into their specific buying needs and desire to source regional food.

Johns Hopkins University's Center for Livable Future provided information about current purchasing within the university as well as farm to school efforts in Virginia and Maryland.

Compass Group, the world's largest foodservice company, indicated strong interest in purchasing local food for its properties in the Mid-Atlantic region.

methodology

FIELD VISITS

The team conducted field visits in the growing areas of the Northern Piedmont from March 29-April 5 and May 24-27 to make observations regarding terrain and agricultural activity and meet with most of the industry participants mentioned above. This provided first-hand insight into the agrarian culture in the region. The topography of Virginia – rolling hills and rocky outcrops – limits farm size in comparison to the open, flat growing regions of the Midwest and other coastal states. Observations also confirmed the information provided by Extension agents regarding the relatively small amount of specialty crop activity as compared to livestock. Live meetings also helped to solidify relationships and observe the work of those interviewed.

SECONDARY RESEARCH

In addition to primary research through interviews and meetings, the Project Team obtained market and trends data from the USDA and other syndicated sources, and operating data from published case histories and websites of analogous aggregation enterprises in the region and elsewhere. A wide range of analogs were studied to determine a workable model for Northern Virginia. Sources are cited throughout the report and a bibliography is provided.

ADDITIONAL STEPS

The Project Team attempted to convene meetings with growers throughout the region, but was unable to engage the appropriate stakeholders within the optimal window before planting season. Such meetings are strongly encouraged to set the stage for a successful venture. It would be prudent for any group exploring the development of a packing house to bring together growers, buyers and other players in a local food system to gain an understanding of the issues, needs and requirements on all sides of the wholesale transaction.

The Project Team was able to interview about a dozen growers for this study, but a survey of growers throughout the region is also advised for a quantitative snapshot of grower interest in wholesale markets. The survey should collect information about current crop types, acreage and estimates of increased participation if growers had easy access to an aggregator. The *Ready to Grow* study completed by members of this Project Team is a model for these additional steps.[5]

Carter Mountain Orchard, photo by Megan Bucknum

Findings

MARKET SIZE AND GROWTH POTENTIAL

Demand for local food is strong and increasing. According to Mintel, a leading market research company which tracks consumer purchase and lifestyle trends, "Local procurement is a fast-growing category with tremendous promise, and marketers that are aware of the many dynamics at play can generate significant revenues."[6] As reported by Food Navigator USA, Mintel found that one out of six Americans will go out of their way to buy local products, and 30% reported being unable to locate them. Locally-sourced fruits and vegetables was the product category with greatest consumer interest, with 31% purchasing this product category from local sources at least once per week.[7]

> "$16.8 billion is spent annually on fruits and vegetables in the tri-state area surrounding and including Washington DC"

The trend is similarly strong in the restaurant industry. Chefs surveyed by the National Restaurant Association rank locally-grown produce as the #1 menu trend of 2010[8], and the editors of FoodChannel.com rank "Locavore" (local food) as first among the top food influencers of the decade.[9] According to National Restaurant Association research[10], "89 percent of fine-dining operators serve locally sourced items, and nine in 10 believe demand for locally sourced items will grow in their segment in the future. Close to three in 10 quickservice operators serve locally sourced items now and nearly half believe these items will grow more popular in their segment in the future. Seventy percent of adults say they are more likely to visit a restaurant that offers locally produced food items."

The story is no different in the Washington DC metropolitan area where virtually every upscale restaurant sources locally and the farmer market business is booming. In 2009, FRESHFarm Markets operated nine markets with dollar sales in the millions. The owners opened two more locations in 2010 with plans to expand further. This is on pace with the 13% increase in farmer market openings nationwide.[11]

One of the most significant findings of this study stems from comments made by trade buyers that want to buy local fruits and vegetables that are certified for food safety by a third party. Most buyers indicated that they have concerns that not enough regional producers have Good Agricultural Practices (GAP) certification for food safety and that there needs to be state or federal programs to help them achieve it. The amount these buyers would purchase annually from an aggregator that meets their requirements could be substantial. In Illinois, the Project Team interviewed 14 wholesale buyers who collectively would procure $23 million from a trustworthy aggregator, and these represent just a fraction of the buyers in the Chicago metropolitan area.[12] Washington DC is a smaller market, but its high-income, educated and health-conscious population suggests demand of proportional magnitude.

