Growing Agribusiness: The Contribution And Development Potential Of Agriculture And Forest Industry In The Danville Metropolitan Area

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GROWING AGRIBUSINESS: THE CONTRIBUTION AND DEVELOPMENT POTENTIAL OF AGRICULTURE AND FOREST INDUSTRY IN THE DANVILLE METROPOLITAN AREA

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EXECUTIVE SUMMARY

The Danville metropolitan area economy and its agribusiness sector have experienced significant change over the last half-century. While historically heavily reliant on textiles and tobacco, the loss of employment in those industries has affected other sectors including input suppliers and businesses dependent on the spending of workers such as retail trade and personal services. Moreover, the employment losses have led to unemployment rates in Danville City that are persistently above the state and national averages. But, changes have been slowly taking root. Steady growth in some sectors, such as health care and educational services, has diversified the local economy.

A similar transformation is happening in the agribusiness sector, which remains a formidable economic force in the region. Farming employment has decreased over the last decade in response to tobacco farming losses, productivity improvements, alternative off-farm employment opportunities, and continued aging out of the farm workforce. However, the removal of the tobacco quota system did not ring the death knell for tobacco farming as once thought but instead stimulated farm consolidation and greater production efficiency. Sales of local tobacco have now stabilized at about one-half of recent quota-era level production levels. Other agricultural products have helped to fill part of the tobacco void. Livestock and dairy farming have increased, vaulting them into first place as a source of farm cash receipts. In addition, hay crops, fruits and vegetables, equine, agritourism, specialty products, and direct sales have grown in importance. Timber sales, valued at $10 million in fiscal year 2011, are likewise an important part of the area economy and a growing source of farm-related income.

Even more important in terms of economic impact are the contributions of agribusiness value-added industries. They too are much more diversified and feature global and high technology firms conducting pioneering research and development, producing innovative products and employing the most modern production techniques. Unlike other areas of the state that have seen a significant attrition in forest products employment because of offshore competition and slumping housing construction, the Danville metropolitan area has benefitted from recent industrial recruitment successes in furniture and related products through its attraction of cabinet manufacturer Yorktowne Cabinetry and the first North American plant of the IKEA group Swedwood subsidiary in Danville which has in turn attracted suppliers such as EBI, Inc. and Axxor Group. The area retains a significant tobacco manufacturing and distribution presence with a tobacco stemming and redrying facility at Japan Tobacco International and Lorillard tobacco warehouse which together employ several hundred workers. In addition, a Nestle food processing plant that produces refrigerated cookie dough, pasta, and sauce has expanded operations.

This study examines trends in the Danville metropolitan area economy with particular attention to the changing size and composition of the agribusiness sector. Agribusiness is defined here as farms, nurseries and timber tracts and any business that harvests, processes, manufactures, generates power from, or warehouses and distributes products with a strong agriculture or forest raw material or product input component. It measures the economic and government tax revenue footprint of the agribusiness industry using input-output analysis to illustrate its linkages with and continuing importance to the economy of the region. It also describes strengths, weaknesses, opportunities, and threats to agribusiness in the region with information elicited from three focus groups drawn from the agribusiness industry and the general public and individual interviews with Pittsylvania County Agricultural Board members. This information is used to develop strategic priorities and policy recommendations to expand the size and influence of the agribusiness industry in a way that promotes the economic growth of the region and the well-being of area residents.

Among the key findings of the study are the following:

Current and Historical Agribusiness Conditions

- Danville metropolitan area local governments and partner agencies and organizations have taken a strong interest and invested substantial resources in building a sustainable regional agribusiness industry. The growth of agribusiness-related research and development at the campus of the Institute for Advanced Learning and Research, expanding use of the newly opened Olde Dominion Agricultural Complex, and successful industrial recruitment of modern agribusinesses are evidence that the strategy is bearing fruit.

• Like elsewhere in Virginia and the United States, farming employment in the region is in decline. Over 5,000 workers representing 11 percent of total area employment were employed directly by the farm sector in 1969. This had decreased to 2,008 by 1997 and fewer than 1,478 by 2008 before stabilizing at that level.

• The farm sector has become much more diversified since the Master Settlement Agreement and tobacco quota buyouts. Livestock, dairy, and poultry are now a larger source of farm cash receipts than tobacco. The number of farms identifying themselves as producers of vegetable and fruit, other crops, poultry and egg, hog, sheep and goat, and other animals has also increased.

• Government payments and miscellaneous income, which consists mostly of tobacco transition payments and Phase I and II Master Settlement Agreement payments are a growing source of farm income. With the expiration of state tobacco payments in 2014, additional stress on area agriculture is expected that will result in a negative local economic impact.

• In contrast to many regions in Virginia and nearby North Carolina that have seen a substantial reduction in forest products employment due to furniture manufacturing offshoring and the housing market slump, local forest product employment has nearly doubled over the last two decades, from 1,277 in 1990 to 2,392 in 2011. The area emerged from the Great Recession in 2011 with more employment in the combined wood products, pulp and paper, and furniture and related products sectors than in 2007.

Agribusiness Economic Impacts

• The Danville metropolitan area agribusiness sector had a direct economic impact of 5,113 jobs in 2011. The direct value-added impact (which includes labor income, property income such as interest, rent and profits, and indirect business taxes, and is directly comparable to gross domestic product) was $287.8 million. The total direct output or sales impact (which includes intermediate sales as well as sales for final demand) was $980 million.

• The total economic impact of Pittsylvania County agribusiness, which includes the direct impact plus indirect and induced impacts resulting from area input purchases and payments to labor, was 7,294 jobs in 2011. The value-added impact was $421 million. The total output impact was $1.2 billion. These figures represent an estimated 15 percent of total industrial output and 14 percent of the area's total employment and gross domestic product.

• The total employment and output impacts of area agribusiness are roughly evenly divided between forest-related and agriculture-related industries with 3,694 in agriculture-related industries and 3,600 in forest-related industries. Value-added is higher in forest-related industries because of the greater number of jobs concentrated in higher earning manufacturing industries.

• The Danville metropolitan area agribusiness industry accounted for an estimated $30.3 million in state and local government revenues in 2011. The total was approximately evenly distributed among state and local coffers with $15.0 million for state government and $15.3 for local governments. An estimated $6.8 million of the local government revenue impact accrues to Danville City as a result of agribusiness activity occurring within its boundary and $7.9 million to Pittsylvania County from activities within the county.

• Agribusiness impacts are felt in all sectors of the economy. Agriculture, forestry, fishing and hunting and manufacturing industries total impacts are large, reflecting the sizeable presence of agribusiness employment in these sectors. However, the other sectors of the economy are also highly dependent on agribusiness activity, such as retail trade, services, and construction. These impacts result primarily from the spending of agribusinesses on inputs and labor payroll and are counted in the indirect and induced impacts. For example, area agribusinesses help support 307 retail trade, 287 health care, 192 accommodation and food services, and 132 construction jobs.

• For every 10 jobs created in local agribusinesses, approximately four more jobs result elsewhere in the local economy.

The Future of Area Agribusiness

• Regional stakeholders identified many strengths of the Danville region for supporting a strong agribusiness industry. Foremost among them are its natural resources, such as water supply, abundant land area with good quality soils, and ample supply of timber. The area also has characteristics such as a low cost of living, high quality of life, good transportation infrastructure, and low tax rates that could be an attraction for new firms and farmers. Stakeholders view the recently opened Olde Dominion Agricultural Complex as a key tool for building the industry because of its role as a one-stop-shop for area agribusinesses, location for education and training, and venue for hosting industry and agritourism events.

• The Danville region has several weaknesses that inhibit agribusiness growth. Industry focus group participants repeatedly brought up workforce availability, farm succession, and farming entry as serious concerns. Deteriorating public attitudes toward the farm profession and difficulties for new farmers in entering the industry because of high startup costs and farming complexity are hindrances. Increasing land fragmentation and poor timber management practices caused by absentee ownership, non-industry ownership and residential encroachment are inhibiting land utilization and farm economies of scale. Opportunities for small producers to add value to their livestock and other farm commodities are limited because of a lack of local slaughtering and processing facilities.

• Two threats loom over the area agribusiness sector. The political influence of local agribusiness is expected to dwindle in the future because of urbanization trends and newer generations of political leaders who have little direct experience with the farm and forestry industries. Some focus group participants believe that the potential lifting of a statewide moratorium on uranium mining in Virginia and allowing uranium mining at the Coles Hill site could harm area agriculture.

• The local agribusiness sector could be boosted by further diversifying area agriculture and attracting new value-added enterprises based on expanding global markets, leisure and recreation, consumption of fresh and organic foods, and research and development breakthroughs in bioenergy, waste to energy conversion, and plant breeding and propagation. Opportunities may exist in promoting and branding local products, adding value to local products, building regional cooperative arrangements for aggregating and marketing products, and advertising area agritourism attractions more effectively. Many citizens identified a need for a value-added facility (e.g., meat processing, cannery, creamery, community kitchen) to be located in the area, possibly at the Olde Dominion Agricultural Complex.

• The Pittsylvania County Agricultural Development Board could undertake several dozen actions spread across 10 categories synthesized from stakeholder comments to improve the economic prospects of farm, forestry, and other agribusiness activity. They include initiatives in (a) administration and planning, (b) public relations, (c) marketing, (d) market and industrial development, (e) education and workforce, (f) entrepreneurship, succession, and management, (g) financial capital, (g) infrastructure and facilities, (h) natural resources, and (i) taxes and regulations.

INTRODUCTION

The Danville metropolitan area economy and its agribusiness sector have undergone substantial change over the last half-century. The Dan River Mill, which manufactured apparel fabrics and home textile products such as bedding for national markets, had more than 18,000 workers in 1956. In 1950 farm earnings made up approximately 18 percent of total area earnings.[1] Pittsylvania County numbered 4,690 farms and produced 33 million pounds of tobacco and large quantities of barley, wheat, and corn (Aaron 2009; U.S.D.A., NASS 2012). Tobacco represented over 80 percent of total farm sales.[2] The area tobacco industry comprised tobacco growers, tobacco auction warehouses and tobacco stemming and redrying companies that together employed thousands of workers.

Today most of these farms and businesses have discontinued operation, which has had deleterious knock on effects for suppliers and area service and retail trade businesses dependent on employee spending. The proximate causes of these closures were long-term declines in domestic consumer demand for tobacco products and international competition in the textile industry. Dan River Mill and another large textile operation, Burlington Industries in Hurt, closed during the last decade. Much of the tobacco manufacturing and distribution infrastructure, including major distributors such as Universal Leaf and Dimon, were gone by 2005.

The local economy has been undergoing a transformation from one dependent on a few large traditional manufacturing employers to a more diversified one based on small and medium sized businesses, services and trade, and modern manufacturing. Health care and educational services have grown rapidly. Former industrial space is in the process of being converted to alternative uses. The River District in Danville that housed many industrial and warehouse activities is being revitalized and repurposed by eliminating blighted buildings, restoring facades, renovating interiors, and attracting new economic activity such as offices, retailers, and residential apartments.

The agribusiness sector (defined here as farms, nurseries and timber tracts and any business that harvests, processes, manufactures, generates power from, or warehouses and distributes products with a strong agriculture or forest raw material or product input component) has also proven resilient. Although tobacco is still an important crop, livestock and dairy are now a larger source of cash receipts. Value added activities are also more diversified and feature global and high technology firms conducting pioneering research and development, producing customized products and employing modern production techniques.

Throughout this transition, funds provided by the Virginia Tobacco Indemnification and Community Revitalization Commission and Danville Regional Foundation and the activities of multiple state, regional, and local economic development agencies have been instrumental in planning and financially supporting the area's economic restructuring and modernization.

This study examines trends in the Danville metropolitan area economy with particular attention to the changing size and composition of the agribusiness sector, drawing on public statistics from a variety of different sources. It measures the economic and fiscal footprint of the industry to illustrate its linkages with and continuing importance to the economy of the region. It also describes the future economic potential of agribusiness in the region, including strengths, weaknesses, opportunities, and threats. Lastly, it develops strategic priorities and policy recommendations for promoting agribusiness revitalization in support of local economic development.

To analyze economic impacts, the study uses a methodology (input-output analysis) and a software tool (IMPLAN) that have been applied often in agribusiness impact analysis, including recent economic impact studies of Virginia's agricultural and forest industries (Rephann Forthcoming, 2008) and the horse industry

1 Based on old series Bureau of Economic Analysis local personal income data available for years 1929, 1940, 1950, 1959, 1962, and 1965-1984.

2 Based on authors estimates using 1950 Agricultural Census farm sales and tobacco production figures and average historical tobacco prices from the National Agricultural Statistics Service's *Tobacco Outlook and Tobacco Yearbook* http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1392

(Rephann 2011). The methodology accounts not only for the direct spending attributable to agribusiness industries but also for indirect spending attributable to backward linkages in the supply chain. As a result of these linkages, the original expenditures cause a "ripple effect" or "multiplier effect" when money is re-spent in the Danville metropolitan area economy. The study presents economic impacts in terms of employment, total industrial output, and value-added. State and local government revenue impacts are also estimated. Impacts are presented for the Danville metropolitan area as a whole and for Pittsylvania County and Danville City separately, for agriculture-related industries and forest-related industries and for different sector components (production, primary manufacturing, secondary manufacturing, distribution/power generation, and agritourism/horse industry).

To obtain information on area agribusiness economic development potential, the study draws on information provided by focus groups formed from local agribusinesses and the general public and interviews conducted with members of the Pittsylvania County Agricultural Development Board. The discussions and interviews were used to explore attitudes towards agribusiness and agriculture in Pittsylvania County and Danville City, and to gather ideas for promoting the area as a destination for individuals or entities that wish to pursue traditional and non-traditional agribusiness and agriculture/forestry activities. Participants were asked about the current status of the industry including regional industry strengths and weaknesses, perceptions of the contributions and value of the industry, industry trends, industry opportunities and challenges, and industry needs.

Using information from the descriptive analysis, economic impact analysis, stakeholder discussions and interviews, and a review of selected agriculture and forestry economic development plans from other communities, the study identifies strategic priorities and develops policy recommendations to expand the size and influence of the agribusiness industry in a way that promotes the economic growth of the region and the well-being of area residents.

The study is divided into five sections. The first section describes the Danville metropolitan area economy and trends in key economic and demographic data. The second section provides more complete background on the history, size, and changing composition of the area's agribusiness sector. The third section gauges the economic contribution of the agribusiness sector to the region using input-output analysis. The fourth section presents the results of focus group discussions and interviews to gauge perceptions of the sector and examine ways that it could be developed. The fifth section describes strategic initiatives and activities to promote and expand area agribusiness.

SECTION 1
THE DANVILLE METROPOLITAN AREA ECONOMY

The Danville, VA Metropolitan Statistical Area consists of the City of Danville and Pittsylvania County and is located in south-central Virginia along the North Carolina border (see **Figure 1.1**). Together with Caswell County, NC, it also forms what is known as the Dan River Region. Danville is the largest urban area in the metropolitan area, with 43,055 residents, down from 48,411 in 2000 for a decrease of 11 percent. Pittsylvania County covers over 978 square miles making it the commonwealth's largest locality and is only slightly smaller than the state of Rhode Island at 1,045 square miles. Approximately 44 percent of this total area consists of farmland. Its topography consists of rolling land interrupted by small mountain ridges. Pittsylvania's population was 63,506 in 2010, which is up 3 percent from a level of 61,745 in 2000, reflecting residential decentralization from Danville City. Major towns include Hurt (1,304), Chatham (1,269), and Gretna (1,267). The area lies within 60-mile radius of two major conurbations: the Piedmont Triad (Greensboro-Highpoint-Winston Salem) to the southwest (population 1,599,477) and the Research Triangle (Raleigh-Durham-Chapel Hill) to the southeast (Population 1,795,750). It is within a day's drive to approximately two thirds of the U.S. population.

The Danville metropolitan area has a rich industrial and agricultural heritage. Until relatively recently, the region had been heavily reliant on textiles and tobacco. With the loss of employment in these industries, the area has been transitioning to a more diversified economy based on advanced manufacturing, green technology, education, health care, and tourism. Many of the area's newest industrial recruits are global companies, including ones based in Europe, Asia and countries elsewhere in North America such as Swedwood from Sweden, EBI, LLC from Poland, Axxor Group from the Netherlands, Nestle from Switzerland, Arista Tube from the United Kingdom, Essel Propack from India, LifeBatt from Taiwan, Virdia from Israel, JTI from Japan, Telvista from Mexico and CBN Secure Technologies from Canada.[1] Green industry employers include EcomNets, which produces the Verdio Green PC; a new hybrid

1 Danville Regional Foundation. 2010. *An overview of the Dan River Region*. http://www.drfonline.org

Figure 1.1. Danville, VA Metropolitan Statistical Area

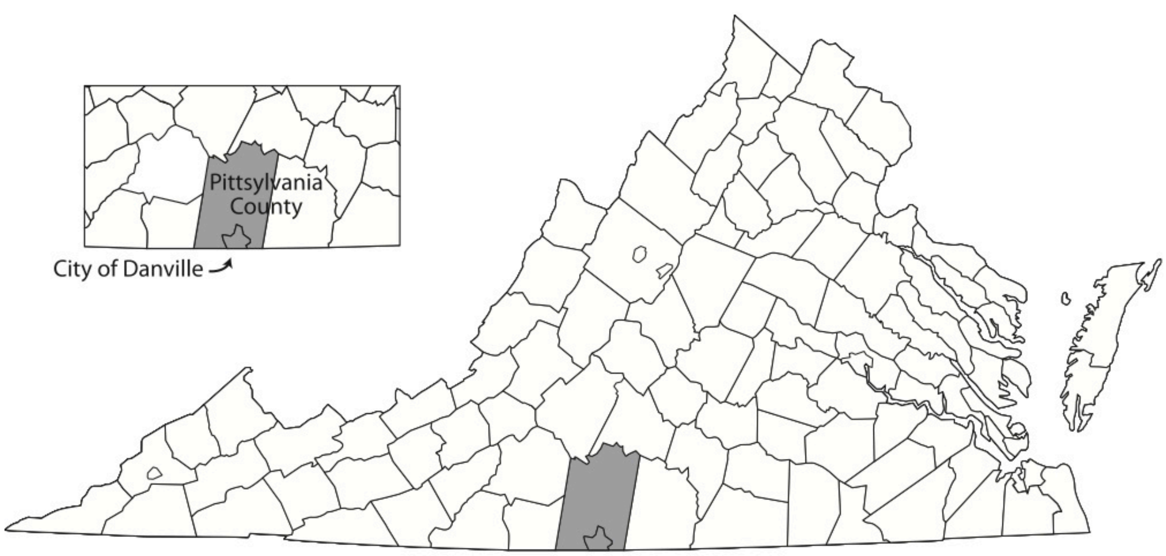
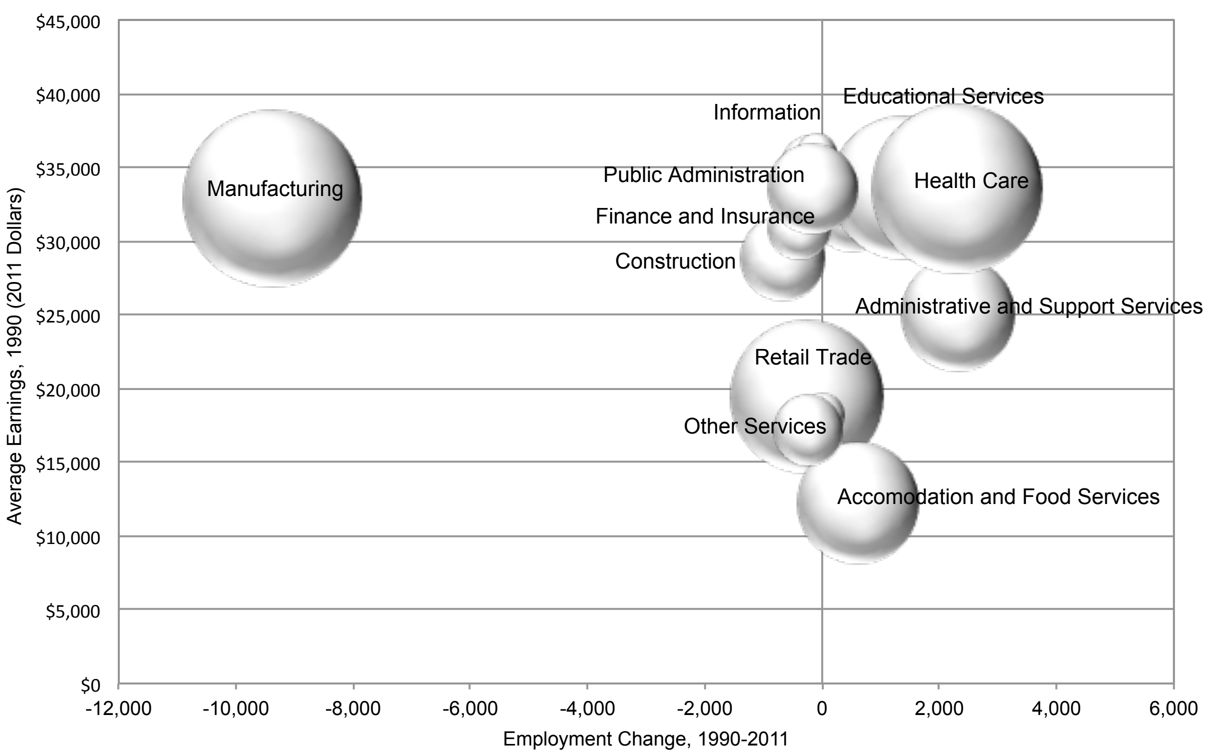


Figure 1.2. Size of Sector, Change in Employment 1990-2011, and Average Annual Wages 1990, Danville Metropolitan Area



Source: Virginia Employment Commission, Quarterly Census of Employment and Wages
Note: Size of each object is scaled to employment in 1990.

vehicle manufacturer, Hybrid Vehicles of Danville; and solar panels manufacturer U.S. Green Energy Corporation. Pittsylvania County had until recently the state's lone biomass power generation plant and the largest such facility east of the Mississippi (Pittsylvania Power Station in Hurt operated by Dominion Power). Agribusiness continues to be a leading employer. However, as will be explored in the next section, its composition has changed with a continued gradual exodus of employment from farming and new types of manufacturing operations replacing the old.

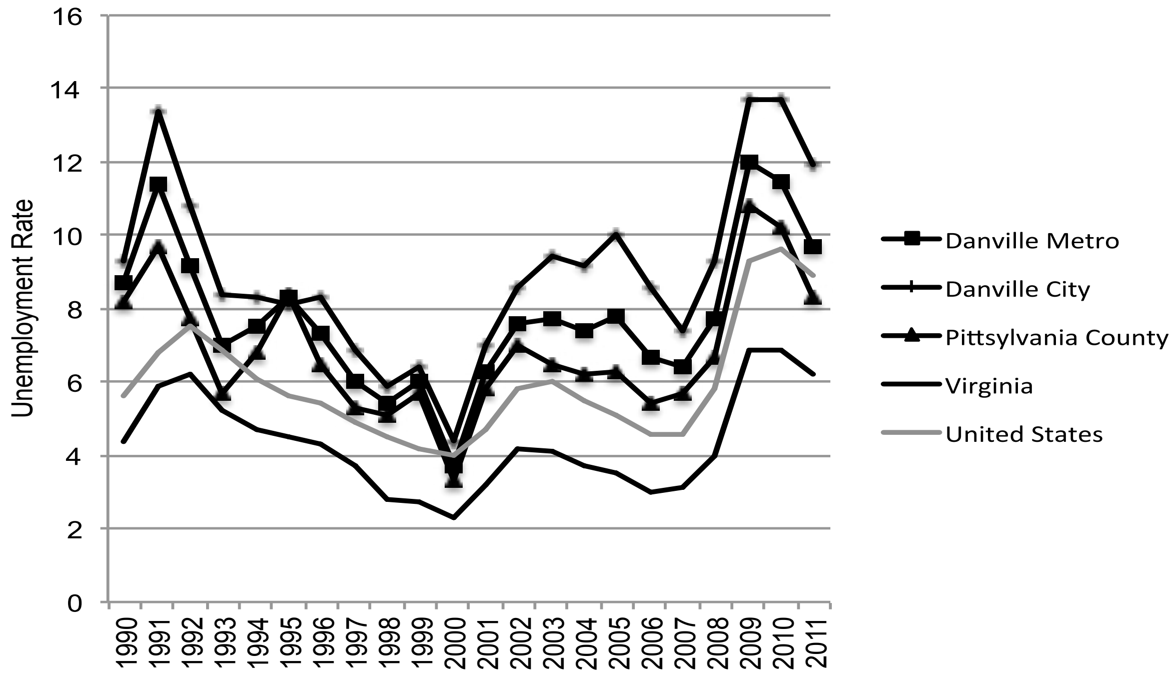
Figure 1.2 shows the size and change in employment of the major sectors in the region from 1990-2011. The manufacturing industry was the largest sector in 1990. However, the area lost approximately 9,400 manufacturing jobs during this period.

