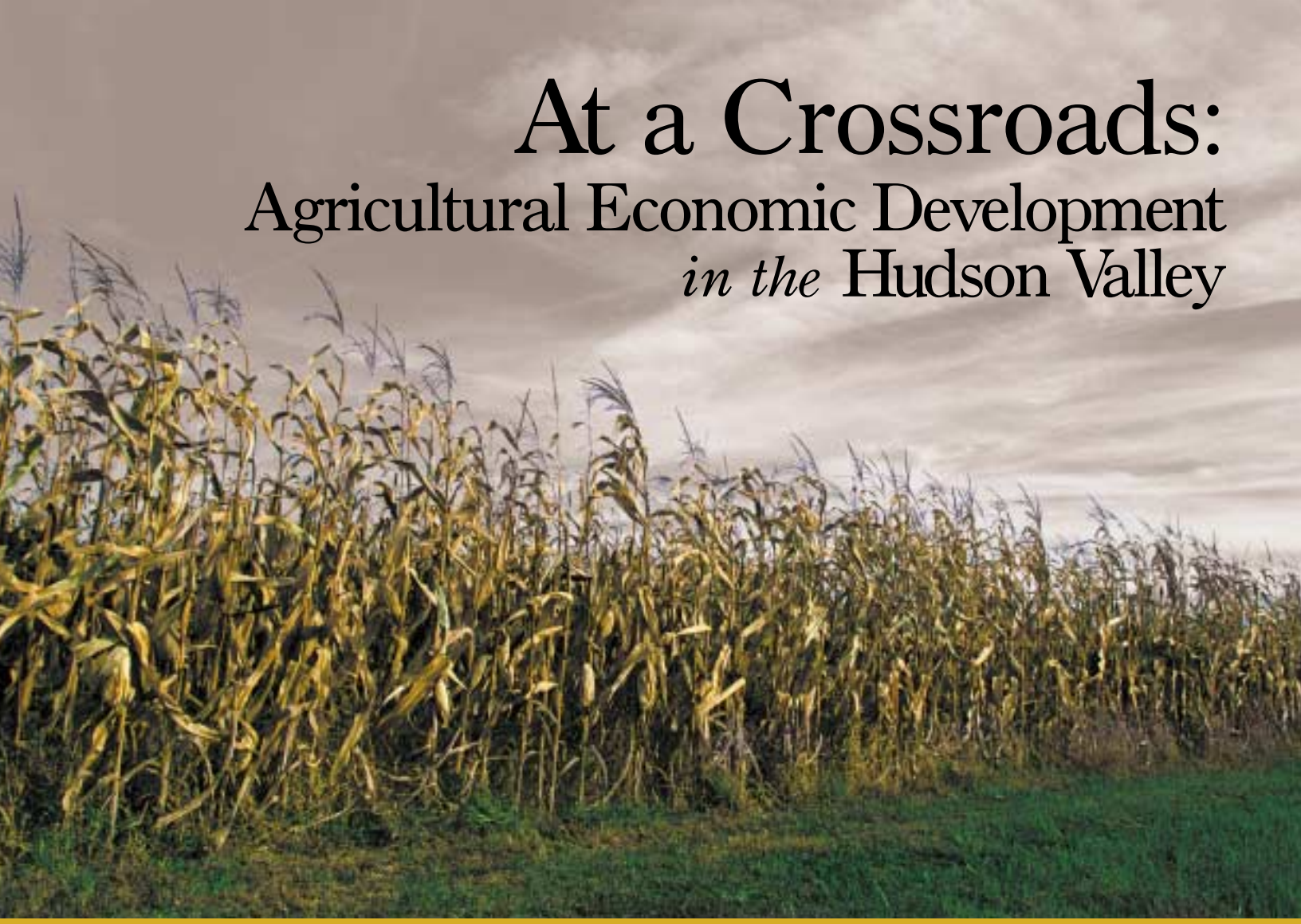
At a Crossroads:
Agricultural Economic Development *in the* Hudson Valley



A Summary Study from American Farmland Trust, Northeast Office and ACDS

Acknowledgements

American Farmland Trust, under a grant from the Dyson Foundation of Millbrook, New York, commissioned ACDS, LLC of Columbia, Maryland to assess economic conditions relative to the Hudson Valley agricultural industry. The results of the analysis are to be utilized by the Dyson Foundation, American Farmland Trust and others to implement economic and business development strategies for strengthening agriculture in the Hudson Valley.

The researchers and authors of the report owe a debt of gratitude to more than 100 individuals who participated in interviews and volunteered time for this project.