The market potential is clear. With $16.8 billion spent annually on fruits and vegetables in the tri-state area surrounding and including Washington DC (Delaware, Maryland and Virginia), and less than 7% of that expenditure currently produced in the region, a large percentage of the remainder can be captured by a local food system in Northern Virginia (see Figures 2 and 3 in Appendix).

POLITICAL CLIMATE

The political climate for the development of an aggregation facility is extremely favorable. According to the USDA Economic

Research Service[13], "Federal, state, and local government programs increasingly support local food systems. Many existing government programs and policies support local food initiatives, and the number of such programs is growing... State and local policies include those related to farm-to-institution procurement, promotion of local food markets, incentives for low-income consumers to shop at farmers' markets, and creation of State Food Policy Councils to discuss opportunities and potential impact of government intervention." The $4.5B Healthy, Hunger-Free Kids Act passed by Senate vote in August 2010 is a strong signal of what is ahead. If signed into law, schools will receive incentives to source local foods.[14]

Hayfield, photo by Megan Bucknum

This support is strongly evident in Virginia. In July 2010, Virginia Governor Bob McDonnell launched a "Choose the Commonwealth" campaign to boost consumption of Virginia-grown food and beverage products.[15] The impetus for agricultural expansion in Virginia is to lever its number one industry which together with forestry employs more than 10% of the state's workforce and drives activity in manufacturing, retail and wholesale trade and public and private services.[16] The governor's strategy is also to boost agricultural exports which have increased 28% since 2007[17], so the capacity for a local food system will develop as growers expand their operations for export. Support for this study from public officials, agricultural non-profits and Extension services demonstrated the state's commitment to agricultural expansion. As the Culpeper County Administrator observed, "We are seeing a sea change in agriculture in Virginia."

SUPPLY

Within the entire Piedmont region of Virginia there are many non-profits, organizations and schools which have recently developed or expanded an interest in local food and farming. Restaurants are showcasing supplying farms on their menus and the study area itself has a handful of farmers markets. With demonstrated interest in local food and farming systems, the Project Team hypothesized that there could be enough production in the area to feed a mid-sized aggregator with minimal increases in production levels. To both test this hypothesis and compare the supply of regionally grown food to the demand, the Project Team interviewed Extension agents in each of the 12 counties in the study area because they have an understanding of agriculture at both a regional and state level. These interviews revealed that current production levels are not adequate to supply an aggregator if the goal is to source fruit and vegetables from within the study area alone.

Other areas throughout the state have historically and presently produce a large volume of specialty and commodity row crops. Although corn and soybeans make up a large percentage of these row crops, there has been some significant specialty crop production in the Northern Neck region (west of the Chesapeake Bay and east of Interstate 95), the Eastern Shore region (the Virginia portion of the Delmarva Peninsula) and the Southwest region.

Agricultural Survey of Northern Piedmont. The area has historically emphasized livestock production, which is well suited

to the mountainous topography and mostly clay soils, and crop production has historically emphasized corn and soy row crops. Current production largely reflects this tradition. Small, artisan farms growing specialty crops dot the region, and new farmers are entering into organic and natural growing methods with a variety of niche agricultural products. These products are being sold primarily at local and regional farmers markets and also some restaurants. Additionally, there are signs of wholesale opportunities at some schools, yet the scale of production is not adequate for the wholesale market.

There is substantial fruit production in the area, specifically apples and peaches, with some infrastructure for aggregation and distribution. Grapes may be grown at wholesale-level scale, but these are mostly wine, not table grapes, and many vineyards keep the harvest for estate bottling.

Summer Greens Harvest, photo by Megan Bucknum

In addition to livestock production, and some corn and soy, the area also has several large-scale turf farmers. There has been less demand for turf with the housing market downturn, so these farmers could be well positioned to transition into specialty crops. Growing turf utilizes some of the same principles and equipment used in farming row crops. These growers are also experienced with business contracts and therefore have the understanding and ability to plan harvests within a customer's time frame.

Barriers to Increased Fruit and Vegetable Production. There is a hypothesis among some Extension agents and growers that if there were better infrastructure for food aggregation and distribution that can create a more accessible market, more farmers would scale up production and more people would enter into farming. A survey could confirm this hypothesis by exploring the level of production achievable in the face of the following known barriers.