Even with the huge manufacturing employment decreases, the sector continues to be the leading industry with 6,833 employees and forms a comparatively large part of the local economy. The manufacturing sector represents 18 percent of the Danville metropolitan area's total employment compared to 7 percent for Virginia and 9 percent for the U. S.[2] This manufacturing reliance can result in more volatile swings in unemployment rates in response to national cyclical changes in economic activity.

Industrial diversification has increased with sectors such as health care and educational services accounting for the bulk of new relatively higher paying jobs. The healthcare and social assistance industry is now the second largest source of direct employment in the region with 6,250 employees. Educational services are anchored by higher education programs at Averett

2 These percentages are computed using annual 2011 Quarterly Census of Employment and Wages employment data from the Virginia Employment Commission (Danville MSA and Virginia) and Bureau of Labor Statistics (United States).

Figure 1.3. Unemployment Rate, Danville Metropolitan Area, Virginia, and United States, 1990-2011



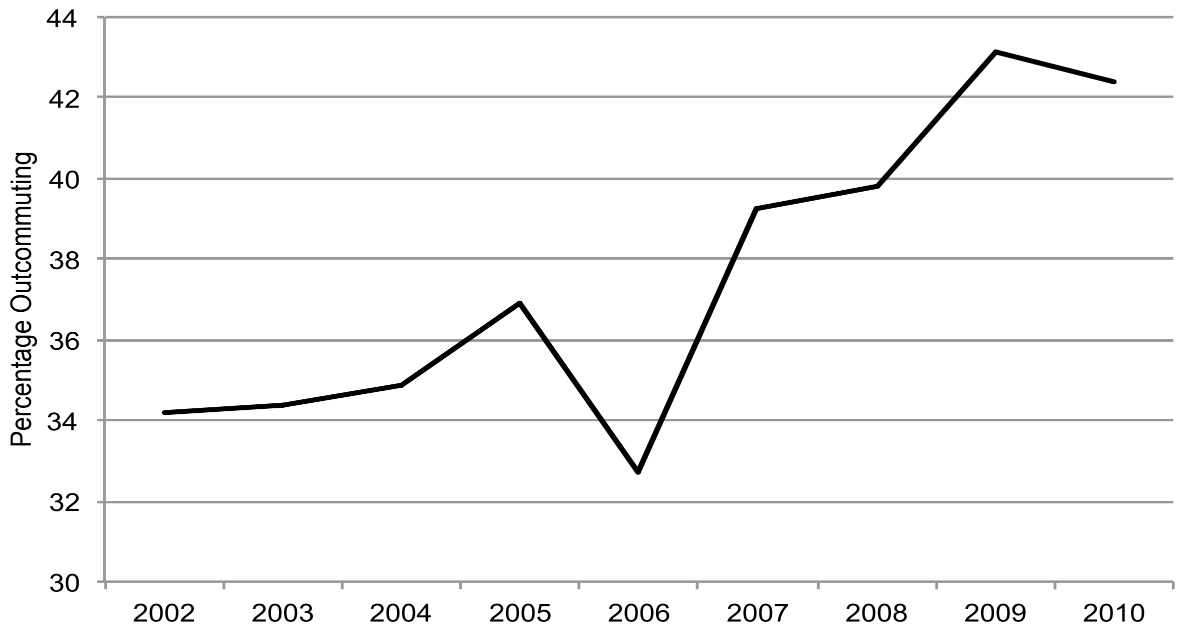
Source: Bureau of Labor Statistics, Local Area Unemployment Series

University, Danville Community College, the Danville Regional Medical Center School of Health Professions Nursing Program and the Institute for Advanced Learning and Research (IALR) and two private boarding schools, Hargrave Military Academy (enrollment 315), and Chatham Hall (enrollment 130). Other smaller sectors such as administrative, support and waste management, arts and entertainment and wholesale trade have also increased employment in the region. Rounding out the area economy are growing but lower paying sectors such as accommodation and food services.

The substantial erosion of employment has produced elevated unemployment levels compared to the state and nation for the last two decades. This gap reflects structural unemployment: the presence of long-term displaced workers combined with an absence of employment opportunities in the area and a mismatch between the skills needed by area employers and workforce characteristics. The persistently elevated unemployment rate has had several effects: more out-commuting for employment opportunities (see **Figure 1.4**), population exodus, greater reliance on income maintenance benefits and unemployment insurance compensation (see **Figure 1.5**) and lower per capita incomes. The area has roughly the same population as it had in 1969 due to population outmigration, although there have been brief periods of population growth during the early 1970s and 1990s (see **Figure 1.6**). Corresponding with substantial cutbacks in mill activity, the area began to lose additional ground in per capita income relative to the United States during the 1980s (see **Figure 1.7**). Relative per capita income bottomed out economically during the Great Recession of 2007-2009 and has begun to increase slightly. This improvement reflects a lower population base due to outmigration, better local economic conditions, and the growth of transfer payments.

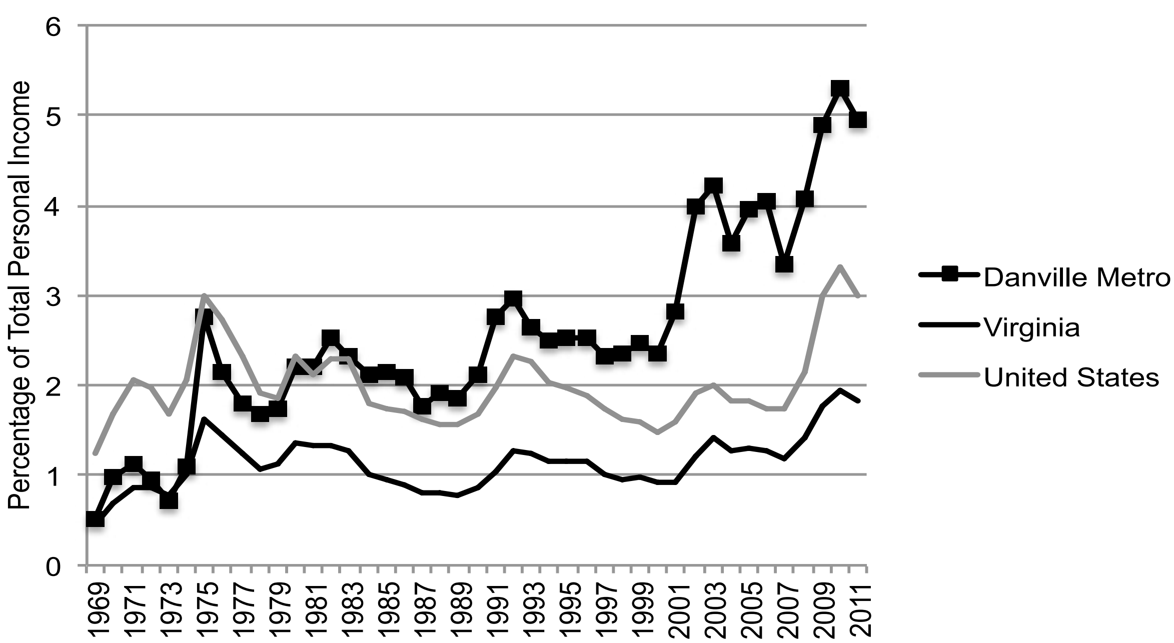
Table 1.1 compares key demographic and economic characteristics of the region with that of Virginia and the U.S. Approximately 63.2 percent of residents are white, non-Hispanic and 32.7 percent black/African American. The region has also experienced a small influx of Hispanic/Latino residents in recent years, many of whom work in agribusinesses such as farms and sawmills. Reflecting the large outmigration of younger residents

Figure 1.4. Percent of Danville Metropolitan Area Resident Workers Employed Outside Metro Area, 2002-2010



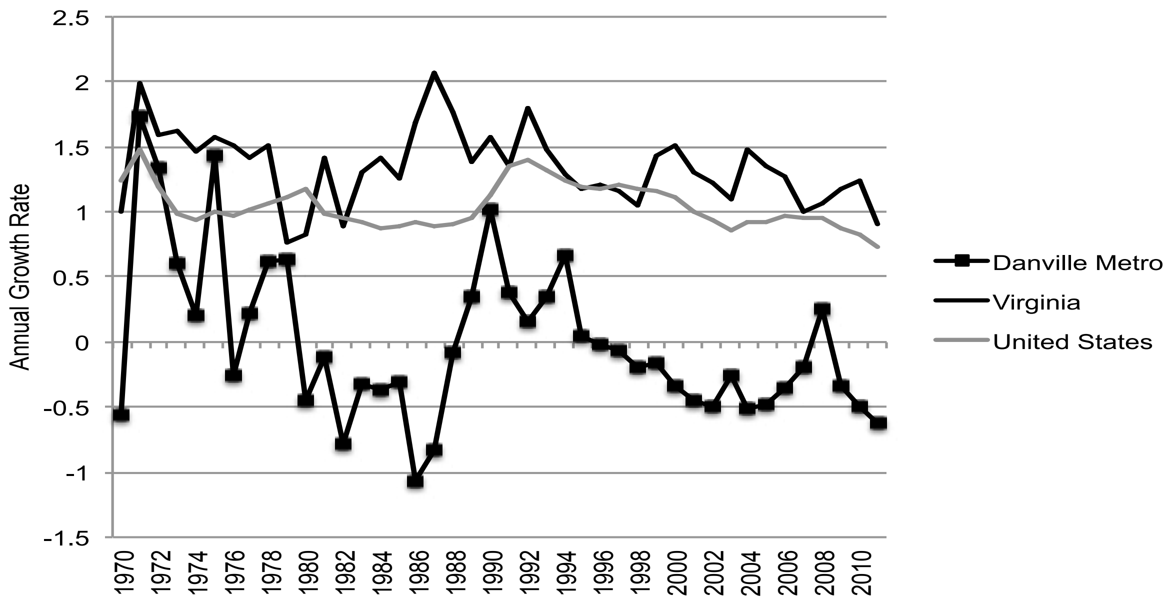
Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD)

Figure 1.5 Income Maintenance Benefits and Unemployment Insurance Compensation as Percentage of Total Personal Income, Danville Metropolitan Area, Virginia and United States, 1969-2011



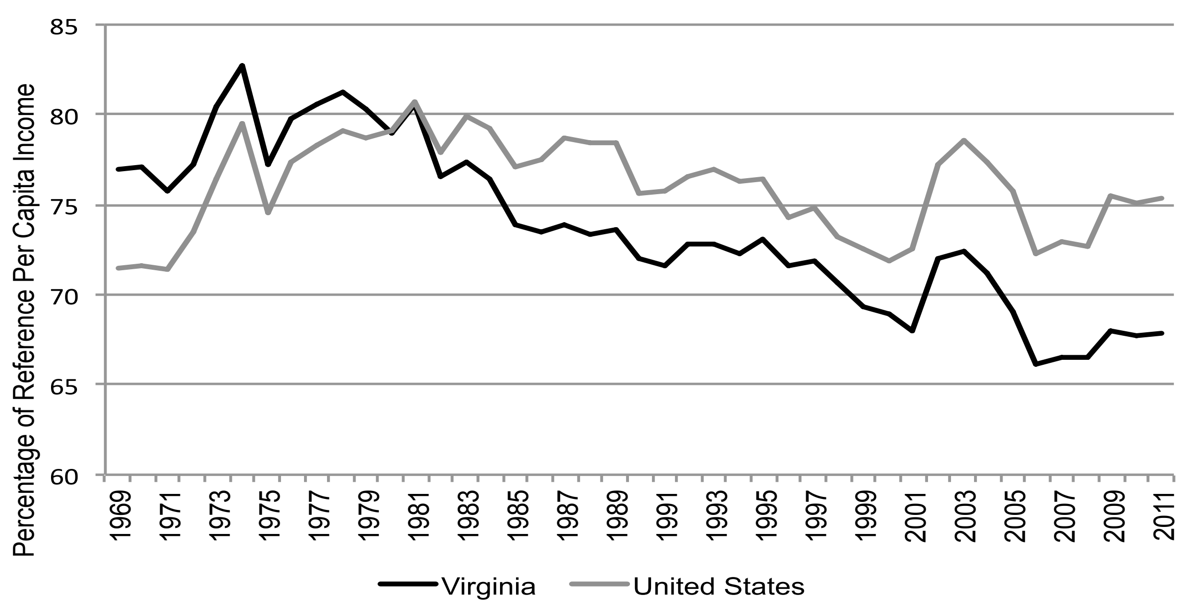
Source: Bureau of Economic Analysis, Regional Economic Information System

Figure 1.6. Annual Population Growth Rate, Danville Metropolitan Area, Virginia, and United States, 1970-2011



Source: Bureau of Economic Analysis, Regional Economic Information System

Figure 1.7. Danville Metropolitan Area Per Capita Income as Percentage of Virginia and United States, 1969-2011



Source: Bureau of Economic Analysis, Regional Economic Information System

Table 1.1 Economic, Social and Demographic Characteristics, Danville Metropolitan Area, Virginia, and United States, 2007-2011

	Median Household Income	Poverty Rate	High school degree or greater	College degree or greater	% Minority	% 65 Years and Older
United States	$52,762	14.30%	85.40%	28.20%	35.80%	12.90%
Virginia	$63,302	10.70%	86.60%	34.40%	34.80%	12.10%
Danville Metro Area	$36,102	18.90%	76.80%	14.40%	36.80%	17.80%
Danville City	$31,011	25.60%	76.60%	16.90%	52.90%	19.00%
Pittsylvania County	$40,333	14.40%	76.90%	12.80%	25.70%	16.90%

Source: U.S. Census Bureau, American Community Survey

in response to economic and lifestyle opportunities, the area's population is older than both Virginia and the U.S. Residents who are 65 years and older constitute 17.8 percent of the population versus 12.9 percent for the U.S and 12.1 percent for Virginia. Educational achievement levels are generally also much lower than the state and nation. Twenty-three percent of area residents over the age of twenty-five have not earned a high school diploma or equivalency compared to 15 percent nationwide. The college attainment percentage (14.4 percent) is approximately half that of the nation. Poverty rates in the region are significantly higher (18.9 percent) than Virginia (10.7 percent) and the U.S. (14.3 percent).

The Danville metropolitan area's economic crisis has stimulated new revitalization initiatives. Major economic development players include the Virginia Economic Development Partnership, Virginia Tobacco Indemnification and Community Revitalization Commission, Danville Development Council, Danville Industrial Development Authority, Pittsylvania County Industrial Development Authority, Southern Virginia Regional Alliance, Danville Regional Foundation, Pittsylvania-Danville Chamber of Commerce, West Piedmont Planning District Commission, Virginia Tech, Institute for Advanced Learning and Research (IALR), Danville Community College and Pittsylvania Agricultural Development Board. Substantial resources have been allocated to incentives for relocating and expanding businesses, investments in telecommunications and industrial park infrastructure, research and development activities at the Institute for Advanced Learning and Research, education and workforce development programming, downtown revitalization, small business development and entrepreneurship programming, and agribusiness development (see **Box 1.1**). Funding from the Tobacco Commission (so named because it is a regional development program funded by approximately half of the funds generated as a result of the Master Settlement Agreement with the major tobacco companies) and Danville Regional Foundation (a $200 million endowment created from the sale of Danville Regional Medical Center to Lifepoint Hospitals in 2005) have played an important part in the success of many of these initiatives.

Box 1.1 Agribusiness Planning and Development

Local governments have taken a special interest in building a sustainable agribusiness industry. The Pittsylvania County Board of Supervisors created an Agricultural Development Board in 2007 and hired an Agriculture Development Director shortly thereafter with the charge of "designing and implementing a comprehensive plan for agricultural economic development, promoting agriculture and forest industries as well as enhancing the economic viability of farming and extending the Pittsylvania County agricultural infrastructure." It is one of only five Virginia localities (the others being Fauquier, Halifax, and Loudoun counties, and the City of Virginia Beach) to have a department dedicated to agriculture development. The Director has organized a number of initiatives. Foremost among them was planning and overseeing the construction of an agriculture complex to create a one-stop-shop for regional agribusinesses, host educational and training activities, house a local foods market, and create a venue for agritourism, industry activities, and community events. The Agriculture Development Board has also been active in several additional areas:

- County land use and land preservation policy. The Board advises county officials on agriculture land use policy for the Comprehensive Plan and local zoning regulations. The County Board of Supervisors recently formed a subcommittee from the agricultural board to study the creation of a Purchase of Development Rights (PDR) program.

- Marketing and recruitment. The Board is working on promotional materials to highlight area agricultural products, exploring the development of an electronic agriculture commodity clearinghouse, and conducting trade missions and industrial recruitment trips to other regions such as Midwestern feed lots to market area feeder cattle.

- Researching and promoting new products. The Board has worked with area farmers to explore the commercial possibilities of farm-diversifying ventures such as aquaculture, apiary, value-added farm products, conservation markets, agritourism, energy, and biofuels.

- Outreach. The Agriculture Development Director serves as the primary contact with state and local officials for Tobacco Commission programs directed at agribusiness, Virginia Secretary of Agriculture and Forestry programs such as the Agriculture and Forestry Industries Development (AFID) Fund and AEZ Agriculture Export Zone (AEZ), and statewide county agriculture development directors through the Virginia Agricultural Development Officers (VADO) group.

Other local agencies also recognize the possibility of growing the agribusiness sector. The Danville Economic Development Office has identified food processing as one of its target industry clusters. A 2005 industrial cluster study sponsored by the Virginia Economic Development Partnership (VEDP) and the Virginia Community College System (VCCS) identified wood products and furniture manufacturing as an important industry cluster (Stark 2007). The Virginia Tech Community Viability Program, which has a local office at the IALR, also promotes local foods, biofuels, waste products, ecological/conservation markets, and agritourism. It was instrumental in the visioning process that led to the creation of the Olde Dominion Agricultural Complex.

Olde Dominion Agricultural Complex

SECTION 2
AGRIBUSINESS IN THE DANVILLE METROPOLITAN AREA

The Danville metropolitan area's agribusiness sector is transforming from one reliant on a handful of large industries to a more diversified portfolio of traditional and newer industries. Twin pillars of the agribusiness economy, tobacco and textiles have either collapsed or downsized. The dominant textiles industry disappeared with the closures of Dan River Mill in Danville and the Burlington Industries plant in Hurt. The former employed nearly 18,000 workers during its heyday in 1950s but only 1,300 at time of its closure in 2006 while the latter employed 500 workers in 2007 before its closure (see **Table 2.1**). The loss of this industry reflects international competition from low cost developing nations, the movement of apparel and textile supply chains to Asia and Latin America, as well as continued productivity improvements in remaining domestic mills that are increasingly focused on higher value added specialty textiles and coatings. The tobacco industry has shrunk as a result of government regulations, excise tax increases, and declining domestic consumer demand due to health concerns. This decline has affected farmers, manufacturers, and distributors. Two area tobacco stemming and redrying factories, Dimon Inc. (now Alliance One) and Universal Leaf, ceased Danville area operations in 2005 and consolidated operations at plants in North Carolina.

Table 2.1 Recent Major Agribusiness Closures

Firm	Closure Year	Product	Employment
Burlington Industries	2007	Fabric Finishing Mill	500
Dan River Mill	2006	Fabric Mill	1,300
Dimon	2005	Tobacco Stemming and Redrying	60 FT, 450 seasonal
Universal Leaf	2005	Tobacco Stemming and Redrying	77 FT, 325 seasonal

In the face of these challenges, the region's agribusiness manufacturing sector has proven to be quite resilient. The economic vacuum left by textiles and tobacco firms has been partly filled with new manufacturing activities (see **Table 2.2**) such as furniture and related products, food processing and research and development centered on botanical products and biofuels. The Danville area has successfully recruited furniture and related product firms, often global in extent, with sophisticated supply chains and operations that employ state of the art technology such as GOK International, Yorktowne Cabinetry, and IKEA manufacturing subsidiary Swedwood and its suppliers EBI and Axxor Group. A Nestle Inc. plant located in Airside Industrial Park produces refrigerated cookie dough, pasta, and sauce with a workforce approaching 700 for a growing market of time-strapped consumers who demand convenient, ready-made meals. Business spinoffs and research and development firms connected to the activities of the Institute of Advanced

Table 2.2 Recent Notable Agribusiness Openings and Expansions

Firm	Start/ Expansion Year	Product	Employment
GOK International	2012	Wood furniture	300 (Announced)
Virdia	2012	Biotech/bioenergy	35-50
ProteiosBio	2012	Biotech	100 (Announced)
DRPPC	2012	Plant tissue culture	10-15
Nestle	2012	Cookie dough, pasta and sauce	50 (in addition to 633 existing)
Axxor Group	2012	Paper honeycomb	31
Tyton BioSciences	2011	Biotech/bioenergy	1-10
Japanese Tobacco International (JTI)	2010	Tobacco stemming and redrying	200 (including seasonal employees)
Swedwood	2008	Wood furniture	350
EBI	2008	Mattresses, upholstered furniture	500
Yorktowne Cabinetry	2006	Kitchen and bath cabinetry	300

Box 2.1 Agribusiness Research and Development

The Institute of Advanced Learning and Research (IALR) was established in 2002 and draws dozens of Virginia Tech faculty and graduate students in support of translational research to benefit the local economy. Two IASR-affiliated research centers focus on agribusiness-related research. The Institute for Sustainable and Renewable Resources (ISRR) conducts plant biological research for developing and producing new ornamental, crop and forest plant varieties. The Sustainable Energy and Technology Center (SENTEC), which opened in 2011, performs research on new biomass crops and biomass refinery technologies for commercial scale production in Southside Virginia.

The presence of these activities has helped to create one business spinoff so far and supports several other private research and development ventures in the region, including the following:

- Dan River Plant Propagation Center (DRPPC) is the first business spinoff of ISRR. It develops plant tissue cultures for customized high-value ornamental plants such as the Lady Astor Rose and bioenergy plants such as miscanthus. The Center is increasing production to meet growing demand and will also cultivate larger plants from the tissue cultures. It is planning to move from the IALR incubation facility to a larger facility in the near future as it expands operations.

- Virdia, Inc. which has developed a method for making renewable chemicals, bio-energy, and animal feed from wood chips opened a research center in SENTEC. Virdia currently has 34 employees and expects to expand to 50. It will scale up its operations further for commercial production in the near future at a site with sustainable timber supplies.

- ProteiosBio Company moved into SENTEC in 2012. ProteiosBio conducts research on potato proteins for making pharmaceutical products. They plan to add up to 100 jobs over a five-year period and to utilize 20 local greenhouses for potato production.

- Tyton BioSciences Corp., which is located in Danville, has created a process for converting tobacco into biofuels such as biodiesel and ethanol. It believes the technology can be deployed for commercial production in two to three years.

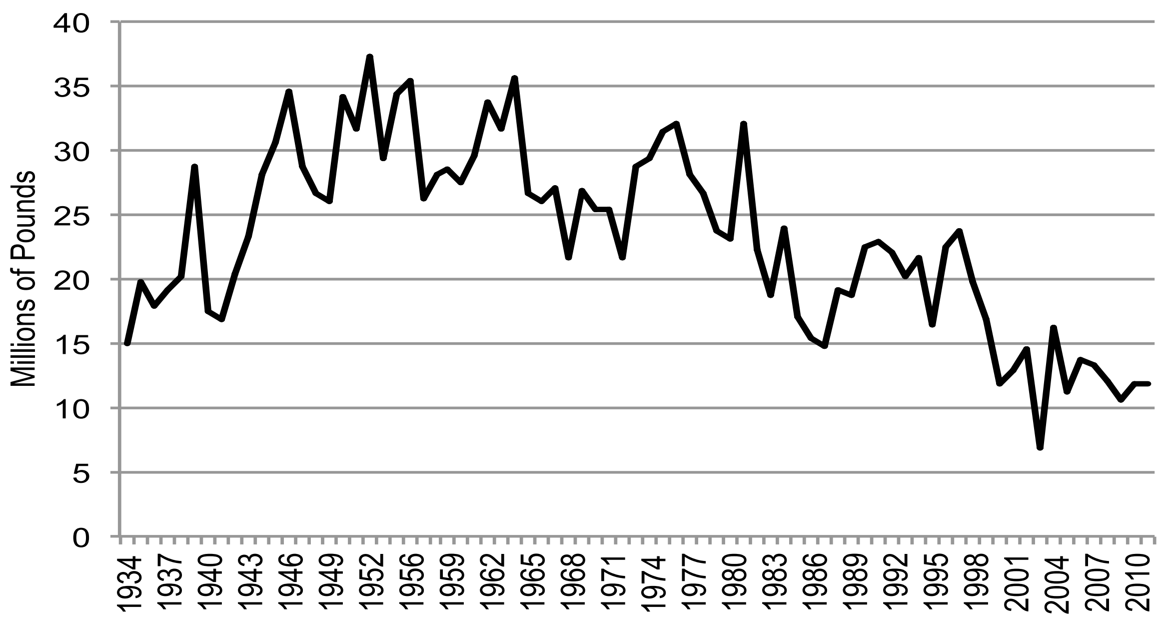
- Piedmont Bioproducts, which is located in Gretna, has constructed a pilot thermal-chemical refinery for producing biofuel from organic biomass such as miscanthus, switch grass, and wood chips. The company plans to start commercial production in the near future, creating a daily demand for 40-50 tons of biomass feedstock.