Soils. The soils within the Piedmont vary greatly from location to location and all have a base which is in clay. Some of these soils are better than others for vegetable production, particularly those based in red clay versus gray clay, but to help with drainage and over time build their quality for specialty crop production, soils can be amended, or in smaller operations, dug into beds.

Skills. While there are very few growers within the region doing large-scale specialty crop production, Piedmont growers have a reputation for innovation. Many small farmers have branched out with niche products such as mushrooms, cheeses and wines. Since these farmers already have creative business instincts and develop innovative products, and state-wide resources to support transition into larger scale production exist, the potential could be strong to create viable businesses. It is much harder to teach creativity and business innovation than technical skills for large-scale vegetable production.

Labor. Everyone interviewed agreed that the labor pool necessary to scale up is not even close to adequate. Many growers

identified this as a main reason why they would not consider scaling up their production. They also mentioned that currently the labor they can access is only available for harvesting and not for planting. Available farm labor is primarily migrant labor and therefore not always available and the skill level varies. The labor issue would have to be addressed if the region were to attempt to increase its specially crop production and relationships with migrant labor pools would have to be more fully developed.

Equipment. Equipment on most farms is not up to the level needed to increase specialty crop production. Many of the smaller farms do much of the work by hand. Some growers claim that with guaranteed markets they would be willing to make the financial investment in additional equipment. When asked about equipment sharing programs, most growers did not see the benefit because equipment, although used just once a year, is used at the same time by most farmers.

Price. Growers mentioned the importance of having pricing contracts set before production. They shared "horror stories" of making large investments in particular crops and buyers backing out. The visit to the Northern Neck of Virginia Farmers Market showed that these buyer contracts could be replaced with a dedicated sales force who can find a market if one buyer were to back out. This packing house does not set prices on crops, but updates growers either weekly or bi-weekly with market prices for each crop.

The Illinois *Ready to Grow* study includes a detailed analysis of barriers to increasing production for wholesale markets.[18] A survey of 138 Illinois growers showed that the top 5 barriers are marketing, processing capacity, financing for capital improvements (an indicator for equipment needs), GAP certification cost and insurance costs. Unlike the growers and Extension agents interviewed in Virginia, Illinois growers found labor issues and price less significant, and soils and skills were inconsequential. In fact, land availability and crop knowledge were the #1 and #2 least significant barriers among Illinois growers. (It is important to note that soils in Illinois are markedly different: 90% of Illinois farmland is designated "prime" by the USDA for its physical and chemical suitability for growing food.[19]) Large growers have had little problem finding adequate labor, particularly since the 2008 recession, and have the equipment needed for large-scale specialty crop production; however, the small-acreage farmers more typical of Northern Virginia found labor and equipment to be greater barriers.

Produce Labels, photo by Justine Epstein

The Project Team found that the large majority of barriers in the Illinois study could be mitigated with the creation of aggregation facilities.[20] The same is likely to be true in Northern Virginia, but since the nature of farms and farmers differ substantially between Illinois and the study area, the Project Team recommends a survey of Virginia growers to confirm these findings.

Conclusion. The production in Northern Virginia is not at a level to meet demand currently, but opportunities exist to expand it. A regional aggregator could be a motivation for many new and existing growers to enter or scale up production to access new markets, but a survey is recommended to confirm this. It should be noted that Northern Virginia could still be a desirable location for aggregation even if some products are sourced outside the study area. This portion of Virginia is accessible to many areas around the state, and, importantly, to the large metropolitan area surrounding Washington DC. More discussion about the role of an aggregator and models of how they operate across the county is provided below.

THE AGGREGATOR'S ROLE

There is a need for aggregation facilities, as they provide the only means of achieving scale and efficiency with the family farms which are most typical in this region. Sharing the cost of packing and distribution, and aggregating product into larger order volumes can put small to medium-sized farms in the same game with large growers.

Not only can an aggregation facility act as an aggregator of products, but also as an aggregator of people, knowledge and resources. Successful aggregation facilities often orchestrate technical assistance programs for growers such as food safety and post-harvest handling practices. This is particularly important with navigating through the convoluted world of food safety requirements. A centralized aggregator can help growers make the transition to wholesale by acting as an expert resource for Good Agricultural Practices (GAP) certifications and carrying the high levels of insurance required by wholesale customers. There are pilot programs and projects in the works regarding Group GAP certifications. Under this certification a group of farmers collectively compose a farm management plan making all the growers part of the same system. This plan, or system, would then be inspected through spot checks at some of the farms instead of all, reducing cost and time. Some larger buyers, especially those selling to vulnerable populations, require large amounts of liability insurance. With an aggregation facility, this high level of insurance could be carried by the aggregator and supplying farms would be required to carry less, and reduce premium expenses.

> "Aggregation…provides the only means of achieving scale and efficiency with the family farms which are most typical in this region."

ANALOGOUS MODELS

A variety of models are being tested in regions across the U.S. operating as cooperatives, non-profits and for-profit businesses. This is a representative sample of some of the best-known. Full case histories are available for many of these enterprises from sources cited at the end of the report.

Appalachian Sustainable Development. ASD is a non-profit fruit and vegetable aggregator in Abingdon in the southwest corner of Virginia. They work with approximately 30 growers, many of whom are former tobacco farmers who were given transition payments to aid in crop diversification. These growers are relatively new to specialty crop production, so ASD's model emphasizes technical assistance through farmer education, training programs and equipment leasing. They manage operations by conducting preseason crop planning through a cooperative network of growers and grocery

buyers. Appalachian Harvest branded products are shipped to approximately 600 stores across a six-state region including to Washington D.C. ASD anticipates 2010 revenue to reach $1 million.[21]

Good Natured Family Farms. GNNF is a for-profit business selling the only line of local foods available in Kansas City grocery stores under the Good Natured Family Farms brand name. The business began as a beef cooperative, and today is a loose alliance of farmers and cooperatives which pay a membership fee and sign affidavits to ensure products meet GNFF specifications. Members produce meats, dairy, eggs and fresh fruits and vegetables on family farms within a 200 mile radius of Kansas City. The beef and poultry farms share a processing facility which is owned by the farm which also manages the alliance. The business was launched in 1997 and is striving for long-term financial viability.[22]

Local Dirt. This company based in Madison, Wisconsin uses a unique software platform to help buyers and sellers access local food markets. Through an online subscription model, the company charges farms, restaurants and grocery stores $360 per year to list on or buy from its website. Consumers can use the site to find local food merchants. Earlier this year the company reported having approximately 1,000 subscribers. In March 2010, Local Dirt raised an undisclosed amount of venture funding from Peak Ridge Capital.[23]

Locavore Food Distributors. Based in Detroit, Locavore Food Distributors buys fruits, vegetables and other foods from 100 farmers, processors and packing houses in northern and western Michigan and sells them to supermarkets, restaurants and institutions across the state. It is also making weekly deliveries of Michigan-grown apples, peaches and other foods to 485 Chicago public schools. In the winter, the company sells locally-sourced apples, potatoes, juices, salsas and jams. To compete, they emphasize varieties not sold by distributors like SYSCO and US Foods and are willing to make more frequent, smaller deliveries. Locavore Food Distributors is a for-profit company with eight employees.[24]

Organic Valley Produce Program. This Wisconsin-based producer cooperative embodies 150 certified-organic growers across five states from Minnesota to Indiana. The majority are Amish growers from southwestern Wisconsin. They sell to 40 customers nationally, most of which are distributors for natural foods and grocery retailers. Per order, farmers are paid the sales price less freight and a 20% commission. Post-season, farmers are paid a pooling bonus. The produce program was budgeted to sell $3 million in 2009.[25]

Red Tomato. Red Tomato is a non-profit based in Massachusetts. They represent a network of 40 mid-size fruit and vegetable farms in the Northeast and market their produce to supermarkets in the Boston and New York metro areas. They do not take possession of product; orders are fulfilled by aggregating product from a number of growers at one farm from where it is shipped to the customer. In addition to buying and selling activities, Red Tomato's services include developing product lines and packaging for their customers, branding, financing, logistics, umbrella insurance and assistance with food safety certifications. They also provide coaching services for organizations moving into the produce wholesaling business. One third of their income is generated from sales ($3.1 million revenue in 2009) and the remainder from grants for their coaching services.[26]

STATE-OWNED PACKING HOUSES

The Virginia Department of Agriculture and Consumer Services has secured land and built four packing houses across the state. The locations were determined by the need demonstrated by groups of citizens and growers. These facilities, called Farmers Markets, are owned by the state and operated by private companies. The Project Team visited two of these facilities.