Institute for Advanced Learning and Research

Learning and Research such as Virdia, ProteiosBio, and Dan River Plant Propagation Center (DRPPPC) are expanding (see **Box 2.1**). The tobacco manufacturing industry has also bounced back. In 2010, another global firm, Japan Tobacco International (JTI), moved into the area, renovating an older Dan River Mill distribution building into a state-of-the-art tobacco stemming and redrying operation.

The farm sector is undergoing a similar restructuring. Pittsylvania was the leading tobacco-producing county in the state in 2011 with 11.5 million pounds of flue cured

Figure 2.1 Pittsylvania County Tobacco Production, 1934-2011



Source: U.S. Department of Agriculture, National Agricultural Statistics Service, Quickstats

tobacco and 310 thousand pounds of burley tobacco. This production level is substantially below historical peaks (see **Figure 2.1**) falling from $38 million in sales in 1990 to $20 million in 2011.[1] While many tobacco farmers elected to discontinue tobacco growing due to the loss of price supports provided by the quota system, tobacco growing has proven surprisingly durable due to the natural growing advantages for flue-cured tobacco including relatively flat and fertile soils, economies of scale achieved by area farm consolidation, and continued high demand for regional tobacco.[2] Some operators have also recently begun to farm burley tobacco. Anecdotal evidence suggests that tobacco transition payments and Phase I and Phase II Master Settlement Agreement payments have helped aid tobacco farming consolidation and retooling, farm diversification and shifts to non-farm employment, but no formal analysis of the programs' effectiveness has been undertaken.

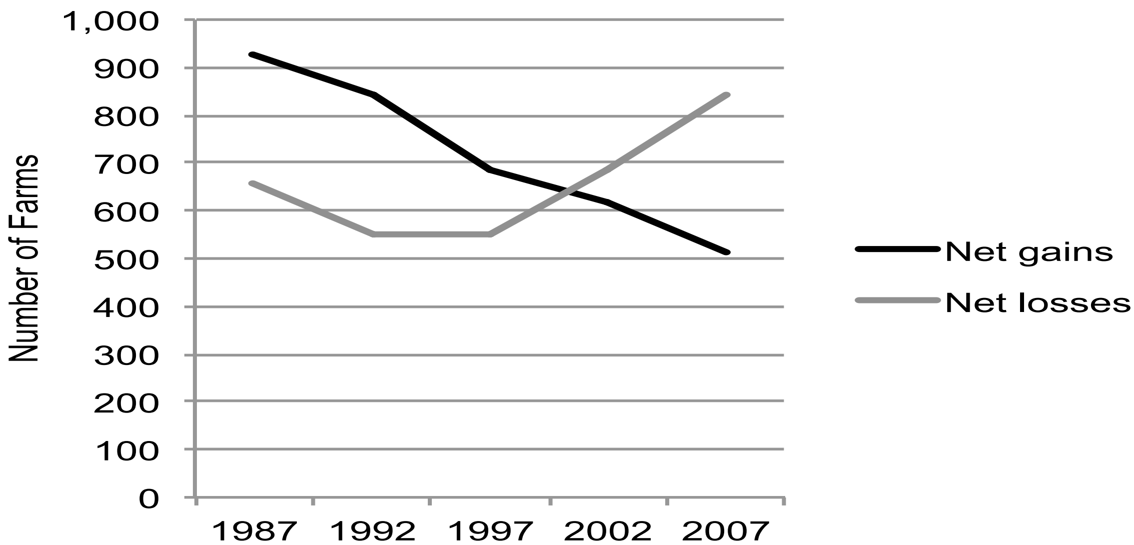
Declining tobacco markets and the loss of tobacco quotas and price support are probably the principal factors behind eroding farm balance sheets in recent years (see **Figure 2.2**). Farm income from government payments and miscellaneous income (which consists of home consumption, sales of forest products, tobacco quota buyouts, and other farm related income) have helped to cushion these losses to some extent (see **Figure 2.3**). But, the planned phasing out of government tobacco transition and Master Settlement Agreement payments will likely require additional adjustments.

Area farmers have diversified into a number of different commodities such as cattle, fruits, vegetables, forage crops, and specialty foods (see **Figure 2.4**). Beginning in the last 10 years more farm sales were derived from livestock, dairy, and poultry than crops, principally tobacco. Pittsylvania County is a leading producer of several farm commodities among Virginia counties. It ranks 6th for cattle and calves, 9th in hay production and 17th for number of equine. The number of cattle and calves has

1 Based on author's estimates using production data from National Agricultural Statistics Service Quick Stats and average annual historical tobacco prices from the National Agricultural Statistics Service's *Tobacco Outlook and Tobacco Yearbook* and November 12th 2012 U.S. Tobacco Situation and Outlook Report from North Carolina State University http://www.ncsu.edu/project/tobacco-portal/economics/

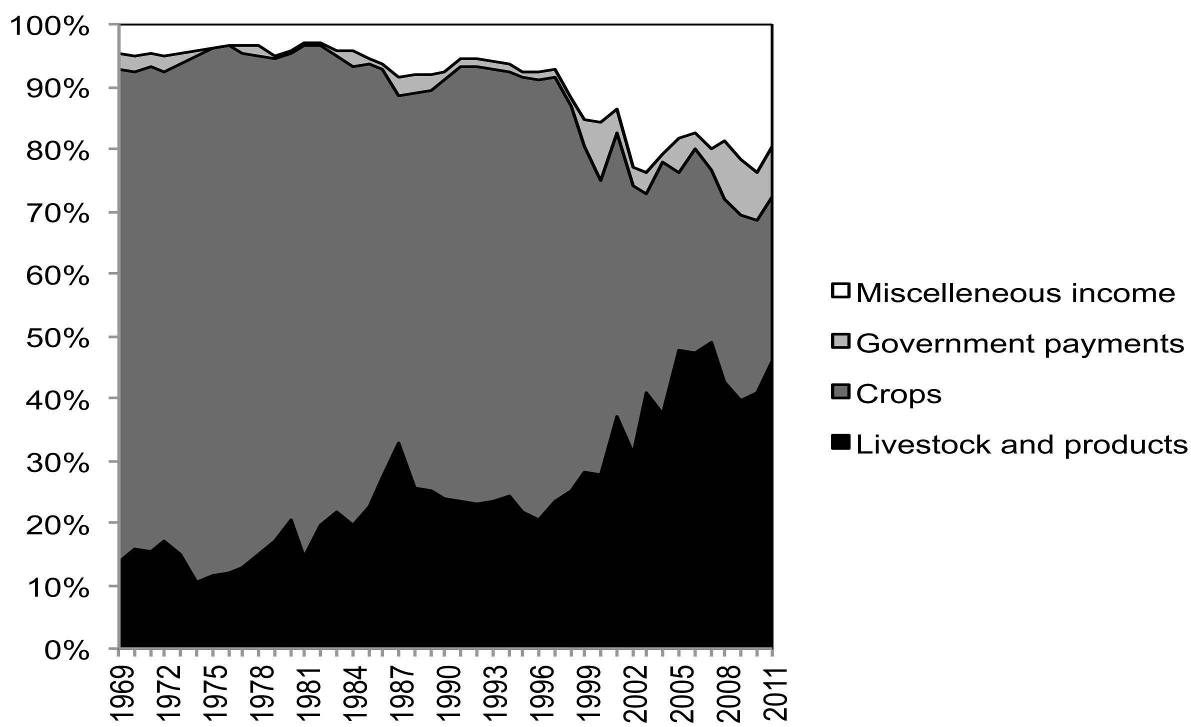
2 See Bickers, Chris. 2013. Could new growers help meet increased demand for tobacco? *Southeast Farm Press* (January 2, 2013) for a description of the continued brisk demand for tobacco.

Figure 2.2 Number of Pittsylvania County Farms with Net Gains and Losses, 1987-2007



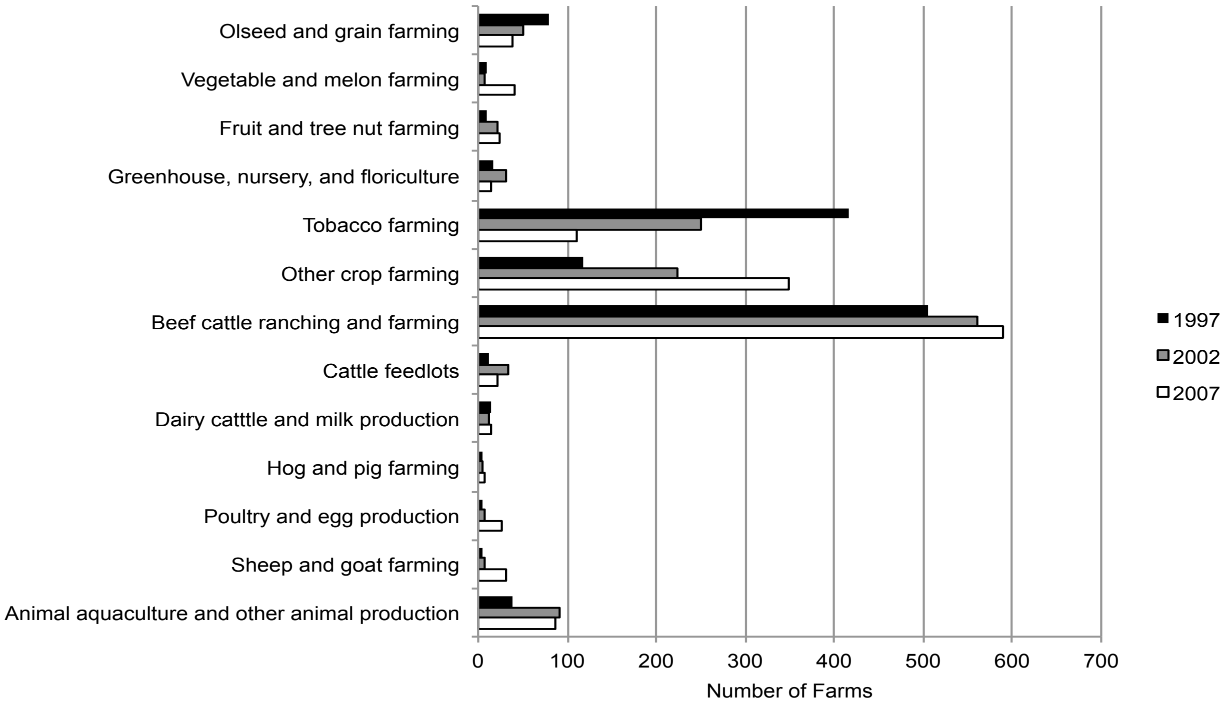
Source: U.S. Department of Agriculture, National Agricultural Statistics Service, Census of Agriculture, Various Years

Figure 2.3 Danville Metropolitan Area Farm Income by Source, Percentage of Total, 1969-2011



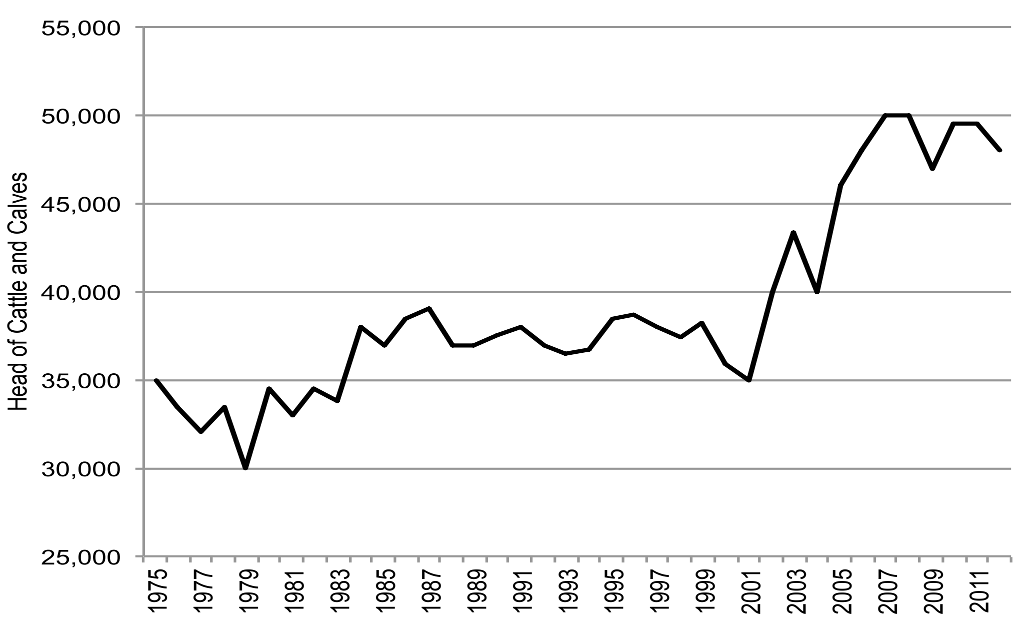
Source: Bureau of Economic Analysis, Regional Economic Information System

Figure 2.4 Number of Pittsylvania County Farms by Industry Category, 1997, 2002, and 2007



Source: U.S. Department of Agriculture, National Agricultural Statistics Service, Census of Agriculture, Various Years

Figure 2.5 Pittsylvania County Cattle Inventory, 1975-2011



Source: U.S. Department of Agriculture, National Agricultural Statistics Service, Quickstats
http://www.nass.usda.gov/Quick_Stats/

grown markedly from 35,900 in 2000 to 48,000 in 2012 (see **Figure 2.5**). Area dairy herds have increased from 1,700 head in 2000 to 5,600 in 2012, aided by what has been described as favorable dairy production conditions such as good climate, available feed, land, and labor resources (Virginia Foundation for Agriculture, Innovation, and Sustainability 2009). The number of fruit and vegetable farms has also increased.[3]

Area farmers and hobbyists are beginning to experiment with a range of specialty foods. Pittsylvania County produced 60 tons of grapes on 23 acres in 2008 (NASS 2008). Apiculture is growing in popularity. Dadant and Sons Inc., the nations oldest and largest manufacturer of beekeeping supplies, has a regional branch located in Chatham, and the area has an active local Beekeepers Association. Aquaculture is also expanding with at least four area farms producing freshwater prawn and one area business startup, Growing Virginia LLC, beginning aquaponic production of striped bass in 2013.

Income from other non-traditional farm-related activities is also growing. One pioneering area dairy employs an anaerobic digester to generate electricity for its own use and to resell to power companies. The area hosts three wineries and one meadery, three of which opened in the last three years (see **Box 2.2**). The equine population has expanded from an estimated 2,100 in 2001 to 3,000 in 2006 supporting a local horse industry that features an increasing number of horse shows, rodeos, and clinics. Farmers are also deriving increasing amounts of income from sales of timber.

Some Pittsylvania County farm trends and characteristics are similar to the rest of Virginia and the nation. Farm productivity improvements, off-farm employment opportunities, and retirements have contributed to substantial farm and farm employment attrition. Over 5,000 workers representing 11 percent of total employment were employed directly by the Pittsylvania County farm sector in 1969 (see **Figure 2.6**). This number decreased to 2,008 by 1997 and fewer than 1,478 by 2008 before stabilizing around that level. At the same time, farm cash receipts have trended up over the last decade. Most farms are relatively small ventures. A majority of farms in both Virginia and Pittsylvania County currently have farm sales of less than $5,000 (see **Figure 2.7)**. Farm operators are more likely to spend some time employed off farm than in earlier years. In addition, farm operators are aging, making farm succession a more urgent issue than previously. The average age of principal operators increased from 51 to 58 between 1978 and 2007 (see **Figure 2.8**). Approximately one-third of Pittsylvania County farmers are retirement age (65 years or older).

Forestry provides the other principal commodity for agribusiness: wood for fiber, building, and fuel. Timber sales are an important and growing part of the area agribusiness economy. Pittsylvania County is a large producer of both softwood and hardwood timber. Over the past decade, stumpage values (which refers to the value of harvested timber) have been trending upwards with interruptions occurring during economic downturns (see **Figure 2.9**). The value of softwood extraction has been slightly higher than for hardwoods, although hardwood forest types are more common in the county. The county produced approximately $9.7 million in stumpage in 2010-11. Forest Inventory Analysis (FIA) data indicates that timber growth continues to outpace removals for both softwood and hardwood species. However, available data suggests that Pittsylvania County forestland area and the forest area made up of large diameter and older stands have been decreasing (see **Figure 2.10**).

Forest product manufacturing has also experienced some restructuring. The area had over 50 sawmills in the 1950s (Aaron 2009), but only five remain today. However, they are now much larger and more efficient. Recent furniture and related industry recruitment has also changed the character of the industry. Recruitment success explains why Pittsylvania County is one of the few localities in the state where forestry products employment has expanded, including throughout the recent recession (see **Figure 2.11**). Remarkably, this happened during a period that saw the closure of major furniture manufacturing plants and the loss of thousands of jobs elsewhere in the region such as American of Martinsville, Stanley Furniture, Hooker Furniture, Bassett Furniture, Pulaski Furniture Corp, and Masterbrand. The county's wood product industries, on the other hand,

3 A previous study of Pittsylvania County tobacco alternatives identified vegetables such as broccoli and tomatoes as potentially profitable alternatives to tobacco for some farmers, provided adequate local distribution networks are developed (Purcell, Taylor, and Halili 2003).

Box 2.2 Agritourism

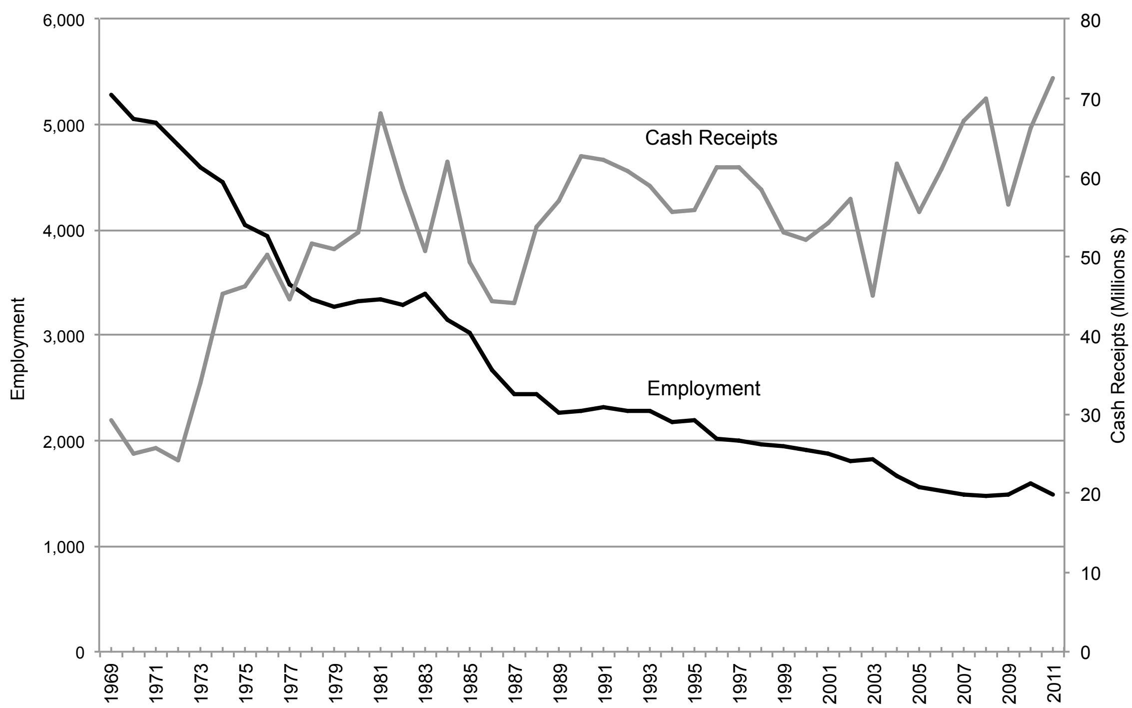
The Danville metropolitan area has a small but growing agritourism industry. Agritourism has several different facets, including educational agritourism (e.g., school tours, winery tours, farm work experiences), entertainment (hay rides, corn mazes, petting zoos, haunted barns), accommodations (parties, picnics, bed and breakfast lodging), and outdoor recreation (horse riding, hunting, fishing, bird watching). Area farms host a number of different activities such as wine tasting and production tours, cabin rental and hunting, school tours, horse riding, and pumpkin patches. Owen Farm Tours near Danville offers perhaps the most diverse array of activities including hayrides, pony rides, a corn maze, children's farm camps, and funfest. Wineries are the most economically significant component of area agritourism and now form the nucleus of a regional wine trail. Tomahawk Mill Vineyard and Winery started in 1990. Altillo Vineyards and Winery, The Homeplace Vineyard, and White Oak Mountain Meadery opened in 2010.

Agricultural festivals are also growing in importance. Five regularly scheduled rural or agriculture-themed festivals are held each year in Pittsylvania County (i.e., the Callands Festival, Old Timers Jubilee, Sorghum Festival, Freshwater Festival, and SOVA Wine Festival). The Freshwater Food Festival (which features aquaculture products) and SOVA Wine Festival were started in 2012 at the Olde Dominion Agriculture Complex and drew an estimated 600 and 1,400 visitors respectively during their opening year debuts. Several horse competitions and rodeos are held at the Olde Dominion Agriculture Complex, Chatham Hall, and local horse farms and boarding facilities. Moving forward, the Agricultural Complex will be an important tool for growing agritourism. Before its construction, the region lacked a large indoor arena for holding activities throughout the year and during inclement weather. This year the arena has hosted several equine shows, four rodeos, livestock auctions, dog shows, and other community events. A recent economic impact study projects steady growth in agritourism events at the Agricultural Complex over the next two years (Jack Faucetts Associates 2011).

Wine Tasting at The Homeplace Vineyard

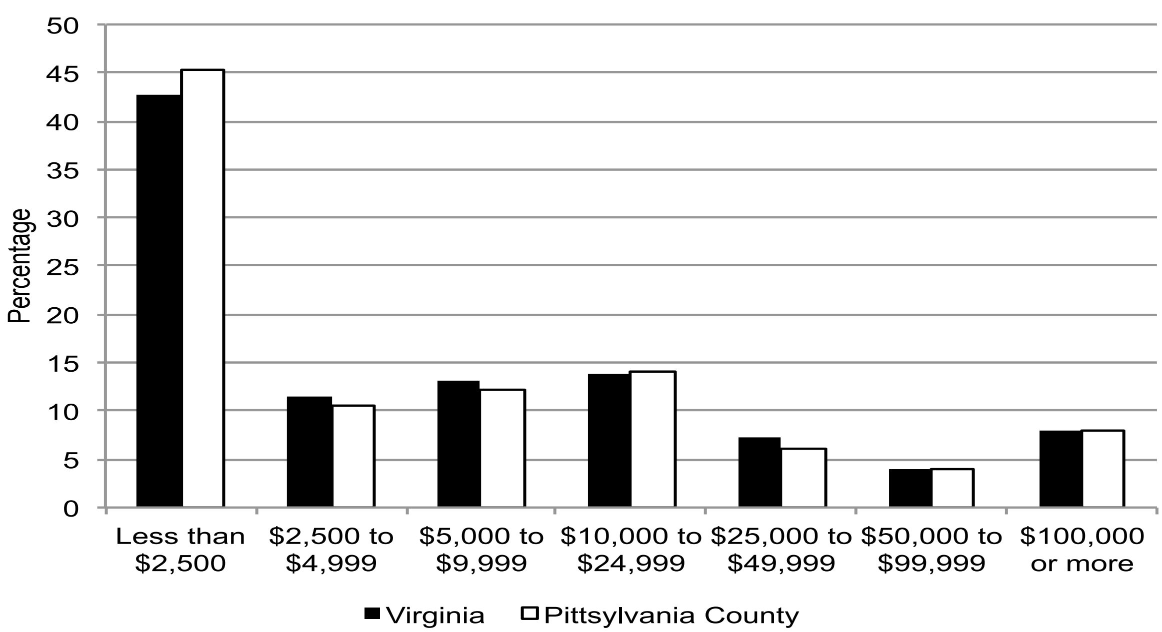
have not been immune to the national housing slump, the recent recession and slow growth economy. A gradual expected revival in the housing market and the addition of another biomass power generation in Altavista and others in the state will likely stimulate additional demand for local timber, loggers, and primary wood product producers.

Figure 2.6 Danville Metropolitan Area Farm Employment and Cash Receipts, 1969-2011



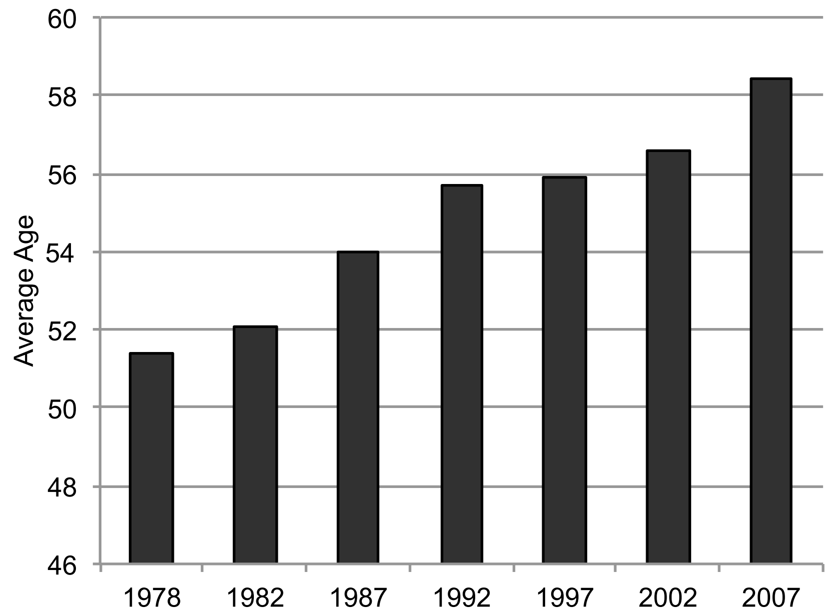
Source: Bureau of Economic Analysis, Regional Economic Information System

Figure 2.7 Percentage of Farms by Value of Sales, Pittsylvania County and Virginia, 2007



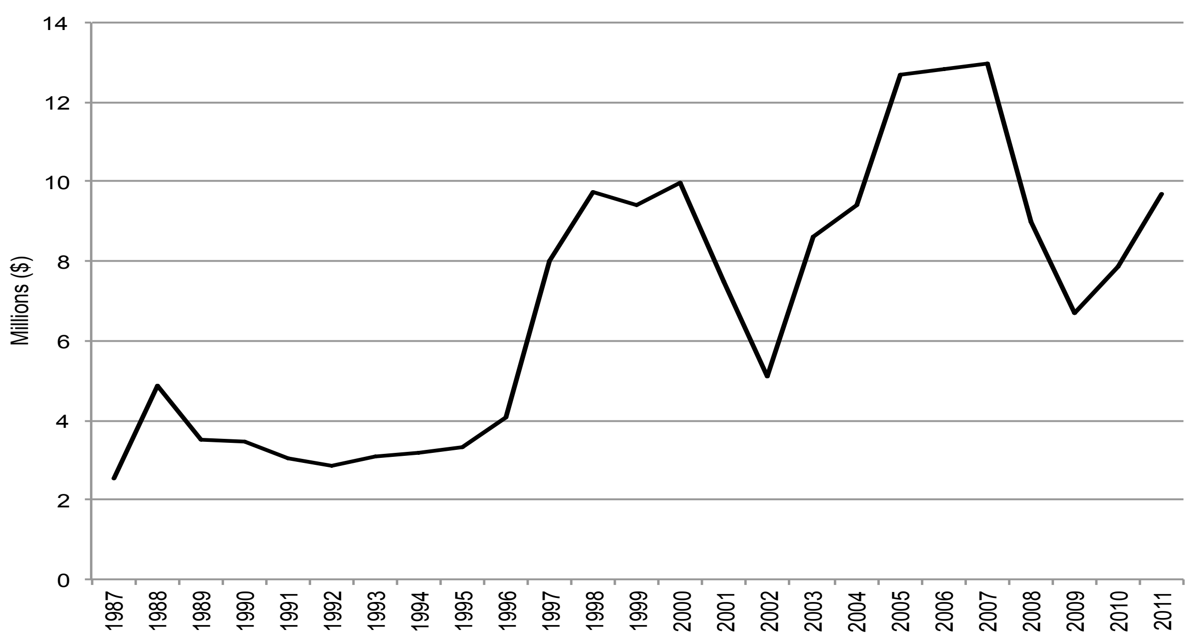
Source: U.S. Department of Agriculture, National Agricultural Statistics Service (2009)

Figure 2.8 Average Age of Principal Operator, Pittsylvania County, 1978-2007



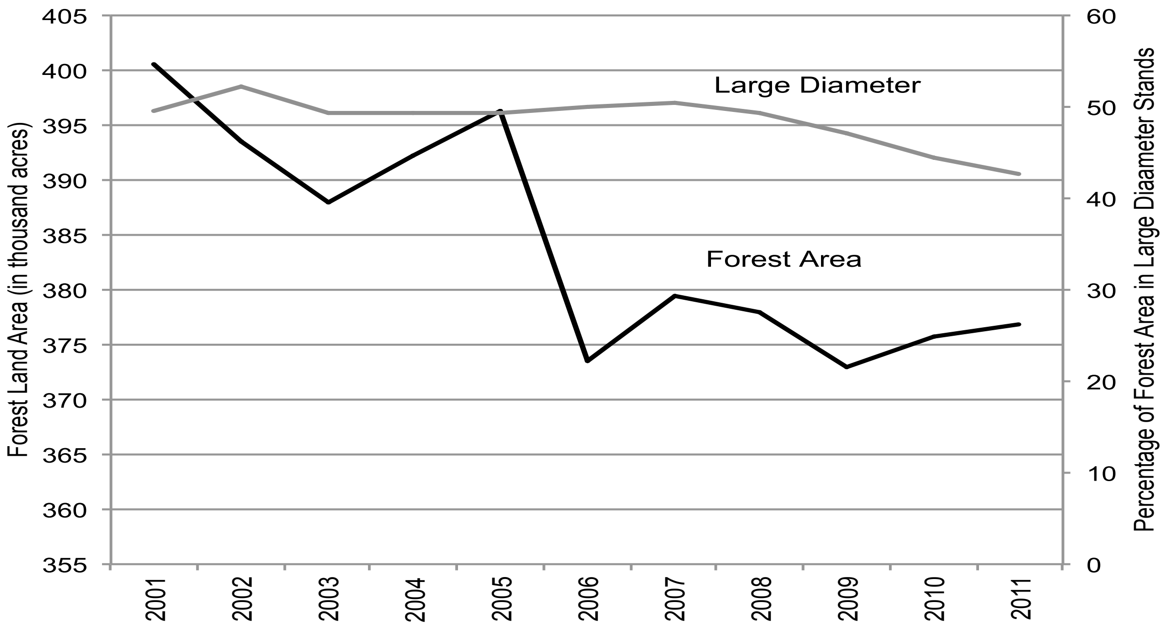
Source: U.S. Department of Agriculture, National Agricultural Statistics Service, Census of Agriculture, Various Years

Figure 2.9 Pittsylvania County Stumpage Values, FY 1987-2011



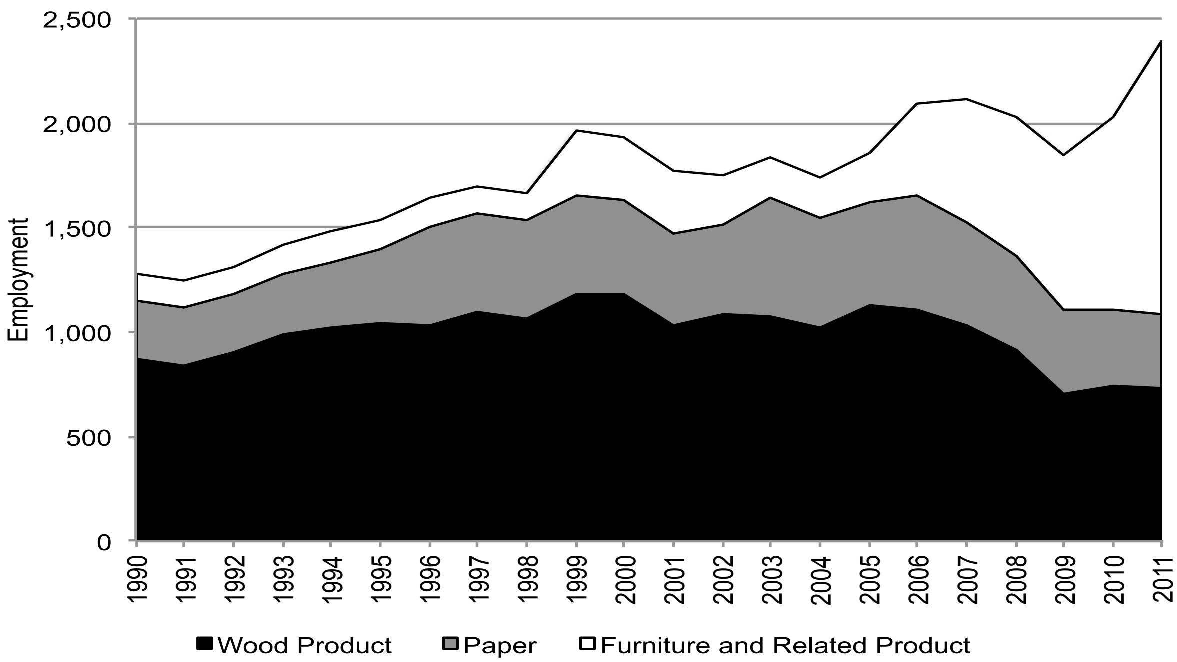
Source: Virginia Department of Forestry

Figure 2.10 Pittsylvania County Forest and Large Diameter Stand Area, 2001-2011



Source: U.S. Forest Service, Forest Inventory And Analysis Program
* Annual values are estimates based on multi-year averages from the FAI; 2004 is interpolated.

Figure 2.11 Danville Metropolitan Area Forest Product Manufacturing Employment, 1990-2011



Source: Virginia Employment Commission, Quarterly Census of Employment and Wages

SECTION 3
AGRIBUSINESS CONTRIBUTION TO THE LOCAL ECONOMY

This section examines the economic impact of Danville metropolitan area agribusiness.[1] Agribusiness is defined as farms, nurseries and timber tracts and any business that harvests, processes, manufactures, generates power from, or warehouses and distributes products with a strong agriculture or forest raw material or product input component. The definition of agribusiness is expanded here to also include economic activity associated with farm-related activities such as the equine industry and agritourism.

Agribusiness is divided into several distinct components to allow one to assess the relative size and importance of each type of activity. Industries can be characterized as agriculture-related or forest-related depending on whether they involve production or value-added for agriculture (e.g., crops, livestock) or forest raw materials (e.g., timber). Industries can be further distinguished on the stage of value addition. Production involves the growing and harvesting of food, fuel, and fiber materials. Manufacturing involves the further processing for final use. Manufacturing is further subdivided into primary manufacturing, which involves processing raw materials for use in other value-added activities, and secondary manufacturing, which makes products for final demand. Distribution and power generation activities are closely linked warehousing and wholesaling activities and production of electricity. Finally, equine industry and agritourism are included as an additional component to capture the economic impact of local farm and household spending on horses and the effect of agricultural venue visitors from outside the Danville metropolitan area. The rationale for categorizing particular industries identified by the North American Industrial Classification System (NAICS) in the agribusiness primary and secondary manufacturing and distribution categories is provided in **Appendix A**.

1 Like most studies of this type, this one is called an economic impact study. From a technical standpoint the phrase "economic contribution" or "economic footprint" would better describe results of the analysis (Watson et al. 2007). An "economic contribution" analysis traces the gross economic activity that results from a given expenditure. It does not consider whether the expenditure used to generate the economic activity might have been used elsewhere in the economy to generate economic activity and gauge the comparative effect of that alternative activity.

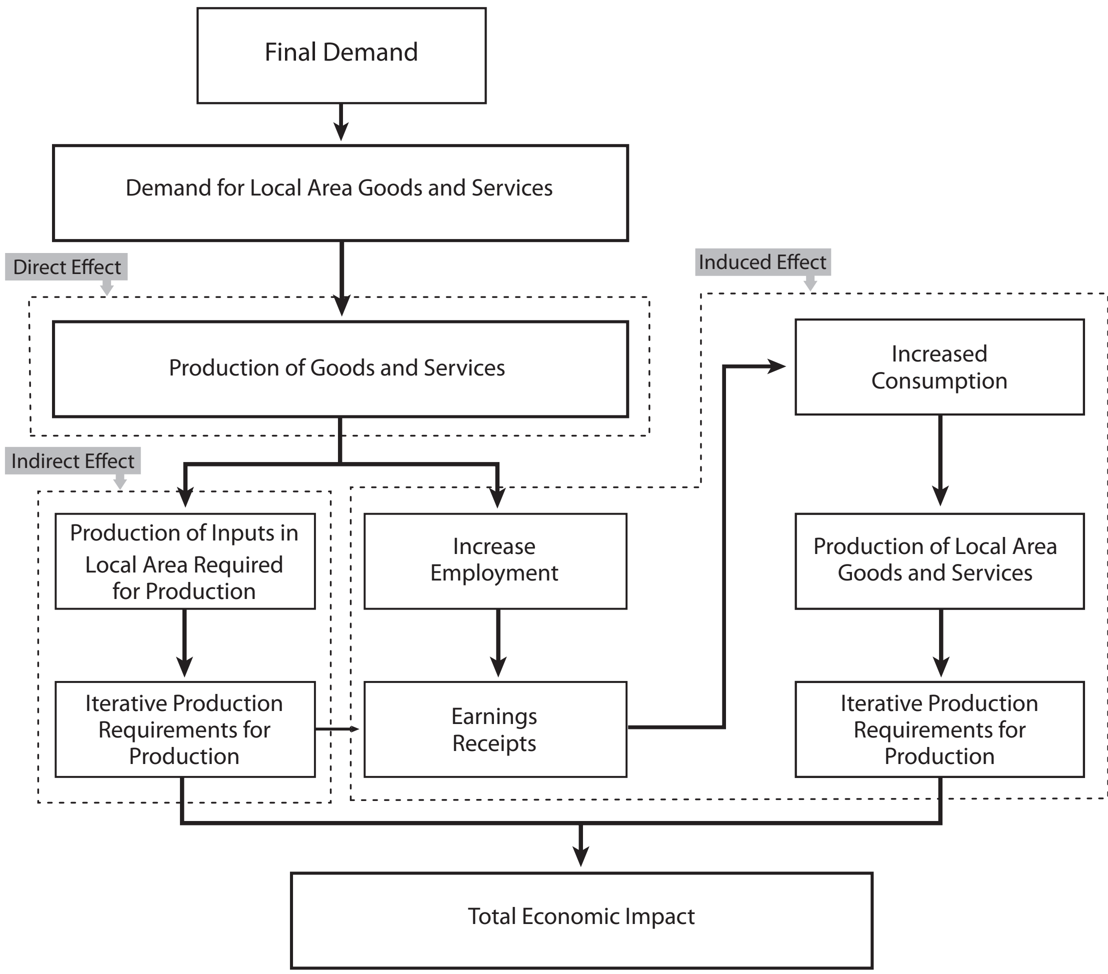
This study examines the economic impact of Danville metropolitan area agribusiness using input-output analysis, a research tool that allows one to quantify the impact of an economic activity or expenditure in a region. For this study, area agribusiness-related spending made on local goods and services are counted as direct injections into the local economy. Linkages with other industries in the area mean that this initial injection has further stimulative effects that result from the purchases of goods and services and payments to employees. The stimulus causes a "multiplier effect" that results when money is re-spent in the local economy.

Data and Methodology

This study uses IMPLAN (IMpact analysis for PLANning), an industry standard input-output model that has been utilized in many economic impact studies including similar studies of agriculture in other Virginia localities (Rephann 2012; Lamie, Benson, and Pease 2005). The model is based on the most recent IMPLAN data released in January 2013 by MIG, Inc. and uses the most currently available national and regional economic data from several federal government agencies to update and regionally customize a national table for the Danville metropolitan area.

Input-output models are based on input-output tables, which show flows of purchases and sales among sectors of the economy (Miller and Blair 2009). Economic multipliers are derived from these tables. These multipliers allow one to measure the total impact of changes in agricultural and forestry activity on the local economy. The total impact of this activity consists of three parts, a "direct effect," "an indirect effect," and an "induced effect" (see **Figure 3.1**). The "direct effect" consists of the injection of economic activity or expenditure into the region. For example, the sales of agricultural and forest-related industries located in the Danville metropolitan area would count as the direct effect. This direct expenditure then causes a "ripple effect" on the local economy

Figure 3.1 Economic Impact Diagram



when money is re-spent. For instance, local businesses provide supplies and services to farms such as seeds, fertilizer, veterinarian services, utilities and insurance. These businesses spend a portion of their sales revenues on their supplies and services from other local firms who, in turn, purchase a portion of their supplies and services from other local firms. This cascading sequence of spending continues until the subsequent rounds of spending dissipate due to leakages in the form of spending outside the area. The cumulative effect of these cascading rounds of inter-industry purchases is referred to as the "indirect effect." The final component of total impact (the "induced effect" or "induced impact") is attributable to the spending of households and other economic agents. For instance, businesses pay households for their labor services. These households and governments then purchase goods and services from area firms who in turn receive a portion of their labor, material and public service inputs from within the region. Again leakages occur at each round due to purchases of goods and services outside the state. The "induced effect" is the sum of the impacts associated with these household purchases.

The first stage of estimating the economic impacts of agribusiness is to convert economic activity as measured by industry employment, sales, or consumer spending into local final demand. These conversions are performed with IMPLAN. A more detailed description of the input data, including specific data sources, description of how components were defined, component mapping onto IMPLAN sectors, and conversion of inputs to final demand is provided in **Appendix B**. In the second stage, adjustments are made to the model to ensure that inputs and outputs are not double counted.[2] Double counting occurs when you include the impact of a sector as a direct impact and then count it again as the indirect impact of another sector because it serves as an input to that sector. For example, Pittsylvania County farmers produce tobacco leaf, which in turn is sold to a Danville tobacco stemming and redrying manufacturing firm which uses it as an input to producing stemmed tobacco for sale to a cigarette manufacturer. If one were to add the impacts from tobacco farming to the impacts of the tobacco stemming and redrying manufacturer, one would double count the tobacco production. The third stage involves running the IMPLAN model and generating the results. Since the study region consists of two areas, we used the IMPLAN multi-regional impact model feature. Multi-regional analysis allows one to trace how agribusiness direct spending in one locality (e.g., Pittsylvania County) affects production in another locality (e.g., Danville City).

Results are presented for three different economic measures: (a) total sales or total industrial output, (b) value-added, and (c) employment. Two fiscal impact measures are also provided: state and local revenues.[3] Total sales or industry output is the total value of industry production during a period. It measures sales of intermediate inputs for use in production as well as sales of products to final consumers. Value-added is a subset of total industrial output. It reflects only sales to final consumers and therefore avoids the double counting that occurs when intermediate inputs are included. It is the most commonly used measure of economic activity. Value-added is the concept behind gross domestic product (GDP) and can be compared to the GDP numbers provided by the Bureau of Economic Analysis for states and metropolitan areas. Employment includes full-time and part-time. Revenues include taxes, fees and fines, and charges for services.

Economic Impact Results

The direct effect of the Danville metropolitan area's agribusiness industry in 2011 by industry component sector and locality is reported in **Table 3.1**. These numbers reflect economic activity that results from agribusiness itself without considering the secondary, tertiary, and additional rounds of spending that result. The industry accounted for a combined $980 million in total direct output, 5,113 jobs, and $288 million in value-added for the Danville metropolitan area. Employment is roughly evenly divided between agriculture products (2,606) and forest products (2,507). However, value-added is greater for forest-related products ($173 million) than agriculture-related products ($115 million) reflecting the greater prevalence of manufacturing activity in the former. While direct agribusiness employment is greater in Pittsylvania County, value-added is slightly higher in Danville City and output markedly higher because of the higher concentration of agribusiness activity in manufacturing.

Table 3.2 presents the total economic impacts of agribusiness in the Danville metropolitan area by industry component and locality. These impacts represent the sum of the direct, indirect, and induced impacts described earlier. The table shows that the total industry output or sales impact of agricultural and forestry industries in the area was approximately $1.2 billion in 2011, almost 7,300 jobs, and $421 million in value-added. By way of comparison, the Danville metropolitan area is estimated to have total output of $6.6 billion, employment of 50,650, and a gross domestic product of $3.1 billion in 2011. Therefore, agribusiness output impacts were responsible for an estimated 15 percent of total industrial output and 14 percent of the area's total employment and gross domestic product.

2 Double counting was avoided by suppressing interindustry purchases for the agribusiness sectors included. This suppression was accomplished by setting regional purchase coefficients (RPCs), which represent the portion of local demand purchased from local producers, to zero for each agribusiness sector in the model. This approach is recommend by Miller and Blair (2009), pp. 621-625.

3 State tax revenues were estimated using the results of the IMPLAN tax impact report (MIG Inc. n.d.). Since the report aggregates state and local tax revenues, data from the Annual U.S. Census Bureau *Survey of State and Local Government Finances* was used estimate the Virginia state government portion of the total. The IMPLAN tax impact report does not use actual local revenue data to estimate local revenue impacts. In lieu of using the IMPLAN tax impact report to estimate Danville City and Pittsylvania County revenue impacts, revenue data from the FY 2011 *Comparative Report of Local Government* from the Auditor of Public Accounts was used instead. The tax revenue impacts are prorated on the basis of agribusiness value-added impact share of total local GDP in a manner similar to that used to generate the revenue impacts in the IMPLAN tax impact report.

Table 3.1. Danville Metropolitan Area Agribusiness Sector Direct Output, Employment, and Value-added by Component and Locality, 2011

Danville City

Component	Output ($)	Employment	Value-added ($)
Agriculture			
Production	0	0	0
Primary Manufacturing	161,109,600	200	23,012,394
Secondary Manufacturing	204,150,439	625	49,353,909
Distribution/Power Generation	17,270,828	143	11,515,772
Horse Industry and Agritourism	0	0	0
Total	382,530,867	968	83,882,075
Forestry			
Production	442,123	5	239,110
Primary Manufacturing	54,391,936	229	19,015,688
Secondary Manufacturing	108,817,334	616	41,808,626
Distribution/Power Generation	0	0	0
Total	163,651,393	850	61,063,424
Total Agriculture and Forestry	546,182,260	1,818	144,945,499

Pittsylvania County

Component	Output ($)	Employment	Value-added ($)
Agriculture			
Production	96,784,067	1,508	27,239,343
Primary Manufacturing	1,632,124	12	571,237
Secondary Manufacturing	2,828,530	4	329,711
Distribution/Power Generation	3,191,944	58	1,739,439
Horse Industry and Agritourism	3,271,880	56	1,431,364
Total	107,708,545	1,638	31,311,094
Forestry			
Production	15,634,753	106	8,325,666
Primary Manufacturing	76,303,499	304	21,974,297
Secondary Manufacturing	207,772,490	1,216	64,556,782
Distribution/Power Generation	27,039,722	31	16,672,802
Total	326,750,464	1,657	111,529,547
Total Agriculture and Forestry	434,459,009	3,295	142,840,641

Danville Metropolitan Area

Component	Output ($)	Employment	Value-added ($)
Agriculture			
Production	96,784,067	1,508	27,239,343
Primary Manufacturing	162,741,724	212	23,583,631
Secondary Manufacturing	206,978,969	629	49,683,620
Distribution/Power Generation	20,462,772	201	13,255,211
Horse Industry and Agritourism	3,271,880	56	1,431,364
Total	490,239,412	2,606	115,193,169
Forestry			
Production	16,076,876	111	8,564,776
Primary Manufacturing	130,695,435	533	40,989,985
Secondary Manufacturing	316,589,824	1,832	106,365,408
Distribution/Power Generation	27,039,722	31	16,672,802
Total	490,401,857	2,507	172,592,971
Total Agriculture and Forestry	980,641,269	5,113	287,786,140

Table 3.2. Total Impact of Danville Metropolitan Area's Agribusiness Sector for Output, Employment, and Value-added by Component and Locality, 2011*

Danville City

Component	Output ($)	Employment	Value-added ($)
Agriculture			
Production	0	0	0
Primary Manufacturing	189,509,306	475	39,030,095
Secondary Manufacturing	261,839,337	1,202	82,544,222
Distribution/Power Generation	23,808,703	215	15,435,252
Horse Industry and Agritourism	0	0	0
Total	475,157,346	1,892	137,009,569
Forestry			
Production	633,198	7	353,273
Primary Manufacturing	69,575,286	385	27,673,954
Secondary Manufacturing	147,064,933	1,009	63,989,301
Distribution/Power Generation	0	0	0
Total	217,273,417	1,401	92,016,528
Total Agriculture and Forestry	692,430,763	3,293	229,026,097

Pittsylvania County

Component	Output ($)	Employment	Value-added ($)
Agriculture			
Production	107,263,230	1,585	33,224,179
Primary Manufacturing	1,857,447	14	696,929
Secondary Manufacturing	3,096,626	6	477,279
Distribution/Power Generation	3,739,302	63	2,076,511
Horse Industry and Agritourism	4,117,310	63	1,936,871
Total	120,073,915	1,731	38,411,769
Forestry			
Production	17,776,971	123	9,630,439
Primary Manufacturing	88,266,378	397	28,648,674
Secondary Manufacturing	240,492,932	1,487	83,188,352
Distribution/Power Generation	30,467,194	66	18,235,483
Total	377,003,475	2,074	139,702,948
Total Agriculture and Forestry	497,077,390	3,804	178,114,717

Danville Metropolitan Area

Component	Output ($)	Employment	Value-added ($)
Agriculture			
Production	108,433,801	1,597	33,926,537
Primary Manufacturing	193,677,777	506	41,173,075
Secondary Manufacturing	269,472,598	1,242	85,854,099
Distribution/Power Generation	28,371,422	284	18,024,815
Horse Industry and Agritourism	4,278,321	65	2,033,929
Total	604,233,919	3,694	181,012,455
Forestry			
Production	19,055,762	137	10,373,936
Primary Manufacturing	161,403,029	814	58,470,416
Secondary Manufacturing	396,718,762	2,579	152,753,561
Distribution/Power Generation	30,823,836	70	18,450,733
Total	608,001,389	3,600	240,048,646
Total Agriculture and Forestry	1,212,235,308	7,294	421,061,101

*Note: The Danville City and Pittsylvania County economic and government impacts and revenues reported reflect just the impacts of agribusiness within each locality on that locality in isolation from the other locality. They do not count interregional economic feedback impacts between the regions that occur due to purchases of one firm or household in one region from another firm or household in the other region. The Danville metropolitan area economic and government revenue impacts exceed the sum of Danville City and Pittsylvania County impacts in isolation because it does count such interregional economic feedback effects between the two regions.