Northern Neck of Virginia Farmers Market. The most successful state-owned packing house is in Oak Grove, VA, an area known as the Northern Neck of Virginia. Several years ago, growers in this area grouped together to cooperatively increase their farming operations and business. They determined that a facility for aggregation, packing and distribution would help them achieve their goals. Coming together to form the Northern Neck Vegetable Growers Association (NNVGA), they were able to lobby delegates to persuade the General Assembly to invest in a facility to increase the state's agricultural economy. At this time two other state-owned packing houses were in existence, so it was not a new idea, but rather an additional site. The state eventually agreed and built the facility after the NNVGA completed a feasibility study. With the state's approval to oversee the facility, NNVGA put out a request for proposals to hire an operator to run day to day activities under its oversight. Today the packing house is operated by Parker Farms, who pays rent to NNVGA to use the facility.

Southeast Famer's Market, photo by Justine Epstein

There are about 35 growers that utilize the facility, and most are part of NNVGA. Most bring in packed boxes to get cooled and sold, although Parker Farms also offers harvesting and packing services for an additional fee. The growers pay a set price for cooling per box (they have a hydrocooler and are using some forced air) as well as 7-8% commission for Parker Farms to handle the marketing and logistics of the sale. These fees pay the utilities and Parker Farms staff (six full time plus several seasonal employees). The rent that is paid by Parker Farms to NNVGA is used to hold technical training workshops for the growers, and to fund trips to research high-yield growing areas.

Parker Farms sells to most of the big distributors and to Wal-Mart. Their facility is GAP certified, but quite surprisingly, supplying farms are not. According to Parker Farms, certification at the facility level is adequate for its buyers.

Southeast Virginia Farmers Market. This packing house in Courtland, VA has switched operators a few times since its creation. Following the same model as the Northern Neck packing house, this facility is now being operated by a grower/aggregator/distributor which also has operations in Florida. These relationships allow them to aggregate and distribute melons up and down the east coast. They have also rented out part of the facility to the Virginia Department of Corrections to use as a point of transfer and storage. They aggregate food grown on prison grounds and purchased from other producers and distribute it to corrections facilities throughout the state. The packing house recently started a farmers market/auction for local growers on its property once a week in the evening.

MICROAGGREGATORS

Several small-scale aggregation/distribution ventures have sprouted in the study area. They are similar in form, consumer base and scale. The term "microaggregators" was coined by the Project Team to describe this niche which connects growers and buyers without the typical functions of a packing house. Their purpose is to provide a secondary market for growers and an opportunity for consumers and restaurants to purchase from growers through an alternate channel to farmers markets and grocery stores. Some are similar to a Community Supported Agriculture (CSA) model, in which consumers buy a "share" pre-season and throughout the harvest a package of local produce is delivered each week. Most microaggregators have created online systems where growers can upload pictures and/or descriptions of what will be available that week and customers can order specific amounts and varieties. There is generally a central location where goods are delivered for pick up by customers, although some offer direct to restaurant or home delivery.

These models are optimal for growers seeking to expand direct markets. They provide another day of the week when products can be sold and are less work than a farmers market because there is no stand requiring hours of manpower. The customers these businesses appeal to are those looking for local, healthy, quality and fresh products but who may not be able to afford or use a full CSA share or visit a farmers market, or who want the ordering convenience these models provide.

Below is a list of several microaggregators located within the region:

- *Farmer Girls* (Fauquier County) Online farmers market where farmers post what they have for the upcoming week, customers place orders and pick up from multiple drop locations. www.farmergirls.net
- *Local Flavor Farm Buyers Club* (Rappahannock County) Online direct-to-consumer buying club through which customers place orders and pick up from drop locations where deliveries are scheduled monthly. www.farmbuyersclub.com
- *Freshlink* (Madison County) Aggregate and deliver to area restaurants with the option to dedicate farm capacity to an individual customer who wishes to jointly plan crops for a seasonal menu. www.thefreshlink.com
- *Horse and Buggy Produce* (Charlottesville) Like a CSA, consumers purchase shares which are delivered to drop locations weekly. www.horseandbuggyproduce.com

• *Retail Relay* (Charlottesville & Richmond) Online grocery store which emphasizes local foods and has multiple pick-up locations. www.relayfoods.com

• *Arganica Farm Club* (Charlottesville) Local source food club with weekly ordering via email and home delivery. www.arganica.com