The Danville metropolitan area agribusiness industry generated tax, fee and other state and local revenue in support of government operations. The industry accounted for an estimated $30.3 million in state and local revenues in 2011. The total was approximately evenly distributed among state and local coffers with $15.0 million for state government and $15.3 for Danville City and Pittsylvania County governments. An estimated $6.8 million accrues to Danville City as a result of agribusiness activity within the city and $7.9 million to Pittsylvania County from activities within the county.

The effects of area agribusiness are felt in numerous sectors of the economy (see **Table 3.4**). Agriculture, forestry, fishing and hunting and manufacturing industries total impacts are large, reflecting the sizeable presence of agribusiness employment in these sectors. However, the other sectors of the economy are also highly dependent on agribusiness and employee spending, such as retail trade, services, and construction. These impacts result primarily from the spending of agribusinesses on business inputs and labor payroll and are counted in the indirect and induced impacts. For example, area agribusinesses help support 307 retail trade, 287 health care, 192 accommodation and food services, and 132 construction jobs.

The size of the multiplier effects vary between the two localities (see **Table 3.4**). For Pittsylvania County, the indirect and induced impacts are much lower than for Danville City because many of the suppliers and household shopping venues are located outside the county. This situation creates large business and household spending leakages. The multiplier effects are larger in Danville City because of its greater variety of suppliers and shopping opportunities. For the metropolitan area as a whole, the output, employment, and value-added multipliers are 1.23, 1.43, and 1.46 respectively. Therefore, for every 10 jobs created in local agribusinesses, 4.3 more jobs result elsewhere in the economy.

These results illustrate that agribusiness is a sizeable force in the Danville metropolitan area's economy. While impressive, the input-output modelling framework also suggests multiple ways that the economic impacts of agribusiness can be increased. First, the area can recruit more agribusinesses, encourage the retention and expansion of existing agribusinesses, and increase business startups in the sector. Second, it could market area products and services (such as agritourism) to non-residents. Third, existing companies could create higher value-added products through marketing, product upgrading, and investment in capital, technology, and new maunfacturing processes. Fourth, the community and area businesses could invest in education and training that improve the skills, productivity and incomes of local workers. Fifth, it could support employment services and job fairs that better match local residents with local employers. Sixth, it could strengthen linkages amoung industries in the agriculture and forestry supply chain by encouraging local firms to purchase inputs from local suppliers. Seventh, it could encourage consumers to purchase more locally made agribusiness products and to shop locally for retail goods and services. These and other issues important to the vitality of area agribusiness will be explored in additional detail in the next section.

Table 3.3 Danville Metropolitan Area Agribusiness State and Local Revenue Impacts by Component and Locality, 2011*

Danville City Component	Local Revenue ($)	State Revenue ($)	Total Revenue ($)
Agriculture			
Production	0	0	0
Primary Manufacturing	1,164,549	1,402,690	2,567,239
Secondary Manufacturing	2,462,890	2,530,521	4,993,411
Distribution/Power Generation	460,545	1,146,923	1,607,468
Horse Industry and Agritourism	0	0	0
Total	4,087,984	5,080,133	9,168,118
Forestry			
Production	10,541	13,235	23,776
Primary Manufacturing	825,714	1,231,905	2,057,619
Secondary Manufacturing	1,909,263	2,104,471	4,013,734
Distribution/Power Generation	0	0	0
Total	2,745,517	3,349,612	6,095,129
Total Agriculture and Forestry	6,833,502	8,429,745	15,263,246

Pittsylvania County Component	Local Revenue ($)	State Revenue ($)	Total Revenue ($)
Agriculture			
Production	1,472,924	290,352	1,763,276
Primary Manufacturing	30,897	75,132	106,029
Secondary Manufacturing	21,159	16,041	37,200
Distribution/Power Generation	92,058	61,260	153,318
Horse Industry and Agritourism	85,867	99,510	185,377
Total	1,702,905	542,294	2,245,199
Forestry			
Production	426,945	298,654	725,599
Primary Manufacturing	1,270,079	1,261,878	2,531,957
Secondary Manufacturing	3,687,981	2,383,729	6,071,709
Distribution/Power Generation	808,432	1,432,434	2,240,866
Total	6,193,437	5,376,694	11,570,131
Total Agriculture and Forestry	7,896,342	5,918,988	13,815,330

Danville Metropolitan Area Component	Local Revenue ($)	State Revenue ($)	Total Revenue ($)
Agriculture			
Production	1,493,881	323,784	1,817,665
Primary Manufacturing	1,259,243	1,554,171	2,813,414
Secondary Manufacturing	2,609,359	2,696,053	5,305,412
Distribution/Power Generation	574,220	1,234,908	1,809,128
Horse Industry and Agritourism	88,763	104,131	192,894
Total	6,025,465	5,913,047	11,938,512
Forestry			
Production	464,238	330,576	794,813
Primary Manufacturing	2,175,551	2,601,697	4,777,247
Secondary Manufacturing	5,800,089	4,766,362	10,566,451
Distribution/Power Generation	814,854	1,442,685	2,257,539
Total	9,254,732	9,141,320	18,396,051
Total Agriculture and Forestry	15,280,197	15,054,366	30,334,563

*Note: The Danville City and Pittsylvania County economic and government impacts and revenues reported reflect just the impacts of agribusiness within each locality on that locality in isolation from the other locality. They do not count interregional economic feedback impacts between the regions that occur due to purchases of one firm or household in one region from another firm or household in the other region. The Danville metropolitan area economic and government revenue impacts exceed the sum of Danville City and Pittsylvania County impacts in isolation because it does count such interregional economic feedback effects between the two regions.

Table 3.4 Total Impact of Danville Metropolitan Area Agribusiness by Locality and Major Industry, Output, Employment, and Value-added, 2011

Danville City

Industry	Output ($)	Employment	Value-added ($)
Total	692,430,763	3,293	229,026,097
Agriculture, forestry, fishing & hunting	442,123	5	239,110
Mining	174,771	1	12,991
Utilities	1,709,472	3	1,080,623
Construction	1,582,997	28	390,825
Manufacturing	529,875,369	1,676	133,692,814
Wholesale trade	27,635,103	178	19,087,586
Retail trade	12,403,823	206	8,315,041
Transportation & warehousing	16,968,658	148	6,853,423
Information	5,419,906	20	2,614,879
Finance & insurance	12,526,578	57	7,020,368
Real estate & rental	21,154,197	53	14,639,847
Professional, scientific & technical services	11,838,332	123	7,886,836
Management of companies	5,716,437	39	2,653,024
Administrative & waste services	8,237,334	184	4,699,781
Educational services	1,875,953	33	956,787
Health & social services	17,440,465	211	10,177,698
Arts, entertainment & recreation	1,021,925	28	393,183
Accomodation & food services	7,120,054	139	3,566,166
Other services	6,781,943	146	3,590,182
Government & non NAICs	2,505,322	17	1,154,932

Pittsylvania County

Industry	Output ($)	Employment	Value-added ($)
Total	497,077,391	3,805	178,114,717
Agriculture, forestry, fishing & hunting	112,438,347	1,614	35,571,434
Mining	8,937	0	5,551
Utilities	33,087,949	38	20,399,657
Construction	5,888,596	101	1,680,259
Manufacturing	289,295,721	1,540	87,652,242
Wholesale trade	7,774,498	55	5,112,478
Retail trade	3,405,615	58	2,202,985
Transportation & warehousing	9,599,997	71	3,998,171
Information	907,000	2	492,131
Finance & insurance	2,557,679	12	1,420,981
Real estate & rental	12,519,474	13	8,494,888
Professional, scientific & technical services	3,264,135	40	2,061,306
Management of companies	140,894	1	68,343
Administrative & waste services	6,489,042	111	3,508,803
Educational services	599,170	15	430,439
Health & social services	1,616,099	34	1,007,379
Arts, entertainment & recreation	361,365	9	147,222
Accomodation & food services	1,653,966	32	812,662
Other services	3,028,560	43	1,988,225
Government & non NAICs	2,440,346	17	1,059,562

Table 3.4 Total Impact of Danville Metropolitan Area Agribusiness by Locality and Major Industry, Output, Employment, and Value-added, 2011 (continued)

Danville Metropolitan Area Industry	Output ($)	Employment	Value-added ($)
Total	1,212,235,310	7,294	421,061,101
Agriculture, forestry, fishing & hunting	112,893,515	1,619	35,814,906
Mining	189,687	1	19,231
Utilities	35,447,982	41	21,881,581
Construction	7,719,268	132	2,180,985
Manufacturing	819,589,806	3,218	221,478,860
Wholesale trade	36,626,392	242	25,011,037
Retail trade	18,414,970	307	12,248,236
Transportation & warehousing	27,119,897	223	11,090,960
Information	6,736,305	22	3,324,162
Finance & insurance	16,166,572	74	9,040,825
Real estate & rental	41,624,428	72	28,522,839
Professional, scientific & technical services	15,589,115	169	10,267,193
Management of companies	5,882,412	40	2,733,043
Administrative & waste services	15,266,308	304	8,509,279
Educational services	3,007,982	59	1,724,160
Health & social services	21,971,914	287	12,920,493
Arts, entertainment & recreation	1,571,093	42	620,608
Accomodation & food services	9,888,497	192	4,933,213
Other services	10,902,412	210	6,238,386
Government & non NAICs	5,626,755	38	2,501,102

Table 3.5 Danville Metropolitan Area Direct, Indirect, and Induced Impacts by Locality, Output, Employment and Value-added, 2011

	Output ($)	Employment	Value-added ($)
Danville City			
Direct	546,182,260	1,818	144,945,499
Indirect	68,846,753	658	37,314,149
Induced	77,401,750	817	46,766,449
Total	692,430,763	3,293	229,026,097
Pittsylvania County			
Direct	434,459,009	3,295	142,840,641
Indirect	37,814,882	326	19,722,907
Induced	24,803,500	184	15,551,169
Total	497,077,391	3,805	178,114,717
Danville Metropolitan Area			
Direct	980,641,268	5,113	287,786,140
Indirect	107,070,550	986	57,175,138
Induced	124,523,492	1,195	76,099,824
Total	1,212,235,310	7,294	421,061,101

SECTION 4
SUMMARY OF FOCUS GROUPS AND INTERVIEWS

In order to obtain additional information from the community and agribusiness industry, three focus group discussions were organized and individual interviews were conducted with Pittsylvania County Agricultural Development Board members. The technical report, which describes the questions asked, methods used and group/interview results, is presented in **Appendix C**. The overall goals of the discusssions and interviews were to (1) explore attitudes towards agriculture, forestry and related economic development in Pittsylvania County and Danville City and (2) solicit information about the current status of the industry including regional industry strengths and weaknesses, perceptions of the contributions and value of the industry, industry trends, industry opportunities and challenges, and industry needs.

The results of the focus group discussions and Agricultural Development Board member interviews are summarized using a SWOT Analysis, which organizes stakeholder responses to questions into the categories of Strengths, Weaknesses, Opportunities, or Threats. In addition to arranging comments into these categories, they were further organized into certain themes (e.g., Education and Workforce, Natural Resources) because of their recurrence in the conversations across the categories. The SWOT analysis is used here to assess the competitive environment of the agribusiness industry in the region and to help develop specific strategic planning recommendations.

Strengths

Regional stakeholders stated that Pittsylvania County has many qualities for supporting a successful agribusiness industry. Foremost among them are its natural resources (see **Box 4.1**), such as adequate rainfall, plentiful riparian, lake, and reservoir water supply, abundant land area with good quality soils for growing crops, and a large timber stock. Area assets include low cost of living, quality of life, good transportation infrastructure, and low tax rates that might be attractive to new businesses and farmers. Stakeholders view the recently opened Olde Dominion Agricultural Complex as a key tool for industry development because of its varied role as a convenient one-stop-shop for area agribusiness, location for education, and training activities, and venue for agritourism and industry events.

<u>Education and Workforce</u>

Strong farm workforce work ethic

Programs for youth (Future Farmers of America , 4H, and DECA)

<u>Entrepreneurship, Succession, and Management</u>

Low cost of living

Quality of life

<u>Infrastructure and Facilities</u>

Olde Dominion Agricultural Complex

Transportation infrastructure

<u>Natural Resources</u>

Ample water resources

Abundant land resources

Good quality soils

Large timber resources

Wildlife habitat

Scenic rural amenities

<u>Taxes and Regulation</u>

Low general state and local tax rates

Box 4.1 Natural Resources

The area has an ample quantity of available farmland with prime soils capable of growing a variety of field crops (Purcell, Taylor and Halili 2003), adequate water supply, and abundant timber resources. However, the land resource is slowly shrinking. Farmland acreage decreased approximately 17 percent from 1978 to 2007, a slightly higher rate of attrition than the state as a whole (-14 percent) according to Census of Agriculture data. U.S. Forest Service Forest Inventory and Analysis (FIA) data also suggest that forested area is decreasing, but the evidence is not as definitive because of sampling error.

Unlike in the more urbanized areas of the state, land development pressures have been lower and the housing bubble was not as pronounced in the Danville region. Single-family home building permits issued in Pittsylvania County averaged approximately 250 each year between the years of 1996 and 2006, before the housing crisis hit.[1] They averaged approximately 95 per year between the years of 2007-2011 with a low of 63 reached in 2011. However, the local housing market is improving in sync with the national market. There were 93 single-family home building permits issued through November 2012.

Pittsylvania County has taken some steps to protect its agricultural and forestry resources. The County Comprehensive Plan supports efforts to preserve the rural area for environmental reasons and recognizes the economic importance of agriculture as part of a diversified economy. The County has implemented use value taxation policy for agriculture, horticultural, forestal and open space real estate with an assessment of $435 per acre, but this value is substantially higher than the State Land Evaluation Advisory Council (SLEAC) recommended use value of $160 per acre. The county has no agriculture and forestal districts, a slightly different category of land protection allowed by state statute that requires participating land tracts to constitute at least 200 acres of contiguous land area dedicated to farm or forestry and provides additional landowner protections against state and local government encroachments on property for public utilities and facilities. The county had a grand total of 378,614 acres with land use designation (approximately 60 percent of the total land area) in FY 2011, the largest amount of any county in the commonwealth. On the other hand, the county has a low rate of permanent land preservation through private conservation easement. Only 9.4 square miles (or 1 percent of the land area) was under conservation easement in FY 2012 compared to approximately 3.3 percent of land area statewide.[2] There has been discussion at the county level of establishing a Purchase of Development Rights (PDR) program. In November 2012, the Pittsylvania Board of Supervisors formed an exploratory subcommittee that would research the feasibility of creating such a program.[3]

1 U.S. Census Bureau, Building Permits Survey. http://www.census.gov/construction/bps/ (Accessed January 25, 2013).

2 Information from David Boyd, GIS Conservation Lands Planner at the Virginia Department of Conservation and Recreation.

3 *The (Lynchburg) News and Advance*. Board forms to focus on agricultural land preservation. November 8th http://www.newsadvance.com/go_dan_river/news/pittsylvania_county/article_a4ed3136-2a07-11e2-adb5-001a4bcf6878.html

Weaknesses

The area agribusiness sector is inhibited by several weaknesses. Participants repeatedly mentioned workforce availability and education/training (see **Box 4.2**), farm succession, and business entry as serious concerns that threaten the continued viability of the industry. Farm succession problems are caused by a complex array of cultural and economic factors, including deteriorating public attitudes toward the farm profession, alternative more rewarding career and employment opportunities, and difficulties for new farmers in entering the industry because of the high land and equipment costs, difficulties securing financial capital, and the complexity of modern farm management. Although the area has an ample quantity of land and timber, participants cited difficulty accessing the land through leasing arrangements because of absentee ownership and residential encroachment. The quality of timber resources is beginning to

Box 4.2 Education and Training

Pittsylvania County offers several agricultural programs for youth. They include Ag in the Classroom, a statewide educational program that provides primary school lessons on farming; Ag Day, which is recognized by taking 4th grade students on a field trip to a working Pittsylvania farm each year; Future Farmers of America, which provides career development opportunities in secondary schools; and 4-H which provides agricultural and leadership education through activities organized by the Virginia Cooperative Extension.

Higher education institutions in the region also provide several post-secondary degree programs that support workforce training and education pertinent to area agribusiness. Danville Community College provides programs that lead to a Horticulture Career Studies Certificate and Wood Science Technology Associate of Applied Science. Averett University has an Equestrian Program. Patrick Henry Community College in Martinsville offers programs for an Agribusiness Associate of Applied Science and Viticulture Certificate. The Southern Virginia Higher Education Center in South Boston offers a 2+2+2 WoodLINKS product design and development program that links high school dual enrollment coursework to an Associates' degree and to a Bachelor's degree at Virginia Tech.

Ag Day at the Geyer Farm

deteriorate because of poor timber management practices by non-industry owners. Farm operators also reported problems related to residential encroachment such as conflicts with neighbors about alleged farming nuisances and a growing volume of vehicular traffic on country roads. Lastly, value-added agriculture opportunities are limited because processing facilities are remote. For instance, the closest USDA certified slaughtering facility is located approximately one hour away from Chatham in Gladys, Virginia.

Administration and Planning

Not enough coordination between the Agricultural Development Board and Economic Development Office

Public relations

Public unfamiliarity with agriculture

Negative perceptions of the industry as backwards, dirty, arduous, and low-paying

Negative externalities (e.g., smoke, odors, pollution, chemical use) and urban interface conflicts

Markets and Industrial Development

Loss of greenhouses and horticultural enterprises

Education and Workforce

Loss of agriculture education and facilities (e.g., greenhouse) in schools

Workforce availability, high turnover, and low compensation

Workforce training for farm mechanization and management

Entrepreneurship, Succession, and Management

Economies of scale, costs and complexity required for industry entry

Rising cost of inputs (e.g., energy, fertilizer) and declining margins

Supplier consolidation

Farm succession

Financial Capital

Access to capital

Infrastructure and Facilities

Road infrastructure and safety signage for farmers

Slaughtering and processing facility remoteness

Natural Resources

Land fragmentation (absentee ownership and residential uses)

Poor timber management by non-industry owners

Taxes and Regulations

Regulatory burdens

Use value tax rate is too high

Threats

Stakeholders identified two potential threats. Agribusiness political influence may diminish in the future because of continued urbanization and newer generations of political leaders who have little direct experience with agriculture and forestry. The potential loss of political clout has ramifications for public policy in many areas affecting agribusiness, including taxes, regulations, zoning and support for agribusiness education and training programs. Some focus group participants viewed the possible lifting of a statewide moratorium on uranium mining in Virginia and allowing of uranium mining at the Coles Hill site as a gray cloud hanging over the area's agriculture industry (see **Box 4.3**).

Opponents of uranium mining made two points. First, uranium mining could have a harmful effect on the environment through air and water contamination of crops and livestock. Second, even if environmentally benign, mining could create a stigma for the region and diminish the reputation of its agricultural products. Several focus group members indicated that their operations would be negatively affected by uranium mining, and one participant stated that he had already lost business because of mining publicity.

Proponents of uranium mining also made two points. First, uranium mining could be a potential economic boon for the area. Second, as landowners who face considerable regulatory burdens, some were sympathetic of the need to respect property rights and allow the site owners to tap the

Box 4.3 Uranium Mining

Some farmers and local residents are concerned about a possible lifting of the moratorium on statewide uranium mining which has been in place since 1982 and prevents the mining of an estimated $7 billion in recoverable uranium ore deposits at the Coles Hill site near Chatham. They argue that mining or reclaimed mine accidents could potentially pollute area groundwater and surface water, expose livestock and crops to contamination, or otherwise cause a local stigma effect that discourages firms from locating or expanding in the area, consumers from purchasing area agricultural products, or tourists from visiting. The results of recent economic studies on this subject suggest that some negative effects of mining such as reduced property values can be expected within a 2-5 mile radius surrounding the mine and may dissipate over time (Chmura Economics and Analytics 2011; RTI International 2011). Critics counter that these economic impact studies present unrealistically favorable scenarios and that no studies have assessed the long-term environmental and economic effects of uranium mining in regions with comparable climate, hydrological, population, and economic features to Pittsylvania County (Lewis 2010).

property resources with proper regulatory oversight. Several focus group members thought uranium mining would not affect their operations. One interviewee stated that he had contacted feedlots in the Midwest that expressed no concerns about the quality and safety of feeder cattle from uranium mining areas.

Public Relations

Waning political influence

Natural Resources

Uranium mining and public perceptions about quality and safety of local products

Opportunities

Focus group members and interviewees saw additional potential for diversifying area agriculture and attracting new business that capitalizes on expanding global markets, growing leisure and recreation spending, increasing consumption of fresh, local, and organic foods, and research and development breakthroughs in bioenergy, waste to energy conversion, and horticultural plant breeding and propogation. They also saw the potential to brand locally produced crops with unique qualities such as broccoli, local foods (see **Box 4.4**) and agritourism more effectively, and build regional cooperative arrangements for aggregating, marketing, and distributing products. Many participants stated that a value-added facility would open up new opportunities. However, the function of the facility varied by respondent with meat processing, cannery, creamery, and community kitchen being common responses.

Marketing

Regional branding of products

Promotion of industry (including local foods and agritourism) through literature and media

Cooperatives to facilitate market distribution

Market and Industrial Development

Expanding world markets

Agricultural diversification

Agritourism/wineries

Irrigated produce

Locally grown and organic products

Value-added products

Bioproducts and biomass

Pulp paper products (e.g., paper fluff)

Farm waste product reuse/farm energy

Environmental markets, conservation easements

Infrastructure and Facilities

Value-added facility (meat slaughtering and processing, creamery, cannery, community kitchen)

Box 4.4 Local Foods

Virginia Cooperative Extension and the Virginia Department of Agriculture and Consumer Services have promoted direct sales of local produce for consumers and agritourism as ways to diversify existing farm enterprises and foster new opportunities for entry-level farmers. Two reports, one sponsored by the Danville Regional Foundation (Regional Technology Strategies 2010) and another by the Harvest Foundation (Bendfeldt et al. 2011) outline some of the obstacles and opportunities for local foods in the region. The area's direct sales remain significantly lower than statewide (an average $2.55 direct sales per capita in Pittsylvania County for 2006 compared to $3.78 for the state as a whole).[1] But both state and local direct sales have room for growth. Research suggests that local food direct markets become larger with closer proximity to major metropolitan areas, farmland availability, access to distribution systems, and favorable demographics (Low and Vogel 2011; Martinez et al. 2010). The Local Foods movement promotes a number of different market platforms, including farmers markets, farm stands, community supported agriculture (CSA), food to table, and product aggregation for sale to large local institutional and supermarket buyers. Many Virginia communities participate in the *Buy Fresh Buy Local* campaign

The Danville area currently features two farmers markets: the City of Danville sponsors the Danville Farmers Market at the Danville Community Market and Pittsylvania County supports a Farmers' Market at the Olde Dominion Agricultural Complex. The Danville Farmers Market has a long history but moved to its current indoor location approximately 10 years ago. It averages about 50 vendors and 600 patrons on Saturdays May to October and Wednesdays July to October. The Farmer's market at the Olde Dominion Agricultural Complex began in 2011 with the opening of that facility and averages 10 vendors with approximately 50 patrons each Saturday from June to October.

Area farms use other distributional channels. Several area farms offer U-pick opportunities. Thirteen farms use Community Supported Agriculture (CSA) to distribute their products according to the 2007 Census of Agriculture. CSAs offer fresh locally grown farm product allotments to consumers on a subscription basis. The Sandy River Pork Farm located 5 miles from Axton does a significant amount of business in direct sales of pork products and accepts online orders for delivery at selected regional locations.

1 Based on USDA. NASS (2009) and population estimates from the U.S. Census Bureau.

SECTION 5
STRATEGIC INITIATIVES

The public and industry focus group discussions, individual interviews with Pittsylvania County Agricultural Development Board members, background descriptive material, and agribusiness economic impact results form the basis for making recommendations to grow the agribusiness economy in the Danville metropolitan area. In addition, agricultural and forestry economic development plans from the Commonwealth of Virginia (2009 Rural Economic Development Strategic Plan), other states (Kentucky, Vermont), and counties elsewhere in the country (Durham, Edgecombe and Franklin, NC; Broome, Berks, Schuylkill, St. Lawrence and counties in the Hudson Valley, NY; Fairfield County, OH; Jefferson County, WV) were reviewed to examine how they have grappled with issues similar to the Danville region and organized new initiatives. By synthesizing this information and consulting with the Agriculture Development Director on the usefulness and feasibility of specific activities, the research team developed several dozen possible actions that the Agricultural Development Board could pursue in the next several years. These recommendations are organized into the same categories that emerged from focus group discussions and board interviews. They include:

- Administration and Planning
- Public Relations
- Marketing
- Market and Industrial Development
- Education and Workforce
- Entrepreneurship
- Financial Capital
- Infrastructure and Facilities
- Natural Resources
- Taxes and Regulations

Each area provides a brief overview and list of specific activities. Inclusion in this listing does not imply that the activity would be chiefly undertaken by the Pittsylvania County Agricultural Development Board or achieved with only County resources, which are necessarily limited. It would be prudent in many instances to find other lead implementers from partnering agencies and organizations and private enterprises and to solicit funds from elsewhere such as the Virginia Tobacco Indemnification and Community Revitalization Commission, local, state, and national foundations, and state and federal government agencies.

Administration and Planning

Pittsylvania County has an active Agricultural Development Board and strong and entrepreneurial executive leadership. It has undertaken a number of actions that have raised the profile of agribusiness in the community, established bridges to new markets, improved industrial recruitment efforts, and secured funding for innovative local projects. Moreover, the decision of the Olde Dominion Agricultural Foundation to build the Olde Dominion Agricultural Complex has been not only an industry morale booster that has helped to bring participants together but has served as an important one-stop-shop facility for landowner and farmer technical assistance, outreach, education and training, agritourism, product marketing, and a focal point for attracting the next generation of farmers. Moving to the next level would involve formalizing the agribusiness economic development planning process by creating written plans that are periodically updated with stakeholder input, constructing accountability metrics for progress reporting, developing deeper linkages with local and regional economic development efforts, and making agriculture development an equal partner in such efforts.

Recommended initiatives are:

- Improve coordination, cooperation, and resource sharing between Agriculture Development and Economic Development Directors in local economic development

- Link Pittsylvania County agriculture development and economic development marketing and recruitment efforts

- Develop a written Pittsylvania County Economic Development Plan and integrate with Agriculture Development Plan

• Conduct an annual Agribusiness Development Forum with regional stakeholder participation to solicit information and advice for updating the Agriculture Development Plan

• Tour facilities elsewhere in the region and country that are employing new and innovative programming and marketing practices that could be adopted locally

• Develop institutional structures and cooperate on a regional basis with other agribusiness and economic development entities to build the regional agribusiness sector

• Develop an accountability system/report card for agribusiness sector development efforts with benchmarks and collect data for annual monitoring and reporting

Public Relations

Agribusiness is viewed as an important industry by the local community. In addition to providing needed food, fiber, and fuel, it is a large source of area employment that supports other business activity through its spending in the community for supplies and services. Agriculture and forestry also help to preserve important natural amenities such as open spaces, rural scenery, and historical resources such as barns. Despite the many positive reactions to the industry, agribusiness in the Danville metropolitan area and elsewhere in the nation has a public relations problem. Many residents are unaware of how their food is produced. Few among the younger generation view farming, forestry, and manufacturing as attractive and technically challenging career options. In addition, the industry faces the prospect of weakened political influence due to newer generations of local, state, and federal leadership who have few connections to agriculture and forestry or rural areas. The purpose of public relations initiatives would be to reinforce the positive perceptions of the industry with new information, reintroduce the public to agribusiness, and raise the profile of the industry in the community and among political leaders.

• Develop a brochure highlighting and reinforcing the role and importance of agribusiness to the economy, environment, and quality of life of the region

• Develop an electronic media presentation for local civic and business associations on the benefits of agribusiness, future development opportunities, and current major initiatives

• Distribute an information packet on the local agribusiness sector to newly elected and appointed members of the Board of Supervisors, Danville-Pittsylvania Regional Industrial Authority, and the Pittsylvania Planning Commission

• Hold an annual open house at the Olde Dominion Agricultural Development Complex with area industry associations, agencies, and businesses present to explain the services and business/career opportunities available

• Create a local farm tour program

• Encourage area agribusiness owners and workers to participate in public leadership programs such as Leadership Southside, Virginia Agriculture Leaders Obtaining Results (VALOR), LEAD Virginia, and others, and participate on non-profit and government boards and commissions

• Present agribusiness promotional videos and public service information about Olde Dominion Agricultural Complex events and education/training opportunities on River City Public Access and Educational Channel and in other available media outlets

Marketing

Stakeholders agree that the Danville metropolitan area has opportunities to market its numerous assets, including abundant land and water, broadband capacity, industrial parks, and educational and research institutions to agribusinesses. They also believe that the area could do a better job in marketing its local products to area residents, local inputs to area businesses, and equine/agritourism offerings to tourists. Recommendations in this area center on ways to improve local branding, advertising, and outreach for agribusiness growth. In addition, recommendations are provided for training local producers to improve their marketing practices.

• Encourage greater use of the Virginia Grown label and develop a regional brand for local agricultural products

- Promote local agribusiness enrollment in international export training programs such as the Virginia Economic Development Partnership's VALET program

- Develop workshops for farmers and other agribusinesses in marketing practices such as direct marketing and Internet sales

- Develop a website and brochure for farms involved in direct sales and agritourism, a calendar of agricultural-related events, and listing of other agritourism-related resources such as beds and breakfasts and retailers/restaurants that offer locally grown food and agritourism experiences

- Develop an industrial recruitment literature brochure oriented to agribusiness firms that highlights specific advantages of the area (agricultural work ethic, research and development activities, workforce training programs, industrial parks, broadband, natural resources, industrial incentives, water supply, energy costs) for agribusinesses

- Establish a booth at selected state and national agribusiness company confabs/trade shows as part of an organized industrial recruitment effort

- Compile an inventory of local agricultural and forestry equipment and supply businesses, custom services, and products (e.g., forage crops) in order to promote local purchases

- Publish a regional wood products directory

- Encourage development of marketing and purchasing cooperative arrangements using e-services

- Increase awareness of the area's agricultural tobacco heritage through creation of a tobacco trail and promotion of the Tobacco Barns Preservation Project

Market and Industrial Development

With the shrinking of tobacco markets resulting from new consumer attitudes towards smoking and escalating excise taxes on tobacco products, tobacco has declined markedly as the main source of agricultural cash receipts and value-added manufacturing in the Danville metropolitan region. Although tobacco has now stabilized at a lower level of production, agriculture has grown in other areas, particularly livestock and poultry, dairy, direct sales, and specialty products such as wine. Moreover, research breakthroughs at the Institute for Advanced Learning and Research and other affiliated private ventures hold out the promise for growth in plant micropropagation and biofuels. Initiatives identified in this area would build on these successes by working to further diversify area agribusiness into areas such as specialty farm products, local foods, value-added products, outdoor recreation, certified products, and other growing industries.

- Update Virginia Tech agricultural market study (Purcell, Taylor, and Halili 2003) on economically viable alternative livestock and crop production opportunities

- Establish industry targets for recruitment, expansion, and small business development based on formal analysis of area's economy (see **Box 5.1**), research and development and educational system linkages (e.g., bioproducts, biofuel, tissue culture horticulture, high end furniture, aquaculture), and new products (e.g., wood pellets, industrial hemp, nutraceuticals)

- Expand local food production and purchasing by adopting goals and strategies outlined in recently published regional food system studies prepared for the region by Regional Technology Strategies, Inc. (2010) and Virginia Cooperative Extension (Bendfeldt, Walker, Bunn, Martin and Barrow 2011), including the following:

  (1) Assist farmers in serving local agricultural products to large institutional and business buyers by addressing quality, packaging, and volume barriers through creation of an aggregation program/facility

  (2) Develop marketing materials and a website such as the *Buy Fresh Buy Local* Campaign to connect area farmers and Consumer Supported Agriculture cooperatives to area consumers, stores, and restaurants

  (3) Provide training and certification on different areas related to the local food economy such as organic production, cooking, and preparation

Box 5.1 Industry Targeting

Industry targeting, as Barkley and Henry (2009) explain:

"... is the process of focusing industrial development programs and efforts on specific industries or clusters of related industries. The principal objectives of an industry targeting program are to identify (1) industries that have a high potential for locating or developing in the area and (2) industries that provide attractive local economic development impacts in terms of future job growth, wages paid, and contributions to the local tax base. A targeting approach enables communities to focus their recruitment, retention and expansion, and small business development programmes rather than provide assistance for many different industry types."

An industry screening method combining the Barkley and Henry Regional Economic Development Research Laboratory (REDRL) approach and the Deller (2009) import substitution approaches was employed to identify target industries for the Danville metropolitan area. Screening was based on IMPLAN data for the Danville metropolitan area using the 440 IMPLAN industries. Target industries were required to meet three conditions: (1) industry employment must have grown over the period of 2008 to 2011, (2) average employee compensation for the industry must be above the 2011 average compensation for employees in the Danville metropolitan area which was $32,909, and (3) the Danville metropolitan area location quotient must be greater than one (i.e., must have a higher percentage of local employment in the industry as a share of total local employment than the share of the industry in the U.S. compared to total U.S. employment) or (4) the area must import at least $5 million in output from elsewhere. The rationale for using these particular screens was to identify dynamic industries that are growing in spite of recent cyclical headwinds, are likely to provide attractive compensation that raises area local incomes, and for which the Danville metropolitan area already exhibits some comparative advantage or might possibly attract a firm to fill gaps in the local supply chain. Using these criteria, the 21 industries in the table below were found of which only two (all other food manufacturing and wineries) have a significant presence in the region. Seventeen of these industries are agribusiness industries as defined in this study. Four of the industries are potentially agriculture-related products or services that area businesses import in significant quantities (i.e., other basic organic chemical manufacturing, fertilizer manufacturing, environmental and other technical consulting services, and scientific research and development services).

Danville Metropolitan Area Industry Targets

Industry	Employment Growth, 2008-2011	Average Compensation, 2011 ($)	Location Quotient	Imports (Millions $)
Dog and cat food manufacturing	12.7	70,861	0.00	10.35
Other animal food manufacturing	2.1	55,228	0.00	12.87
Flour milling and malt manufacturing	2.0	62,042	0.00	11.36
Wet corn milling	52.2	95,374	0.00	10.88
Fats and oils refining and blending	5.7	62,652	0.00	6.73
Frozen food manufacturing	3.2	45,174	0.00	10.85
Cheese manufacturing	12.0	53,460	0.00	9.13
Animal (except poultry) slaughtering, rendering, and processing	1.3	43,398	0.00	22.83
Bread and bakery product manufacturing	3.3	38,360	0.22	13.73
Cookie, cracker, and pasta manufacturing	3.4	51,443	0.00	9.56
Snack food manufacturing	9.8	53,750	0.00	13.88
Seasoning and dressing manufacturing	4.9	66,251	0.00	6.62
All other food manufacturing	4.6	43,526	46.20	7.37
Breweries	7.8	84,370	0.00	13.91
Wineries	18.0	52,736	0.90	7.51
Distilleries	10.7	94,422	0.00	6.30
Sanitary paper product manufacturing	0.2	81,565	0.00	6.36
Other basic organic chemical manufacturing	9.1	110,341	0.00	106.15
Fertilizer manufacturing	3.8	85,563	0.00	7.49
Environmental and other technical consulting services	24.0	55,082	0.05	6.75
Scientific research and development services	7.4	77,592	0.03	43.30

- Increase forest landowner and farm participation in state and national quality and green certification programs and provide supporting workshops in these areas

- Provide a workshop for area landowners on recreational leasing of farm and forestry property for hunting and fishing

- Provide a workshop for farmers interested in agritourism, including coverage of issues related to regulations, liability/insurance, management, and marketing

- Increase the attractiveness of the region as a recreational hunting destination with marketing and event planning

- Develop an agribusiness retention and expansion visitation program by visiting area businesses, following up on area business needs, and developing new strategic initiatives based on existing industry needs

- Explore the possibility of utilizing tobacco greenhouses for the cultivation of ornamental crops, fruits, and vegetables when not used as part of the tobacco planting season

Education and Workforce

Area agribusinesses face considerable difficulties attracting and retaining area workers at all skill levels. Farmers report problems finding seasonal and annual laborers and often need to rely on migrant labor. Loggers and mills sometimes struggle to find heavy equipment operators. The industry is also not perceived as a reliable and attractive career option for many graduating seniors because of lower wage levels, strenuous manual labor requirements, and fewer prospects of advancement and promotion in what are often small businesses. The activities in this area would attempt to introduce the public to agriculture, portray the positive and technically challenging aspects of the industry, upgrade agricultural education in primary and secondary schools, expand post-secondary degree and training opportunities, and improve agribusiness workforce recruitment and retention.

- Work with Virginia Cooperative Extension, Virginia Department of Agriculture and Consumer Services, the Farm Bureau, VADO (Virginia Agricultural Officers Development Group) and other industry partners to foster an image of agriculture and forestry as challenging fields in the manner of the Dream It Do It effort for advanced manufacturing[1]

- Conduct training in farm labor management to improve employee recruitment and retention

- Establish better linkages between the industry and regional agribusiness education programs (e.g., logging, horticulture, agriculture, WOODLINKS) for area agribusiness recruitment

- Sponsor a regional agribusiness job fair

- Develop a workforce clearinghouse of screened unskilled, semi-skilled and nontraditional (e.g., retired, seasonal) laborers available for temporary employment

- Renew agricultural education in area secondary schools by improving infrastructure such as greenhouses and reintroducing an agricultural vocational skills training program

- Partner with regional educational institutions to expand post-secondary agribusiness education (Letter of Recognition, Certificate, Associates, Bachelors) opportunities through online, distance, and on-site classroom learning opportunities. Examine the feasibility of offering a remote learning Agribusiness Certificate program

- Expand Continuing Education coursework in areas such as gardening, viticulture, beekeeping, and specialty niches

- Promote hobby farming and community farming through community gardening to encourage interest in agriculture, horticulture, and forestry

1 More information on the Dream It Do It career awareness and recruitment program is available at http://www.dreamitdoitvirginia.com

- Promote training programs available from Virginia Cooperative Extension

Entrepreneurship, Succession, and Management

Area agriculture faces a continued farm succession crisis as the silent generation passes away and baby boomer farmers begin to retire or scale down their activities. Many farmers struggle to convince their children to take over the family farming operation. Some farmers have discouraged their children from farming in order to pursue more lucrative career opportunities in the education, health care, legal, and business fields. On the other hand, farming is experiencing somewhat of a renaissance among some members of the public with the growing interest in local food production. Unfortunately, entry-level farmers face numerous obstacles obtaining the land, purchasing equipment, and developing the financial and management acumen needed to operate a successful farming enterprise. Initiatives in this area would provide succession planning assistance to retiring farmers and technical and planning assistance, training, and mentoring to new and existing farmers to slow and reverse farm attrition in the region.

- Establish a farm succession planning and financial planning workshop for farmers who are exiting the industry that includes information on how to dispose of farm equipment and assets, retire their debt, and develop land lease arrangements

- Establish a new farmer orientation session and training program for new and beginning farmers

- Begin a mentoring program that links new farmers with established farmers

- Establish a program of business planning and targeted technical assistance designed for farmers and other agribusinesses to assist farm startups, expansions, and farm management and marketing

- Encourage retiring farmers and aspiring farmers to use the VDACS Farm Link program.

Financial Capital

New farmers and those employing innovative but sometimes risky practices do not have access to the same sources of low-cost financial capital as most small businesses. Generally speaking, microenterprise grant programs and low interest loan programs are oriented to other types of small businesses. Moreover, the commonwealth does not offer farmer loan assistance programs as do several other states. Activities under this recommendation seek to expand the definition of entrepreneurship to include new and innovative farmers who may have difficulty securing capital from other lenders. Training and finance programs would be targeted at area farmers to encourage farm entry and the growth of more diversified, innovative farm enterprises.

- Create a local microenterprise grant program that leverages non-local support from U.S.D.A. and other farm programs to provide capital for new farmers

- Establish a low-interest revolving loan fund targeted at farmers and other agribusinesses, particularly those adopting innovative practices such as bioenergy production, waste-to-energy, and precision farming and producing new specialty (e.g., mushrooms) and value-added products

- Develop a workshop on how to apply for available grants and loans from public and private sources for new and established farms and agribusinesses

Infrastructure and Facilities

Area agribusiness stakeholders, including members of the industry and general public, identified several public investments such as a processing facility, industrial park, and transportation improvements that could help support growth and the current operations of area agribusinesses.

- Conduct a feasibility study for establishing a shared-use agriculture processing facility that includes meat processing, dairy processing (creamery, specialty cheese), cooling and packing, canning, and a community kitchen. The facility would improve agricultural education, serve as a business incubator, encourage entrepreneurship, and promote agritourism

- Examine the feasibility of developing an agribusiness industrial park

- Develop a long-term plan to expand road shoulders and improve roadside ditching along secondary roads to better accommodate farm equipment

- Make signage improvements to alert motorists of shared farm equipment/vehicle road use

Natural Resources

Although development pressures are low in Pittsylvania County compared to other regions of the state because of recent economic difficulties, the region faces some long-term natural resource and utilization challenges brought on by continued residential development in rural areas, absentee land ownership, and poor land management practices by private landowners. In addition, the possibility of uranium mining at the Coles Hill site in the near future has raised concerns among some members of the public and agribusiness sector about the long-term viability of certain types of agriculture in the region due to accidental emissions or stigma effects. The initiatives in this area would support a long-term land preservation management plan with funding support for easement protection, educate landowners about land protection options and land management practices, better connect absentee landowners with farmers and foresters, and develop a proactive plan to reduce the risks and financially offset any negative effects of uranium mining on local agriculture.

- Sponsor training for farmers and other landowners on forest management practices

- Create an agriculture and forestry land protection program, including a Purchase of Development Program (PDR) that leverages state Farmland Preservation program funds to preserve land with the highest agricultural value

- Sponsor workshops for farmers and the general public on federal, state and local land preservation and conservation programs, including conservation easements

- Create Agricultural Disclosure Statements to inform land buyers and homebuilders that they are locating in an agricultural area with the possibility of odors, noise, farm equipment road use and other conditions connected to farm operations

- Find new and creative ways such as a Farm Lease Connection network to link absentee ownership with interested farm leasers

- Take steps to ensure that area forestland is being harvested, planted, and managed at levels needed to ensure its long-term sustainability. Use forest inventory data to regularly track the sustainability of local forests

- In the event that uranium mining is permitted at the Coles Hill site in Pittsylvania County: (a) establish a fund based on mining tax revenue to create marketing and outreach materials and media to build a positive message to counter any potential negative stigma effects that result to area agricultural products and outdoors tourism venues, (b) lobby for a mining surety bond requirement that in addition to funding reclamation and remediation efforts is large enough to build a regional transition fund to offset negative effects of unexpected uranium mining emissions to agribusiness income and the agribusiness supply chain in the area based on an independent cost-benefit risk assessment, and (c) lobby for the adoption of state statutes and regulations that specifically address poultry, livestock and dairy contamination concerns that uranium mining might raise for area agriculture.

Taxes and Regulations

Farm and forestry industry participants view government regulations at the federal, state, and county level and taxes as significant impediments to building their businesses. Moreover, the industry may deserve additional tax relief and advantageous tax incentive arrangements because of the low public service loads that it creates and the many uncompensated public benefits that farm and forestland provide. The initiatives in this area would provide an organized way of reviewing and communicating the findings of industry regulatory reviews to the appropriate county, state, and federal officials. In addition, they would begin to build the case for reducing the use value tax rate for working farms and forests to levels closer to those recommended by SLEAC and providing additional tax abatement or incentives for agribusiness recruits.

- Review County regulations and ordinances that place disproportionate burdens on area farmers and agribusinesses and recommend ways that they might be altered to maintain a stronger agribusiness economy

- Ensure that area agribusiness concerns are adequately communicated in state and federal legislation affecting water rights and encourage the reduction of regulatory barriers to constructing water ponds for agricultural irrigation

- Work with industry partners to reduce regulatory burdens on farm operations, particularly barriers to small and beginning farmers

- Develop targeted tax incentives for agribusiness manufacturing production.

- Conduct a cost-of-community services study to illustrate high agricultural tax burden in comparison with services used

- Advocate for tax incentives and policies on the state and local level that promote conservation of land for working farms and forests

REFERENCES

Aaron, Larry G. 2009. *Pittsylvania County, Virginia: A brief history*. Charleston, SC: History Press.

A Frank, Rimerman and Co., LLP. 2012. *The economic impact of wine and wine grapes on the state of Virginia: 2010.* Study for the Virginia Wine Board.

Barkley, David L. and Mark S. Henry. 2009. Targeting industry clusters for regional economic development: The REDRL approach. In *Targeting regional economic development*. Edited by Stephan J. Goetz, Steven Deller, and Tom Harris. New York: Routledge. pp. 183-197.

Bendfeldt, Eric S., Martha Walker, Travis Bunn, Lisa Martin, and Melanie Barrow. 2011. *A community-based food system: Building health, wealth, connection, and capacity as the foundation of our economic future*. Virginia Cooperative Extension.

Brandeis, Thomas J., Andrew J. Hartsell, James W. Bentley, and Consuelo Brandeis. 2012. *Economic dynamics of forests and forest industries in the Southern United States*. U.S. Department of Agriculture, Forest Service. Southern Research Station. e-General Technical Report SRS-152.

Chmura Economics and Analytics. 2011. *The socioeconomic impact of uranium mining and milling in the Chatham Labor Shed, Virginia*. Report prepared for the Virginia Coal and Energy Commission.

Deller, Steven C. 2009. Import substitution and the analysis of gaps and disconnects. In *Targeting regional economic development.* Edited by Stephan J. Goetz, Steven Deller, and Tom Harris. New York: Routledge. pp. 365-388.

Deloitte Consulting, LLP. 2005. *The economic impact of the horse industry on the United States*. American Horse Council.

Gamrat, Frank A. and Raymond D. Sauer. 2000. The utility of sport and returns to ownership: Evidence from the thoroughbred market. *Journal of Sports Economics* 1, 3: 219-235.

Jack Faucett Associates, Inc. 2011. *An economic impact study of the Olde Dominion Agricultural Complex from 2010 to 2014*. October 14, 2011.

Lamie, R. David, Matt Benson, and Jim Pease. 2005. The economic impact of the agriculture sector in Clarke County, Virginia.

Lewis, Maggy J. 2010. Keeping agriculture alive in the shadow of a uranium mine: Potential effects and regulatory solutions for Virginia. *William and Mary Environmental Law and Policy Review* 34, 2: 615-652.

Lindall, Scott. 1998. How does MIG estimate that pesky agricultural data anyway. Stillwater, Minnesota: Minnesota IMPLAN Group, Inc.

Low, Sarah A. and Stephen Vogel. 2011. *Direct and intermediated marketing of local foods in the United States*. U.S. Department of Agriculture, Economic Research Service. Report Number 128.

Martinez, Steve, Michael Hand, Michelle Da Pra, Susan Pollack, Katherine Ralston, Travis Smith, Stephen Vogel, Shellye Clark, Luanne Lohr, Sarah Low, and Constance Newman. 2010. *Local food systems: Concepts, impacts, and issues.* U.S. Department of Agriculture, Economic Research Service. Report Number 97.

Minnesota Implan Group, Inc. 2004. *Implan professional version 2.0*: *User's guide, analysis guide, and data guide*. Stillwater, MN.

Minnesota Implan Group, Inc. (MIG, Inc.). n.d. Generation and interpretation of IMPLAN's tax impact report.

Purcell, Wayne D., Daniel B. Taylor, and Rushan Halili. 2003. *Evaluating alternative agricultural enterprises in a flue cured tobacco-producing region of Virginia: A case study*. Blacksburg, VA: Rural Economic Analysis Program, Department of Agricultural and Applied Economics, Virginia Tech

RTI, International. 2011. *Proposed uranium mine and mill, Coles Hill Virginia: An assessment of possible socioeconomic impacts*. Draft report prepared for the Danville Regional Foundation.

Regional Technology Strategies, Inc. 2010. *The local food systems and natural resources cluster in the Danville region*. Prepared for the Danville Regional Foundation.

Rephann, Terance. J. Forthcoming. *The economic impacts of agriculture and forest industries in Virginia*. Charlottesville, VA: University of Virginia, Weldon Cooper Center for Public Service.

Rephann, Terance J. 2012. *Agriculture in Virginia Beach: Impact on the City economy*. Charlottesville, VA: University of Virginia, Weldon Cooper Center for Public Service.

Rephann, Terance J. 2011. *The economic impact of the horse industry in Virginia*. Charlottesville, VA: University of Virginia, Weldon Cooper Center for Public Service.

Rephann, Terance. 2008. *The economic impact of agriculture and forestry on the Commonwealth of Virginia*. Charlottesville, VA: Weldon Cooper Center for Public Service.