• *Shenandoah Food* (Rockbridge) Individual and restaurant customers order online with direct delivery throughout the state. www.shenandoahfood.com

Freshly Packed Squash, photo by Justine Epstein

BUSINESS MODEL FOR A PACKING HOUSE IN NORTHERN VIRGINIA

A successful large-scale, for-profit aggregation enterprise in Northern Virginia will emulate aspects of many of the aggregation enterprises studied above. Given the nascence of specialty crop activity in the area, an aggregator will need to offer services that help new growers enter and existing growers scale. The timidity of established growers who have had negative experiences with wholesale buyers requires risk management through pre-season crop planning, open dialog about pricing, and contracts where possible. These and other factors uncovered during the study have been considered in this suggested business model.

Operating Model. The packing house develops relationships with a core group of growers and buyers and conducts pre-season crop planning. The production plan indicates the approximate quantity and timing of varieties to be delivered to the facility, and then to the customer. On-farm pick-up may be offered, and the cost for this service is negotiated with other terms. Agreements confirming price to the grower may be written if the packing house customer also commits to a wholesale price. At the facility, raw material is washed, graded, packed, cooled, labeled and shipped to customers according to their specifications. Retail grade product is packed in cases and seconds are bulk packed and shipped to processors who may supply a variety of customers including schools and other foodservice operators. Surplus product provides an opportunity to engage with local food banks.

Services. In addition to packing services, packing house staff oversees crop planning, buying, selling, food safety assurances and traceback, and the operation maintains umbrella liability insurance at levels required by wholesale buyers. This is beneficial to growers since it reduces the amount of coverage they are required to carry. The packing house will coordinate GAP food safety audits and technical assistance programs such as post-harvest handling practices as secondary services. To the extent possible, these are carried out during the off-season. Depending on the needs of customers, the packing house may engage in marketing activities that go beyond buying and selling, such as branding and custom packaging.

Revenue Model. The revenue model is designed to create incentives that promote quality and efficiency. The packing house earns a commission on sales negotiated with each grower and pays the grower the balance of proceeds after commission and packing fees. Packing fees are dependent on the type of service required and include a markup. This revenue model motivates the packing house to maximize price and

volume, and to boost profit margin by minimizing direct and indirect overhead costs. Growers are motivated to improve quality to attract a higher price, and to achieve uniformity which increases percent pack out by reducing processing spoilage.

Company Structure. The ownership structure can be flexible within a for-profit framework to include corporations, partnerships or cooperatives which govern the company and determine how its proceeds will be distributed. The chief benefit of a cooperative is that all the factors of production are controlled by the business owners, increasing the reliability of supply because suppliers share in the profits. The chief risk is the ability of the cooperative to lead a challenging and complex marketing and logistics operation. For further discussion on the challenges of cooperative management of agricultural businesses, see *Romance vs. Reality: Hard Lessons Learned in a Grass-fed Beef Marketing Cooperative*.[27]

New corporate business structures such as L3Cs and the Benefit-Corporation certification offer governance and financing benefits for stakeholders in social enterprises, and may be suitable for this type of business. A low profit limited liability corporation (L3C) is a taxable, for-profit business with a stated social mission as its primary goal. Charitable foundations are permitted to make investments in these business entities, but since L3C legal status is legislated at the state level and the tax code at the federal level, foundations have been slow to respond.[28] A Benefit Corporation, or B Corp, is a certification that rates the company based on social outcomes and a legal structure that allows directors to make decisions in the best interest of the company's mission, whether or not profit-maximizing. Maryland became the first state to pass Benefit Corporation legislation in April 2010, and Vermont followed in May. Seven other states are considering B Corps for their 2011 legislative agendas.[29]

Facility and Location. To minimize transportation time, expense and emissions, a packing house needs to be close to growers, near major transportation routes, and as close to customer bases as possible. This suggests a location on or near Routes 81, 66, 29 or 95 and as close to Washington DC as is reasonable given the location of growers. The facility will use large quantities of water, so access to an abundant supply of water is crucial. The size and capacity of the facility should be scaled to the acreage committed to supply the facility. An approximate guideline is 5 square feet per acre, so a 15,000 square foot facility could handle the yield of 3,000 acres.[30] A grower outreach plan and survey can assist tremendously in determining the acreage in Northern Virginia likely to participate.