Stark, Nancy. 2007. *An economic and community development assessment of the Danville Region*. Washington, DC: The Corporation for Enterprise Development.

Swinker, Ann M., Peter R. Tozer, Martin L. Shields and Emily R. Landis. 2003. *Pennsylvania's equine industry inventory, basic economic and demographic characteristics*. University Park, PA: Department of Dairy and Animal Science, College of Agricultural Sciences, Pennsylvania State University.

U.S. Department of Agriculture, National Agricultural Statistics Service. 2008. *Virginia equine survey report: 2006*.

U.S. Department of Agriculture (USDA), National Agricultural Statistics Service (NASS). 2009. 2007 census of agriculture. *United States summary and state data. Volume 1*, Geographic Area Series, Part 51. AC-07-A-51

Virginia Foundation for Agriculture, Innovation, and Sustainability. 2009. *Feasibility study for an on-farm dairy anaerobic digester*. Prepared for Vanderhyde Dairy, Inc.

Virginia Tourism Corporation. 2011. Travel data and profiles. http://www.vatc.org/research/travel-data/ (Accessed January 7, 2013).

Watson, Philip, Joshua Wilson, Dawn Thiemann, and Susan Winter. 2007. Determining economic contributions and impacts: What is the difference and why do we care? *Journal of Regional Analysis and Policy* 37, 2: 140-146.

APPENDIX A
AGRIBUSINESS DEFINITION

This study uses a similar methodology to identify agribusiness production, manufacturing, and distribution industries linked with agriculture and forestry production as that used in two recent statewide studies of Virginia Agriculture and Forestry (Rephann Forthcoming, 2008). Agriculture-related industries are identified using Economic Research Service's list of farm and farm-related processing and marketing industries classified as being "closely related" to agriculture. These industries include manufacturing industries within three-digit North American Industrial Classification (NAICS) codes of 311 (food manufacturing), 313 (textile mills), and 316 (leather and allied product manufacturing). They also include farm-related raw materials wholesale trade, and farm product warehousing. In addition, one service industry, landscaping services, was added because of evidence of strong forward linkages with agriculture and forestry production from a supply-side input-output analysis. Forest-related industries are identified using a similar list compiled by the U.S. Forest Service. They include three digit NAICS codes 113 (logging), 114 (hunting and trapping), 321 (wood product manufacturing), 322 (paper manufacturing), and selected industries within 337 (furniture and related product manufacturing). To provide some symmetry with the treatment of the agricultural sector, closely related forest product wholesale and warehousing industries are also included. In addition, biomass power generation facilities (NAICS sector 221117) are added because they too rely on large quantities of wood inputs. This industry did not exist as a distinct 6-digit industry until relatively recently but it is growing in importance as a power source in Virginia and elsewhere in the U.S.

Industries for both forestry and agriculture were further divided into production, primary manufacturing, secondary manufacturing, and distribution and power generation activities. "Production" activities are those industries associated with growing and harvesting agriculture products, timber, and non-timber forest products. "Primary manufacturing" such as animal slaughtering and sawmills generally involves the first stage of converting a commodity input into a finished consumer product. It depends on commodity inputs that are often bulky or highly perishable and are typically drawn from within a small radius of the manufacturing location. "Secondary manufacturing"[1] industries such as beverage, food, and furniture manufacturing involve further processing primary manufacturing inputs such as milled grains, milk, and lumber into goods for final consumption. Due to the high perishability or bulkiness of the finished products, these industries are likely also heavily influenced by the proximity of consumer markets. For example, beverage production often involves combining locally available water supplies with fruit, corn and sugar extracts. Custom cabinetry requires the rapid shipment of bulky kitchen equipment to household locations. Lastly, "distribution and power generation" industries are the remaining warehousing, wholesaling, landscaping, and biomass power generation industries described above. Using this classification scheme, agribusiness industries are listed in **Table A.1** by their corresponding IMPLAN codes.

Area household and farm spending on horses and agritourism spending by tourists are another important component of area agriculture. This component is treated differently from the others in that the expenditures made by horse owners and tourists on area goods and services are used as the basis for calculating economic impact rather than sales or employment. The rationale for this treatment is more fully explained in **Appendix B**.

1 Allotment of forest industries to primary and secondary manufacturing by NAICS code was based on information from Brandeis et al (2012). For agriculture industries, information from Rephann (Forthcoming, 2008) and professional judgment was used.

Table A.1 Danville Metropolitan Area Agribusiness Industries by Component

IMPLAN Sector	Description	IMPLAN Sector	Description
Agriculture Production		Forestry Production	
1	Oilseed farming	15	Forestry, forest products, and timber tracts
2	Grain farming	16	Logging
3	Vegetable and melon farming	18	Hunting and trapping
4	Fruit farming	19	Support activities for agriculture and forestry
6	Greenhouse, nursery and floriculture production		NAICS 1153 Support activities for forestry
7	Tobacco farming		
10	All other crop farming		
11	Cattle ranching and farming		
12	Dairy cattle and milk production		
13	Poultry and egg production		
14	Animal production, except cattle and poultry		
19	Support activities for agriculture and forestry		
	NAICS 1151 Support activities for crop production		
	NAICS 1152 Support activities for animal production		
Agriculture Primary Manufacturing		Forestry Primary Manufacturing	
72	Wineries	95	Sawmills
74	Tobacco product manufacturing	96	Veneer and plywood manufacturing
		98	Reconstituted wood product manufacturing
		106	Paperboard mills
Agriculture Secondary Manufacturing		Forestry Secondary Manufacturing	
69	All other food manufacturing	97	Engineered wood member and truss manufacturing
70	Soft drink and ice manufacturing	99	Wood windows and doors and millwork manufacturing
94	Other leather and allied product manufacturing	100	Wood container and pallet manufacturing
		101	Manufactured home (mobile home) manufacturing
		102	Prefabricated wood building manufacturing
		103	All other miscellaneous wood product manufacturing
		107	Paperboard container manufacturing
		109	All other paper bag and coated and treated paper manufacturing
		295	Wood kitchen cabinet and countertop manufacturing
		296	Upholstered household furniture manufacturing
		297	Non-upholstered wood household furniture manufacturing
		299	Institutional furniture manufacturing
Agriculture Distribution		Forestry Distribution/Power Generation	
319	Wholesale Trade	31	Electric power generation, transmission, and distribution
	NAICS 4245 Farm product raw material wholesalers		NAICS 221117 Biomass electric power generation
	NAICS 424940 Tobacco and tobacco product merchant wholesalers	319	Wholesale Trade
340	Warehousing and storage		NAICS 42331 Lumber, plywood, millwork, and wood panel wholesalers
	NAICS 49312 Refrigerated warehousing and storage		
	NAICS 49313 Farm product warehousing and storage		
388	Services to buildings and dwellings		
	NAICS 561730 Landscaping services		
Horse Industry and Agritourism			
Consumer expenditure patterns were mapped onto IMPLAN sectors described in Table B.1.			

APPENDIX B
DATA SOURCES

The data sources for input data used in the impact analysis are summarized in **Table B.1**. The primary data source used was establishment-level employment data identified by location from the Quarterly Census of Employment and Wages (QCEW) 2nd quarter 2011 file that was purchased from the Virginia Employment Commission under a confidentiality agreement. The data coverage has some limitations. First, it does not include the self-employed. Second, the quarterly data did not adequately capture annual wage and salary employment in a few industries with major seasonal fluctuations in employment. In some instances, data from the 2011 IMPLAN model were used instead to estimate industry employment or sales figures. Because industry employment and income data are often undisclosed in public data sources dominated by one or a few firms for confidentiality reasons, the Minnesota Implan Group, Inc. uses imputation methods based on several public industry employment data sets (e.g., Bureau of Economic Analysis Regional Economic Information System, Bureau of Labor Statistics Quarterly Census of Employment and Wages, and U.S. Census Bureau County Business Patterns) to estimate the industry values.[1] The IMPLAN figures reflect proprietor as well as wage-earner employment and are based on annual data. However, in some instances, the imputations did not adequately capture industry employment or better estimates were available based on more recent data. For those remaining sectors, alternative methods described below were used instead.

Agricultural production is the first category and includes various farm commodity production categories as well as support activities for agriculture, an industry that provides many agricultural growing and harvesting services for farmers. Most of the data used in estimating farm output by sector were obtained from IMPLAN data tables, which rely heavily on 2007 Census of Agriculture information.[2] For the tobacco and oilseed sectors, more current commodity production data for Pittsylvania County and average annual prices for soybeans and tobacco (flue cured and burley) were available from the National Agricultural Statistics Service based on 2011 survey data. The sales values of these commodities were assigned to the corresponding IMPLAN sectors. Data for support activities for animal and crop production were obtained from the QCEW file. Lastly, farm employment totals were controlled to agree with 2011 Bureau of Economic Analysis (BEA) Regional Economic Information System (REIS) reporting for the total number of farmers.[3]

Forestry commodity production consists of activities related to silviculture, logging, hunting, and forestry support services. IMPLAN and QCEW provide data on formal forest nursery and timber tract business operations, which covers only a small portion of timber management activities and sales by landowners. Therefore, tax data from the Virginia Department of Forestry on forest stumpage (the value of standing timber) was used to estimate sales for this sector. IMPLAN data was used for the logging and hunting and trapping sectors because of the relatively high number of self-employed workers in these industries. Finally, QCEW establishment employment file was used to identify employment in business establishments providing support services for forestry.

Data used for primary and secondary manufacturing were obtained from the QCEW file with two exceptions. First, tobacco product manufacturing numbers reported in the QCEW file reflected off-season totals. Recent media reports indicate that actual annual employment is 200, including seasonal workers.[4] Second, both QCEW and IMPLAN

1 A fuller discussion of the imputation method used is described in Minnesota Implan Group, Inc. 2004, pp. 231-247.

2 For more information on the methodology, see Lindall (1998).

3 This was done in IMPLAN by customizing the event.

4 The IMPLAN database did not show tobacco product manufacturing sector employment in Danville City for 2011 though clearly one major tobacco stemming and redrying establishment was present. This discrepancy may be due to limitations in the imputation method used or deficiencies in the underlying government databases. A review of the QCEW data indicates that the tobacco stemming and redrying establishment was incorrectly identified as a retail tobacco store by its NAICS code. Because of this problem, it was also necessary to import a production

showed no employment in the winery sector. However, this is not accurate. Therefore, information from the Pittsylvania County/Danville City Agritourism Survey and Virginia Wine Impact Study (A Frank, Rimerman and Co., LLP. 2012) were combined to estimate more plausible employment and sales figures for this sector.

Horse operations and households owning horses are another important component of Pittsylvania County agriculture. This component is treated differently from the farm sector. It captures all expenditures involved in maintaining and supporting horses. Most horse owners value horses beyond their income producing value as evidenced by studies that show that owners incur significant net operating losses on average (Deloitte Consulting 2005; Swinker et al. 2003; Gamrat and Sauer 2000). Therefore, expenditures on horses are used as the basis for estimating economic impact rather than horse sales. However, since horse sales by farms are part of IMPLAN Sector 19 (Animal production, except cattle and poultry), the county horse inventory of 3,000 was reduced by the number of horses sold (88) as tallied by the 2007 Census of Agriculture so as not to double-count. The method for estimating horse industry expenditures for calculating the economic impact of horse owner expenditures on support of horses is the same as used to generate county-level impact estimates in a recent statewide economic impact study of the horse industry (Rephann 2010). The expenditure data is based on information from the 2006 Virginia Equine Survey (U.S. Department of Agriculture, National Agricultural Statistics Service 2008) adjusted to 2011 prices.

Agritourism is a relatively small but growing aspect of area agriculture. Agritourism as defined here included conventional farm visitors (e.g., hunting, tours, pumpkin patches, Christmas Tree), equine related tourism (e.g., trail riding, shows and competitions) and wineries. Farm agritourism figures (4,395) are computed from six responses (out of 17 mailed) to a Pittsylvania County/Danville City Agritourism Survey (see **Appendix D** for survey instrument). Winery visitations are based on the average number of winery visitations per Virginia Winery (8,383) from a recent state winery economic impact study (A Frank, Rimerman and Co., LLP. 2012). Since visitors often visit more than one local winery as part of a local winery tour, this figure was used to conservatively estimate the total unduplicated visits to all four Pittsylvania County wineries. A total of 12,777 farm and winery agritourists are estimated for 2011 of which 63 percent or 8,006 are estimated to come from outside the Danville metropolitan area. For horse agritourism, headcount estimates are based on a tally of three county horse shows during 2011. The shows are estimated to draw primarily from the local area. Estimates of non-resident horse show participants (98) and spectators (71) are based on horse show averages for local horse shows from Rephann (2010). No effort was made to estimate the economic impact of local agriculture-themed festivals such as the Sorghum Festival. This festival is thought to derive the vast majority of its patrons from the local area.

To estimate agritourism direct expenditures, non-resident visitor estimates are combined with expenditure patterns for non-resident agritourists. Estimates of total trip expenditures for Danville metropolitan area agritourists were not available. Therefore, the average expenditures for Virginia sports, recreation, nature/outdoors leisure travellers from the Virginia Tourism Corporation (2011) were assumed to be representative of Pittsylvania County agritourists. An average local expenditure amount of $37.85 spent per trip for agritourists was estimated involving one overnight stay. For equine visitors, average expenditures and expenditure patterns for non-resident horse spectators and participants were derived from Rephann (2010). An expenditure of $92.34 for non-local horse event spectators from that study is assumed for spectators. Non-resident horse show participants have much higher travel party expenditures ($1,774) and more diffuse spending patterns due to the additional costs of transporting, feeding, and showing horses.

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function into the IMPLAN model that adequately captures the production technology used. The 440-sector IMPLAN model collapses all tobacco product manufacturing into one category whereas the older 509-sector IMPLAN model had three tobacco manufacturing categories (tobacco stemming and redrying, cigarette manufacturing, and other tobacco product manufacturing). In lieu of using the national tobacco product manufacturing production function (IMPLAN sector 74) from the current 490 sector model that is dominated by cigarette manufacturing, a tobacco stemming and redrying sector production function (IMPLAN sector 89) from a 2004 509-sector model was aggregated into the current 440 sector scheme and used instead. Similar reassignments were needed for several other establishments because of NAICS codes that did not adequately represent the type of product or service produced by the establishment.

Table B.1 Data Sources and IMPLAN Assignments by Component

Component	Data Sources	IMPLAN Assignment
Agriculture Commodity Production	IMPLAN, 2011; National Agricultural Statistics Service, Quickstats; Virginia Employment Commission QCEW, 2nd Quarter 2011	See Table A.1 for IMPLAN sectors included. Estimates of Pittsylvania County agricultural production value for oilseed farming and tobacco farming from NASS for 2011; QCEW data was used to estimate support activities for agriculture; For the remaining production sectors, IMPLAN estimates were used.
Forestry Commodity Production	Virginia Department of Forestry (VDAF), 2011; IMPLAN, 2011; Virginia Employment Commission QCEW, 2nd Quarter 2011	See Table A.1 for IMPLAN sectors included. Estimates of Pittsylvania County timber tract production were from VDAF; IMPLAN data was used for logging and hunting and trapping; QCEW data was used to estimate support activities for forestry.
Manufacturing and Distribution Sectors	Virginia Employment Commission, QCEW, 2nd Quarter 2011; information from media reports; A Frank, Rimerman and Co., LLP (2012); Pittsylvania County/Danville City Agritourism Survey	See Table A.1 for IMPLAN sectors included. Employment figures for tobacco manufacturing were estimated based on media reports; Wineries employment was estimated based on the Pittsylvania County/Danville City Agritourism Survey and information from A Frank, Rimerman and Co., LLP (2012).
Horse Industry Expenditures	National Agricultural Statistics Service 2006 Virginia Equine Survey Report expenditures adjusted to 2011 prices and 2006 Virginia Equine Survey Report estimated horse inventory	The exact procedure for mapping survey data to the IMPLAN categories using equine budget information and other information is explained on page 28 of Rephann (2010).
Agritourism spending	Pittsylvania County/Danville City Agritourism Survey; Rephann (2010); Virginia Tourism Corporation (2012)	Visitor figures estimated from Pittsylvania County/Danville City Agritourism Survey and Rephann (2010). Visitor expenditure patterns from Virginia Tourism Corporation (2012) and Rephann (2010). Expenditure patterns were mapped onto the following IMPLAN sectors: 19 (support activities for agriculture and forestry), 323, 326-330 (retail stores), 335 (transport by truck), 362 (automotive equipment rental and leasing), 379 (veterinary services), 402-410 (amusement and recreation), 411 (hotels and motels), 412 (other accommodations), 413 (food services and drinking places)

APPENDIX C
FOCUS GROUP AND INTERVIEW TECHNICAL REPORT

Summary

Organization of the Technical Report

This technical report consists of the Summary, a detailed description of the methods used in the focus groups and semi-structured interviews with members of the Agricultural Development Board, and – for each of the four groups – a detailed listing of the ideas and feedback generated from the group.

The Summary presents information on the study motivation and methodology. The Methods section provides a more detailed understanding of how the groups were recruited and conducted. The section titled Reports from Individual Focus Groups and Interviews provides the detail about the settings and makeup of the groups and lists detailed responses to individual questions.

Background

At the request of the Pittsylvania County Agriculture Development Office, the Weldon Cooper Center at the University of Virginia entered into a contract to describe and report on the status and impact of agribusiness in Pittsylvania County and Danville City, and to solicit input about agribusiness development needs and opportunities. Within the Cooper Center, the Center for Economic and Policy Studies (CEPS) served as the lead agency on the project, providing economic analysis and final reporting services. The Center for Survey Research (CSR) assisted with data collection and reporting services.

This technical report describes the results from three focus groups recruited and conducted by CSR. A draft report describing those results was shared with members of the Pittsylvania County Agricultural Development Board, who provided their comments about the draft report and their ideas about agribusiness development needs and opportunities in a series of semi-structured individual interviews conducted by telephone. Their comments are incorporated into this final version of the technical report, which was used by CEPS as an input to the final report for the overall project.

Purpose of Focus Groups and Interviews

Focus groups and semi-structured interviews are not intended to be generalizable to larger populations. They are intended to provide insights into the variety of experiences and opinions relevant to the research question, and to illuminate different ways in which people think about and talk about issues or concepts important to the researchers. Therefore, the results described in this report should be taken as generalizable only to the participants in the focus groups and the individual Agricultural Development Board members interviewed. However, the results from these groups seem to align with “general knowledge” about issues and trends in agribusiness. Therefore, many of the specific observations and suggestions from the groups may not be surprising. But it is often useful to confirm “general knowledge” in a more systematic way.

Summary of Focus Group Protocol

Two of the focus groups were drawn from people actively involved in agriculture, forestry or related businesses in the area. One focus group was drawn at random from the general public; in a heavily agricultural area such as Pittsylvania County and Danville City, this method also resulted in some participants in that group being in agribusiness.

To recruit participants in the focus groups, the Pittsylvania County Agriculture Development Office provided CSR with lists of selected individuals engaged in agriculture, forestry or related enterprises in Pittsylvania County or Danville City. CSR also used Internet research to expand these lists. These “targeted” people were contacted by telephone to determine their interest in participating. CSR also purchased lists of landline and cellular telephone numbers to recruit participants at random by telephone. Thus, the participants in the focus groups were a mix of “targeted” individuals and randomly selected individuals.

CSR e-mailed or mailed confirmation information to those who agreed to participate. Participants received a light lunch or dinner and $25 in cash.

CSR and CEPS staff developed a focus group moderator’s guide with a sequence of suggested questions and conversation-starters. The groups included a small writing activity, and the use of flip charts to display lists of ideas or issues raised by the participants.

More detail about the focus group protocol can be found in the Methods section of this report.

Summary of Semi-Structured Interview Protocol

All current members of the Pittsylvania County Agricultural Development Board were invited to participate in an individual semi-structured phone interview conducted by CSR interviewers. Before any interviews were conducted, board members received an email from the Pittsylvania County Agriculture Development Director informing them about the upcoming opportunity to provide their feedback. CSR sent a packet to each Board member by Federal Express. The packet included a cover letter describing the request with a list of discussion questions, and a copy of the draft technical report. Board members also received an electronic copy of the draft technical report and a list of discussion questions via e-mail. CSR staff contacted board members by telephone to set appointments to obtain their feedback. CSR staff called back at the appointed times. Fifteen of the 27 board members were able to participate in the interviews.

During the interviews, board members were led through a structured sequence of questions developed by CSR to elicit thoughts about the focus group results and to obtain additional suggestions, concerns and recommendations.

More detail about the semi-structured interview protocol can be found in the Methods section of this report.

Methods – Focus Groups

Protocol

CSR recruited and conducted two focus groups with participants who are actively involved in agriculture, forestry or some related economic development effort in the Pittsylvania County/City of Danville region. A third focus group was drawn at random from the general public, but in a heavily agricultural area such as Pittsylvania County and Danville City, this method also resulted in some participants in that group being in agribusiness.

On Friday, December 7, a group of seven individuals representing lumber, forestry, farming, wildlife, packaging, and dairy participated in the first focus group. This group met at the Institute for Advanced Learning and Research during an extended lunch. The second focus group of eight individuals met on Friday, December 7 at the Olde Dominion Agricultural Complex in Chatham, Virginia. These individuals were recruited at random from a random sample of residents reached by landline or cellular telephone in the Pittsylvania County/City of Danville region. Finally, the third focus group of nine participants met on Saturday, December 8 at the Olde Dominion Agricultural Complex. This group represented a winery, farming, dairy, organic farming and the horse industry.

To recruit participants in the focus groups, the Pittsylvania County Agriculture Development Office provided CSR with lists of selected individuals engaged in agriculture, forestry or related enterprises in Pittsylvania County or Danville City. CSR also used Internet research to expand these lists. These "targeted" people were contacted by telephone to determine their interest in participating. CSR also purchased lists of landline and cellular telephone numbers to recruit participants at random by telephone.

CSR e-mailed or mailed confirmation information to those who agreed to participate. Participants received a light lunch or dinner and $25 in cash.

CSR and CEPS staff developed a focus group moderator's guide with a sequence of suggested questions and conversation-starters. The groups included a small writing activity, and the use of flip charts to display lists of ideas or issues raised by the participants.

Overall Goals of the Focus Groups

- Explore attitudes towards agriculture, forestry and related economic development in Pittsylvania County and Danville City.

- Ask participants about the current status of the industry including regional industry strengths and weaknesses, perceptions of the contributions and value of the industry, industry trends, industry opportunities and challenges, and industry needs.

- Gather ideas for promoting the area as a destination for individuals or entities that wish to pursue traditional and non-traditional agribusiness and agriculture activities.

Questions Presented

The following questions were developed for the moderator's guide to help the discussions at each of the focus groups:

- What comes to mind when you think about agriculture, forestry and related businesses in Pittsylvania County and Danville?

- What do you think of when you hear the word "agribusiness?"

- What do you think of when you hear the term "economic development?"

- What are some specific agribusinesses in the area that come to your mind?

- What are some of the positive aspects of agribusiness in the Pittsylvania County region?

- What are some of the negative aspects of agribusiness in the Pittsylvania County region?

- How has the agribusiness industry changed over the years that you have lived in this area?

- What do you see as some of the needs and challenges facing agribusiness in Pittsylvania County?

- What ideas do you have to make agribusiness more viable for the area in the future?

Once the participants' opinions about the terms "agribusiness" and "economic development" were discussed, they were informed that – although there were no right or wrong answers about those definitions – the terms would be used in the focus groups as neutral, broad "umbrella" terms.

Methods – Semi-Structured Interviews

Protocol

CSR recruited and conducted semi-structured interviews with members of the Pittsylvania County Agricultural Development Board. Board members provided their thoughts and reactions to a summary of the focus group results by answering a series of guided discussion questions.

Fifteen out of 27 Agricultural Development Board members were able to complete semi-structured telephone interviews at times of their choosing between the dates of Tuesday, January 15 and Saturday, January 19. CSR attempted to contact all 27 members of the board and completed interviews with all members who agreed to participate.

To recruit participants in the semi-structured interviews, CSR sent board members an invitation letter and a copy of the draft technical report by Federal Express. Board members were contacted by phone to participate in a semi-structured interview or identify a convenient time to be called back. Later, board members who had not participated yet received an e-mail containing a set of discussion questions and an electronic version of the draft report.

During the interviews, board members were led through a structured sequence of questions developed by CSR to elicit thoughts about the focus group results and to obtain additional suggestions, concerns and recommendations.

Overall Goals of the Focus Groups

- Explore responses of the Pittsylvania County Agricultural Development Board members to the preliminary findings from the community focus groups.
- Ask participants about the current status of the industry including industry trends, industry opportunities and challenges, and industry needs.
- Gather ideas for promoting the area as a destination for individuals or entities that wish to pursue traditional and non-traditional agribusiness and agriculture activities.