Financial Performance. According to the Illinois *Ready to Grow* study, revenue for a packing house serving a few thousand acres near a large metropolitan area can reach $12 million within a few years of startup and record profits even in the face of wide pricing variances.[31] Top line performance can be dramatically improved using asset utilization strategies discussed below. The business is very likely to be eligible for USDA grants and these should be sought, but the business should be able to maintain positive cash flow in steady state without this assistance. Below-market-rate financing is also very likely to be available, and appropriate to incorporate in financial assumptions.

Asset Utilization. A truly local model means packing activity shuts down in the off-season. To maximize asset utilization a number of strategies can be employed. The most common is importing from states where there is year-round production. A more local approach is employing seasonal

extension techniques using greenhouses and hoop houses, otherwise known as high tunnels. The USDA launched a three-year program through the Natural Resources Conservation Service providing financial assistance to farmers to cover the cost of one hoop house on their farm. Hoop houses can extend the harvest to 10-12 months depending on the climate and the crops.[32] Buyers interviewed for this study expressed interest in buying products grown using seasonal extension techniques, so this avenue for increasing utilization is highly recommended.

Another strategy is to incorporate complementary services as a separate profit center or as leased space for local entrepreneurs. Examples include:

- Value-added processing of seconds from the packing business and other sources to create shelf-stable products such as jams, salsa and other sauces
- Slicing and freezing raw vegetables to be sold to schools which want local produce but are limited by the timing of the academic season
- A community kitchen that is leased to small food entrepreneurs needing commercial kitchen space (also an outlet for seconds)
- Leased space for cold storage crops (apples, onions, root vegetables) for winter distribution
- Composting processing waste for sale to local growers or composting services. This closes the carbon loop and can aid in amending the soils in the Northern Piedmont.

RISK MITIGATION STRATEGIES

There are large risks in the produce wholesaling industry. Perishables is a challenging and demanding business requiring skillful planning and negotiation, sophisticated logistics, strong relationships,

Shenandoah Valley Potatoes taken by Justine Epstein

excellent sales skills, hard work and a lean and flexible operating model to survive wide variances in pricing and production. The challenges are evidenced by the number of startups operating under subsidies as non-profits, and failed attempts by commercial interests to enter the wholesaling business. As one Extension agent who works closely with the state packing houses observed, "Produce is a tough business. Lots of commodity growers think they can transition into this. I've been at this for 23 years and can count on one hand how many have done it successfully and hung in for more than five years. And I still have fingers to use!"[33]

Through the course of this study and the attendant study in Illinois, four themes emerged as important factors for success. These stem from the observation that a healthy local food system, and successful enterprises within them, are based on values that recognize the interdependence of players within the supply chain: a values-based value chain.

1. Management team skill is critically important, particularly in marketing and sales. Growers need assurance that they will be rewarded with a better price if they deliver a better quality product, so the sales staff must be able to effectively gauge and market quality to buyers to ensure an equitable correlation between quality and price. This is a skill that is gained with experience, so if the sales staff is relatively inexperienced, functions such

as transportation and logistics could be outsourced until the team has perfected marketing and sales.

2. Establish a wide and cooperative network of growers. There should be a core group of growers that participate in pre-season crop planning, but cultivating relationships with a broader range of growers will increase the likelihood of filling gaps if weather or other unplanned events disrupt supply. These transactional relationships can be the foundation for future partnerships as the business expands.

3. Collaborate with other intermediaries to strengthen the market. This is a highly interdependent industry, one in which "coopetition" – cooperation with competitors – can expand markets and support prices. During pre-season crop planning, other intermediaries serving the same market should be consulted to avoid gluts which reduce the price for all players. During harvest, these intermediaries will become customers, and vice versa, as a means for finding markets and filling orders.

4. Engage all stakeholders to maintain a supportive climate. The Project Team witnessed the beneficial effect of establishing informal networks throughout the study. Representatives from agricultural non-profits and Extension services were engaged as project advisors, which afforded invaluable insight and avenues for reaching important networks of growers. Public officials demonstrated very intentional support to assist business development efforts. Buyers expressed a willingness to sit at the table with growers. If a business is to be established, buyers and growers should be brought together to better understand the issues, needs and requirements on both sides of the wholesale transaction to set expectations. This inclusive approach will greatly benefit the business development process. These stakeholders will become important business partners and enablers to a commercial enterprise, so building trust through appropriate engagement and transparency can pay dividends once the business is established.