Questions Presented

The following questions were developed for the semi-structured interview script to facilitate discussion with each board member:

- First, what was in the report that surprised you?
- In your opinion, what information was missing from the report?
- What do you think about the ideas for improving agribusiness that were listed in the report?
- In your opinion, what are some needs or opportunities for agribusiness in the Pittsylvania County area?
- Looking ahead, what do you think are a couple of the “big picture” issues that will influence agribusiness in the Pittsylvania County area in the future?
- Overall, did the focus groups seem to do a good job of capturing the main challenges and opportunities for agribusiness in the county? Do you think the researchers have learned useful things from these focus groups?
- What other suggestions or issues do you want to tell me about?

Reports from Individual Groups

Focus Group 1
Friday, December 7
12 – 1:30 p.m.
Institute for Advanced Learning, Danville VA
15 agreed to attend, 7 attended

What are some general thoughts you have about the status of the agricultural industry in the Pittsylvania County region?

1) Profit margins are smaller, so despite increased efficiency and productivity you've got to get bigger
2) There is skepticism about the effectiveness of agritourism
3) We need to protect the natural resources and maintain them for local use
4) The tobacco industry is not actually declining in Pittsylvania (production and acreage devoted to tobacco are the same)—but there are fewer farmers

What do you think of when you hear the word, "agribusiness?"

1) Not viewed differently when relating to farms v. forestry
2) Agriculture is a separate business from "agribusiness"
3) Everything related to the land
4) Mixed feelings but interested in new opportunities and revitalization
5) Agribusiness is more complex now
6) There is a negative image of agribusiness and business generally

What do you think of when you hear the term "economic development?"

1) Agriculture ends up on the short end of the stick when it comes to world markets because it is not competitive
2) A lot needs to be done to advance agriculture; we are not as efficient as we could be
3) Concerned that if we can't make enough income on this land, it will be turned into asphalt and "development" of that sort
4) Economic development is a positive term and suggests growth
5) There is a change from local markets to world markets and it's important to emphasize that businesses are often still family-focused

What comes to mind when you think about agriculture, forestry and related businesses in Pittsylvania County and Danville?

1) Logging
2) Lumber
3) Fuel (energy)/biofuel alternatives
4) Family
5) Stability
6) Lifestyle/way of life
7) Large land mass
8) Workable land (topography)
9) Low cost of living
10) Environment
11) Leave the land in better shape than you found it

12) Farming
13) Tobacco
14) Timber markets/income
15) Grain markets
16) Cattle
17) Diverse
18) Extremely important
19) Robust
20) Open space
21) Wildlife habitat

What are some specific agribusinesses in the area that come to mind?

1) Mountain View (milk)
2) Mead Westvaco (paper)
3) Southern States
4) Cloverdale Lumber
5) Stevens/Kendall (sawmills)
6) Farm Credit
7) Virginia Department of Forestry
8) James River Equipment
9) JTI (tobacco)
10) Banks
11) Virginia Department of Forestry
12) James River Equipment

What are some of the positive aspects of agribusiness in the Pittsylvania County region?

1) Jobs
2) Infrastructure (RR/roads)
3) Scenic (green space)
4) Land availability
5) Land use (low tax rate)
6) Water availability
7) Feeds people
8) Development (non-producing land)

What are some of the negative aspects of agribusiness in the Pittsylvania County region?

1) Odors
2) Smoke, fire (clearing land)
3) Noise (machinery)
4) Chemicals
5) Logging—affects beauty of land
6) Farm succession
7) Inadequate roads
8) Traffic (big trucks, farm equipment)

What ideas do you have to make agribusiness more viable for the area in the future?

1) Processing plant—milk production, creamery (for educational and tourism purposes, also provides a local market)
2) Change in the tax base

3) Increased wine industry
4) Biofuel options
5) Whole Foods (acknowledgement of local farmers)
6) Daily farmer's market
7) Availability of resources such as fertilizers
8) Agritourism (Need to address liability issues)
9) Utilize scenic lakes as a drawing card
10) Seminars on issues such as conservation easements
11) Less government regulation
12) Longer vision
13) Need financial support for new markets
14) Development of self-sustaining practices

Focus Group 2
Friday, December 7
6 – 8 p.m.
Olde Dominion Agricultural Complex, Chatham VA
20 agreed to attend, 8 attended

What comes to mind when you think about agriculture, forestry and related businesses in Pittsylvania County and Danville?

1) Tobacco farming
2) Jobs
3) Timber/Forestry
4) Regulation
5) Dairy farms
6) Wineries
7) Local jobs
8) Family values/Heritage
9) Greenhouses
10) Soy beans
11) Wildlife
12) Economic impact
13) Logging
14) Vast acreage
15) Unspoiled
16) Deer
17) First industry
18) Sell more local
19) Limit acreage sold to private companies

What do you think of when you hear the word, "agribusiness?"

1) All the companies that sponsored the farm reports (crops, weather); big companies that specialize in huge farms out in the mid-west
2) Huge tractors and large scale farming—small family farms don't seem to fall in this category
3) Loaded word because of exposure to sponsorship (ADM) and being intertwined with other businesses like fertilizer and pushing products. The word has already been appropriated/commandeered for big business and so doesn't seem to apply to the smaller industry in the Danville region
4) Any person or family who utilizes agriculture for income, plus all the businesses that are tiered around providing support to those industries (at all levels)
5) Leggett & Platt – a place that sells tack and horse feed; retail stores that cater to this industry
6) All the agriculture is grown to be incorporated into one large business; even small farms don't serve a small community—they form a large conglomeration rather than keeping unique character
7) Small businesses that start out local and little and build
8) Dairy
9) Wineries
10) Specialized products
11) Source of income (tiers)

What do you think of when you hear the term "economic development?"

1) Bringing jobs into the area/combating outsourcing
2) Need some big, big business to bring in the thousands of jobs needed; large scale
3) Uranium mining – lots of jobs, but may not be desirable
4) Waste of taxpayer money – government giving a lot of money to attract businesses that never develop and never provide jobs and the resources they were intended to
5) Buying up property and putting developments on it (neighborhoods, shops, etc.)
6) Revitalizing downtown areas
7) Supporting existing business; tax rebates; retention and growth

What are some specific agribusinesses in the area that come to mind?

1) Jim's Warehouse
2) Southern States
3) Van der Hyde Dairy
4) Herndon's Dairy
5) Gibson Lumber Mill
6) Max Kendall's Lumber
7) Piedmont Bioproducts
8) Stalling's Body Shop
9) Greenhouses
10) Maxie's Tobacco
11) Piedmont Warehouse (Harry Lee)
12) JTI; Tobacco processing

What are some of the positive aspects of agribusiness in the Pittsylvania County region?

1) Food
2) Economic driver in the region; wealth creation
3) Local investment
4) FFA/4H/DECA; youth involvement
5) Jobs
6) Tax revenue
7) Working in agriculture teaches strong work ethic
8) Creates a market for farm equipment and related industries
9) Transition from tobacco to plants that may be higher yield on the same land
10) Diversification of agricultural base; not as dependent on a single crop as previously; "healthy" agriculture
11) Land preservation
12) Any agribusiness creates a lot of additional income within the community (local purchasing and sourcing)
13) Education and training for new businesses (Vocational agriculture)

What are some of the negative aspects of agribusiness in the Pittsylvania County region?

1) Loss of school greenhouses and horticulture
2) Lack of training and education about agribusiness
3) Next generation not as interested in agriculture
4) Perception; agricultural economics is perceived as inferior or backward; should be industrializing/making progress
5) Small farmers getting cut out, can't sustain small businesses (have to have a big farm and lots of acreage—young people find it hard to get started)

6) Stigma; associations that Hispanic individuals who work on farms are suspected to be illegal
7) Industry is at the mercy of the weather; instability/unreliability
8) Limited water resources
9) Jobs available in the industry are low paying, undesirable for many and often the number of jobs for the space used is small

How has agribusiness changed over the years you have lived in this area?

1) Tobacco regulated; now there is all kind of products (switch-grass for bioproducts and grapes, etc.)
2) A lot of people bought out, sold their farms
3) Small farmer shut out of the industry with no choice in the matter
4) A lot of land not being used productively
5) Acreage of tobacco has not changed (still producing the same amount), but there are fewer farmers and people doing the producing
6) Technology—everything is high tech and highly productive and organized; also contributes to higher costs of starting and running a business
7) Not local—increase in production of corn to produce ethanol

What do you see as some of the needs and challenges facing agribusiness in Pittsylvania County?

1) Education and people interested in the agriculture industry who need someone to train them
2) Youth interest, promote involvement and availability of training for kids to get them involved (bring agriculture back into schools, greenhouses and 4H)
3) How uranium mining will affect local farms (concern about public perception of food grown/dairy produced near a uranium mine); property values will significantly decline. It could radically change the approach to change and development depending on whether it is approved
4) Increasing regulations on farms—can't just know how to grow stuff (Emission laws and pollution, e.g.)
5) Improvements of the safety of the products used on farms; increased cost for farms but benefit for the local community that is not as polluted
6) Access to capital in order to be competitive (or even allowed to operate) in this business
7) Perception of farms as "just agriculture" – not respected or perceived as important or challenging
8) Needs more promotion

What ideas do you have to make agribusiness more viable for the area in the future?

1) Requirements/qualifications for starting a business (people who don't know what they are doing hurting legitimate businesses)
2) Show people what we can do—try to change public perception outside of the area by showing people outside what is successful here, help them envision the possibilities
3) Turbeville melons and local broccoli and any of these small commodities are popular, but they just have a P.R. problem – it takes ages to make a big deal about a new product and to get recognition
4) Marketing/networking/P.R. team
5) Link specific products with the area (Vidalia onions, Concord grapes, etc.)
6) Similar to manufacturing Dream it, Do it campaign to show what the industry is really like these days (education to dispel prejudice and negative perceptions)
7) Business planners/consultants who work specifically with farmers/agribusiness (figure out if a business is viable before even started)
8) Return to some home/small-scale industry
9) Promotion of hobby farming to encourage interest
10) No incentive to be a farmer because you know there is little room for profit; why don't food prices fluctuate with conditions?

11) Take advantage of international markets that want our food and can't grow it themselves
12) Community gardens; help the generation coming up now to have a chance to grow their own food and have access to land even in the city so they can be in touch with where food comes from
13) Model after Burlington Co-Op – people buy shares of a local grocery in the town/city center with a big push to sell locally grown crops
14) Community/commercial kitchen – grow your own but come in to have access to professional canning equipment; also a venue for selling small products and advertising farm products, etc. (used to have canning facilities, even sometimes in the schools, but these are now gone); small fee for use of facilities
15) Local produce in the schools
16) Coordination at county level between economic board and agriculture board (resource sharing and cooperation; plus establishment of equal status)
17) Creation of markets; coordination of lots of small businesses operating independently (prevent all of these businesses from being competitors, make them greater than themselves by organizing them to work together—Co Ops; flowers in Holland as a model, all grown in small independent greenhouses)
18) Taking better advantage of international markets; find companies that need what we can produce and don't need now
19) Figure out how to take the byproducts/waste from our agribusiness and apply research to turn those things into something useful in addition to the primary product (promote the research end of it—someone should be investing in this component of the business)
20) Reduce regulation; grow as much as you can sell; buy local
21) There is room for respect of the agriculture/horticulture professions – you are an expert in your field who is a specialist with unique knowledge to contribute
22) Get people talking together (e.g. Agricultural Development directors) who contribute to part of the development and have them sharing ideas and collaborating
23) Do something useful with all the deer—either population control or some way to make them productive/contribution to the area
24) Better positive promotion of agribusiness—farm tours open to the community
25) Pumpkin patches and corn mazes

Focus Group 3
Saturday, December 8
11 a.m. – 1 p.m.
Olde Dominion Agricultural Complex, Chatham VA
13 agreed to attend, 9 attended

What comes to mind when you think about agriculture, forestry and related businesses in Pittsylvania County and Danville?

1) Tobacco
2) Horses/cattle
3) Wildlife preserves
4) Land—availability/competition
5) Excellent farmland
6) Regulations
7) Marketing
8) Industries
9) Potential
10) Natural lifestyle
11) Work
12) Diverse
13) Historical
14) God's creation
15) Pride
16) Laws
17) Huge farm in North Dakota
18) Bigger than any local farms/my business
19) Anti-organic farming
20) Regulation and record-keeping
21) Buying and selling
22) Big vs. small
23) Income generation

What do you think of when you hear the term "economic development?"

1) Businesses that receive money or incentives but then abandon the community
2) Producers and buyers
3) Leave money with the people generating it
4) Job justification for people who are not doing what they should
5) Build it and they will come philosophy
6) Opposed to agricultural development
7) Investment = return?

What are some specific agribusinesses in the area that come to mind?

1) Colley Equipment
2) Jim's Warehouse
3) Southern States
4) JTI

5) James River Equipment
6) Boxwood Farms
7) Maxie's Cattle
8) Tomahawk Mill Winery
9) Windy Acres
10) Longacre Stables
11) Sandy River Equestrian
12) Averett University
13) Chatham Hall
14) Jefferson Dairy
15) Motley Dairy
16) Van der Hyde Dairy

What are some of the positive aspects of agribusiness in the Pittsylvania County region?

1) Creates a lot of money and jobs for the community
2) In dairy, every dollar that is generated turns 4 times in the economy (supports other businesses)
3) Provides low density jobs
4) Green space
5) Food
6) General populace is becoming more interested in knowing where their food actually comes from and how it is produced (tourism)
7) Keeping the money within the community
8) Lifestyle/heritage/important way of life that is dependent upon agriculture
9) Independence from other countries for food
10) Promotes the name of Pittsylvania county to other parts of the state (visibility)
11) Agritourism (tourist dollars are good because they don't cost anything in terms of infrastructure)
12) Turns money over in the economy, going to local suppliers and other businesses

What are some of the negative aspects of agribusiness in the Pittsylvania County region?

1) Negative perceptions of the chemicals and products used in agriculture
2) People don't want to live near farms and agribusinesses
3) The local people are not farm savvy and want to blame the agriculture industry for any natural/environmental problems they see
4) Actual negative impact to the environment via drift
5) Idyllic beliefs about the country that don't match reality; then people who move to rural areas expect the community to match their expectations
6) Complaints about inconvenience of the agricultural way of life and the community boards are now being composed of people who didn't grow up in the farming community and listen to the loudest constituents and don't appreciate the importance (e.g., complaints about the smell of farms or the annoyance of slow tractors on the road or the spraying of pesticides)
7) Danger of fast-paced lifestyle interacting with agriculture (e.g. cars and tractors on the same roads)
8) No one in government supports the agriculture in the area and does not defend the agricultural community against attacks by people who are intolerant—change expectations about what it's like to live in an agricultural community
9) People in recent generations are detached from the land, don't care where their food comes from and don't know anything about it
10) Demonization of the agricultural business and lack of education
11) Disconnect between the "city" folk and "country" folk
12) Hard work/low income/farmers don't want their children to go into it
13) Board of supervisors is not familiar with farming and the needs of agribusiness
14) Lack of legal protection when it comes to homes (community residents) vs. farms

What ideas do you have to make agribusiness more viable for the area in the future?

1) Increase farming income
2) Less government regulation that keeps food prices low
3) Large scale production keeps cost low—make small farms competitive somehow
4) Get the region to eat local food
5) Find ways to make regulations less harmful to small farmer: allow egg carton reuse, local USDA processing plant for meat
6) Water
   - Irrigated produce a promising new crop
   - Farm ponds for irrigation (reduce the difficulty of creating a pond)
   - Water control of local area water resources
7) Marketing assistance (maybe a marketing co-op for the community to share)
8) Support of the local community
9) Concerns about impact of uranium
10) Convince government that agriculture is a good way to pursue economic development (not just building new neighborhoods or shopping centers, etc.)
11) Farmer's Market
    - Provide access to Agriculture Building
    - Sales tax exemption for products sold at farmer's market
    - Food stamps—2 for 1 at Farmer's Market (govt. pays to double them to encourage less privileged people to have access to fresh local foods)
12) Allow county to have more autonomy in taxation decisions, raise tax funds in other creative ways that reduce tax burden on agriculture
13) Co-op resources for the agricultural community: lawyers, marketing assistance
14) Secondary roads need to be improved (not just focus all highway money on 29); small local roads are dangerous particularly for tractors and other farm vehicles

Semi-Structured Interviews with Members of the Agricultural Development Board
January 15 – January 19, 2013
Phone Interviews
27 board members contacted, 15 interviews completed

What was in the report that surprised you?

1) The frequent mention of inadequate roads and bridges for farm equipment
2) Surprised that people who live in the area would be upset by logging and farm equipment on the roads
3) Does not believe presence of agricultural programs in schools has declined, but interested to see public perception that they have
4) Surprised everyone thought of big agribusiness rather than smaller local businesses
5) Not expecting the unfavorable attitudes of farmers toward economic development efforts
6) Concerns about road safety
7) Surprised by negative attitude toward agribusiness (2)
8) Shocked that the citizen group thinks small farms no longer exist and only notice the larger operations in the area (despite the strong presence of small family farms)
9) Couldn't really tell the agricultural groups apart from the citizens groups – inaccuracies present in both, such as naming businesses that are no longer operational
10) Less informed groups than expected – did not seem to realize importance of agribusiness contribution to Pittsylvania County

What information was missing from the report?

1) No mention of alternative plant food (e.g., fertilizer) for growing crops
2) Clarification of specific meaning of the focus group comments (esp. perceived need for education)
3) Whether comments were coming from individuals based in small-scale agricultural business or large farms (would give better perspective to comments)
4) Numbers and specifics, rather than generalizations
5) More information about consumer demand for locally grown food – are people willing to pay more for their food or for specialty niche products
6) Wanted more information about who was in the focus group and how they were selected – how is targeted different than biased?
7) Economic development people should have been included in the focus group
8) Additional interest groups should have been consulted – government, EPA, FDA, etc.

What do you think about the ideas for improving agribusiness that were listed in the report?

1) Dairies are not agribusiness. Agribusiness supports agriculture.
2) There is a broad opportunity for education about what agribusiness is and what is/is not contained by the category. People will benefit from a broader understanding.
3) Agribusiness needs a stronger voice (perhaps better representation in local news).
4) How to address the challenge of local food distribution in such a huge geographic area (farmers markets not accessible to everyone)?
5) Not all seem to be pertinent/usable.
6) Some seemed viable – changing perceptions, building a culture that values agribusiness as a career, focus on the land via coops, organic foods, community farming
7) Returning to small scale industry is a niche market but just a small part of the big picture
8) There are negative associations in the agricultural community about business coops. Need to rebrand and change presentation/structure to get people to buy in, since there is inherent competition.

9) Skeptical about their potential success without a major change in consumer mindset
10) Thinks the local meat processing facility would be very helpful
11) Many things have been tried before, not all successfully
12) New crops have been attempted before unsuccessfully, but maybe another attempt is worthwhile

Overall, did the focus groups seem to do a good job of capturing the main challenges and opportunities for agribusiness in the county? Do you think the researchers have learned useful things from these focus groups?

1) Yes (10)
2) The attendees seem to have a better grasp of the nature of agribusiness than others in the community.
3) Nothing they hadn't heard before.
4) Would have preferred more in-depth information about the discussions.

What are some needs or opportunities for agribusiness in the Pittsylvania County area?

1) Tire shops and auto repair providers that can service farm equipment
2) Farm to Table program to put local produce in schools
3) Update farm technology and perception of how modern farms should operate
4) Capitalize on the area's diversity
5) Marketing that allows the community to engage with and better understand the scope of agribusiness (2)
6) Connect people with the financial means to get into agribusiness
7) Awareness
8) Education at all age levels, starting elementary school (2)
9) Focus on markets for existing products too
10) Individual processors in the county to help producers
11) Legislative protection from pro-agriculture elected officials (2)
12) Decrease either tax burden or cost of producing to increase viability
13) Raise property taxes for economic development
14) More farming supply sources
15) Old Dominion Ag Complex
16) Due to foreign demand, tobacco may actually be on the rise
17) Farmers markets (2) – increase diversity of products offered (meats and greater selection of non-basics)
18) Agritourism
19) Forestry is doing well – important to keep the economic incentives for owning farm and forest land in place
20) Rail option for getting produce to processing facilities
21) Potential to grow mushrooms in some areas
22) Continuation of tobacco after buyout funds are gone (2)
23) Bio-fuel plant in the county
24) Needs to specific to individual industries to specify overall needs
25) Reduced regulation/red tape
26) Need for a more agriculturally-friendly environment
27) Declining viability of small-scale operations

What do you think are a couple of the "big picture" issues that will influence agribusiness in the Pittsylvania County area in the future?

1) Uranium mining (6)
2) Taxes (2) – need for alternate taxation scheme not based solely on property, possibly local sales tax
3) Education (4)
4) Perception of agriculture as "non-academic" and preference for other professions among youth (2)
5) Need for definition – help community understand the role of agribusiness

6) Federal regulation (2)
7) Availability of land
8) Finances
9) Marketing of the value of agribusiness
10) Connection with youth and increasing supply of future farmers (2)
11) Availability of land (2)
12) General perception / public image
13) Backup plans / farm succession
14) Need for local processing facilities
15) Labor force issues
16) Politics

Other suggestions or issues

1) Farm succession
2) Federal regulations (especially regulations of what work children/youth can do on a farm)
3) The primacy of forestry products for Virginia economy (#1 agricultural product in terms of revenue)
4) This effort should integrate important people outside of agriculture, such as the county economic development office and the Board of Supervisors, rather than getting opinions of agricultural concerns only
5) More emphasis needed on biofuel and aquaculture
6) Tobacco warehouses could be converted for use by florists/horticulturists
7) Need quantitative information about the importance of agribusiness and its impact
8) Rebranding/new name for agribusiness

APPENDIX D
Survey Instrument

WELDON COOPER
CENTER FOR PUBLIC SERVICE
University of Virginia

UVA Institutional Review Board # 2012-0934-00

PITTSYLVANIA COUNTY/ DANVILLE CITY AGRITOURISM SURVEY

This survey is being conducted as part of a study to measure the economic impact of agritourism in Pittsylvania County and Danville City The study is being sponsored by the Danville Regional Foundation. Participation is voluntary, but your cooperation in this effort will be valuable to the industry and region's future. The survey should take approximately 5 minutes to complete. **All information that you provide will be kept strictly confidential**. Thank you for your participation.

1. Did you receive visitors on your farm for tourism or recreation in 2011? (Check the appropriate answer)
   - a. Yes ❑
   - b. No ❑

If you answered "YES," please complete this survey. Otherwise, please return the questionnaire in the enclosed envelope and mail.

2. What types of agritourism attractions are offered on your farm? (Please check all that apply).
   - a. Winery ❑
   - b. Horseback riding ❑
   - c. Festivals, events, and shows (e.g., harvest festival, music festival, horse show) ❑
   - d. Farm/farm products related festivals or fairs ❑
   - e. On-farm tour ❑
   - f. Pumpkin patch ❑
   - g. Corn maze ❑
   - h. Field rides (e.g., wagon, tractor or hayrides) ❑
   - i. Petting zoos or farm animal displays ❑
   - j. Cultural or historic exhibits (e.g., museums, antiques) ❑
   - k. On-farm bed and breakfast ❑
   - l. On-farm fee fishing ❑
   - m. On-farm fee hunting ❑
   - n. On-farm camping ❑
   - o. On-farm restaurant/eating establishment ❑
   - p. Other (please describe ___________________________)

3. How many people visited your farm for tourism, education or recreation in 2011? __________

   Please estimate: %
   - a. Percentage of visitors who were residents of Pittsylvania County ________
   - b. Percentage of visitors who reside in Danville City ________
   - c. Percentage of visitors who reside within state but outside of Pittsylvania and Danville City ________
   - d. Percentage of visitors who reside outside of Virginia ________

4. Did you charge a fee for any of the agritourism activities offered on your farm? (Check the single best answer)
   - a. No, all of the activities are free of charge ❑
   - b. Yes, some of the activities are offered for a fee ❑
   - c. Yes, all of the activities are offered for a fee ❑

Please see reverse side for more questions

5. What is the average amount spent per agritourism visitor during a typical visit in 2011?

a. Admission or user fees $_______________

b. Purchasing farm products (e.g., pick your own, farm stand) $_______________

c. Concession food and drink or non-food items $_______________

d. Other (please describe _______________________________) $_______________

6. How many years have you offered agritourism activities on your farm? _____________

7. Estimate the gross value of agri-tourism and recreational products and services sold by your farm in 2011. Please do not include sales of agricultural products or value-added products. $_________________

8. Do you plan to begin, expand, decrease, or discontinue agri-tourism or recreation services at your farm in the next five years?

a. Begin ❑

b. Expand ❑

c. Decrease ❑

d. Discontinue ❑

e. None of the above ❑

9. How many people (including yourself) were employed on your farm in 2011?

		Number
a.	Full-time year-round	_____________
b.	Full-time seasonal	_____________
c.	Part-time year round	_____________
d.	Part-time seasonal	_____________

10. Is there anything else that you would like to tell us about your involvement in agritourism activities?

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Thank you for taking the time to complete this survey. If you have any questions about the survey, please contact Terry Rephann at the Weldon Cooper Center for Public Service, P.O. Box 400206 Charlottesville, VA 22904-4206. Phone (434)-982-4501. Fax (434) 982-4501. e-mail: trephann@virginia.edu.