SUMMARY

While there are supply-side issues that cannot be ignored, there is a business opportunity for the development of a local food system supported by an aggregation center in Northern Virginia. The market and political environment is favorable, with wholesale demand not even close to being met by local suppliers, and a local food trend that is expected to gain momentum. A business model is suggested through the findings from this study, yet any food system enterprise should be designed according to appropriate due diligence. Produce is a risky business, but a skillful operator should become financially sustainable provided local farmers step up to the plate and start growing for wholesale markets, or the business adopts a regional focus and aggregates from more productive growing regions for speciality crops to the south and east.

Endnotes

1 (Mintel Group 2009)
2 (Martinez, et al. May 2010, iii)
3 (USDA NASS 2009)
4 (FamilyFarmed.org 2009)
5 (FamilyFarmed.org 2010)
6 (Mintel Group 2009)
7 (Merrett 2009)
8 (National Restaurant Association 2009)
9 (The Food Channel editorial staff 2009)
10 (National Restaurant Association 2008)
11 (USDA Agricultural Marketing Service 2009)
12 (FamilyFarmed.org 2010, 6)
13 (FamilyFarmed.org 2010, 13-14)
14 (Illinois Department of Agriculture 2001)
15 (FamilyFarmed.org 2010, 16)
16 (Martinez, et al. May 2010, iv-v)
17 (Johnson 2010)
18 (Virginia Farm Bureau 2010) and (Virginia Department of Agriculture and Consumer Services 2010)
19 (Virginia Secretary of Agriculture and Forestry 2010)
20 (Flaccavento, Webinar 2009) (Flaccavento, Toolkit 2009)
21 (Good Natured Family Farms 2010) and (Dreier and Taheri 2008)
22 (Gallagher 2010), (Local Dirt 2010) and (Vora 2010)
23 (Yung 2009) and (Locavore Food Distributors 2010)
24 (Organic Valley Produce 2010) and (Day-Farnsworth, McCown and Millller December 2009)
25 (Rozyne 2009)
26 (Wilson 2001, updated April 2010)
27 (FamilyFarmed.org 2010)
28 (FamilyFarmed.org 2010, 23)
29 (NRCS, Virginia 2010)
30 (FamilyFarmed.org 2010)
31 (FamilyFarmed.org 2010, 23)
32 (NRCS, Virginia 2010)
33 (Liddington 2010)

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Appendix

Figure 1: Map of the Piedmont Region of the Eastern United States
Source: US Geological Survey

Figure 2: Calculation for Expenditures on Fruits and Vegetables in DE/MD/VA/DC, 2008

Figure	Description	Source
$657	2008 Average annual expenditures of all consumer units: • Fruits and vegetables at home	(U.S. Bureau of Labor Statistics, 2009)
$3,744	• Food at home (total)	
17.5%	• Percent fruits & vegetables of all food at home	$657 / $3,744 * 100
$2,698	• Food away from home (total)	
$473	• Fruits & vegetables away from home	$2,698 * 17.5%
$1,130	• Total fruits & vegetables home & away	$657 + $473
14,867,611	2008 population of DE/MD/VA/DC	(US Census Bureau, 2008)
$16,807,047,968	2008 Retail expenditures on fruits & vegetables in DE/MD/VA/DC	$1,130 * 14.8 million

Figure 3: Calculation for the Percent of DE/MD/VA/DC Fruit and Vegetable Sales Locally Produced, 2008

Figure	Description	Source
$16,807,047,968	2008 Retail expenditures on fruits & vegetables in DE/MD/VA/DC	Figure 2 above
26.7%	Farm value compared to retail value (%)	Derived from (Swenson, March 2010, p. i)
$4,480,728,522	2008 Farm share of retail sales ($)	$16.8 billion * 26.7%
$318,574,000	2008 Cash receipts to DE/MD/VA/DC farmers for vegetables, fruit, nuts (includes processed)	(USDA NASS Virginia Field Office, 2008)(USDA NASS and ERS, 2008)
7.1%	Percent of DE/MD/VA/DC fruit and vegetable sales produced locally (***Note:*** *overstated because cash receipts include items sold to processors and shipped out of the region)*	$318 million / $4.48 billion * 100