In addition, an advisory committee provided input at meetings held in March and November of 2003. Attending one or both of the meetings:

Sherry Alpern, NY Farms!; Mick Bessire, Greene County Cornell Cooperative Extension; Nelson Bills, Cornell University Department of Applied Economics and Management; Jesse Bontecou, Rally Farms; Chris Campany, Orange County Agricultural and Farmland Protection Board; Dave Church, Orange County Planning; Ron Coan, Dutchess County Economic Development Corporation; Jayne Daly, Glynwood Center; Tom Daniels, University of Pennsylvania; Leonard DeBuck, DeBuck's Sod Farm; Michael DiTullo, Mid-Hudson Pattern for Progress; James Galvin, Columbia Hudson Partnership; Mark Grennan, Hudson-Mohawk RC&D; Les Hulcoop, Dutchess County Cooperative Extension; Seth McKee, Scenic Hudson; Tim Pezzolesi, New York State Department of Agriculture and Markets; Lee Reidy, Ulster County Cornell Cooperative Extension; Elizabeth Ryan, Breezy Hill Orchards; Holly Sullivan, Hudson River Valley Greenway; Dave Tetor, town of Stanford; Michael Turton, Hudson Valley Agricultural Partnership; Roland Vosburgh, Columbia County Planning; Laura Walls, Mid-Hudson Pattern for Progress; Charlie Wille, Landsmere Farm; Rick Zimmerman, New York State Department of Agriculture and Markets.

Cover photograph of Orange County onion field by James Bleecker (www.JamesBleecker.com)

Back cover (top) and inside photographs by Jim Newton

American Farmland Trust is a private, nonprofit farmland conservation organization founded in 1980 to stop the loss of productive farmland and to promote farming practices that lead to a healthy environment. AFT's Northeast office serves New York and New England.

American Farmland Trust
NORTHEAST OFFICE
6 Franklin Square, Suite E
Saratoga Springs, NY 12866
518-581-0078
www.farmland.org

Table of Contents

The Hudson Valley is home to some of America's most productive, yet most endangered, farmland.

Introduction

Blessed with good soils and a long growing season, Hudson Valley farms produce a bounty of farm products for urban markets in the Northeast. Yet American Farmland Trust's 1997 Farming on the Edge study ranked the Hudson Valley the 10th most threatened agricultural region in the country. Many factors have contributed to a steady decline in the region's agriculture, including relentless development pressure, unpredictable weather and low prices for milk, apples and other farm goods. The challenges to Hudson Valley farmers are great, and some people worry that farming may even disappear from the region during our lifetimes.

However, such dire predictions don't take into account the great resiliency of many Hudson Valley farmers. Hudson Valley agriculture is seriously threatened, but it is also changing in the face of adversity. Many innovative Hudson Valley producers are taking matters into their own hands by adopting creative farm survival strategies. Some producers utilize farm stands, farmers' markets, community-supported-agriculture and direct delivery to reach their consumers. Other agricultural enterprises have diversified to increase their income. Agriculture must adapt in order to survive, and the good news is that many Hudson Valley farm operators are doing just that.

Farmers are not the only people who should be concerned about the survival of Hudson Valley agriculture. Farms contribute greatly to the regional economy, generating over $230 million in direct sales and having an additional direct economic impact of $300 million. Hudson Valley farms also provide the scenic backdrop for many historic and tourist sites, helping create the rural charm that draws visitors to this area.

We undertook this study to gain a better understanding of where Hudson Valley agriculture stands today, with a focus on determining how local governments, organizations, farmers and citizens can best act to strengthen the region's agricultural industry. The "Mid-Hudson" region, as we defined it for this report, ranges from the Taconic Hills of Columbia County to the Black Dirt region of Orange County, with over 400,000 acres of fertile farmland in between.

A few key points shaped the direction of the study. First, farming is a business and a land use. Farmers and a vital agricultural industry are essential to having scenic working landscapes. Second, agriculture is economic development. Farming contributes directly to the Hudson Valley's economy through the sale, processing and distribution of agricultural products and services. Farming also contributes indirectly to the economy through its contributions to tourism and the region's quality of life.

This study utilized a qualitative methodology, building on existing data to understand key trends in regional agriculture. The study also relied on over 100 individual interviews with farmers, agribusiness owners and others involved in the region's agricultural industry. Not limited to presenting merely an analysis of data, the study also presents workable recommendations to strengthen Hudson Valley agriculture. (A more detailed technical report is available upon request from American Farmland Trust.)

When it comes to Hudson Valley agriculture, we now stand at a crossroads. Will we protect our farms and strengthen our agricultural industry? Or will we allow unplanned development and a lack of effective agricultural economic development initiatives to seal the fate of our region's farms? It's not too late to make this choice. If we act now, communities, farmers, agricultural businesses, grassroots organizations and all levels of government can work together to strengthen Hudson Valley agriculture and maintain the region's quality of life.

Study Findings

During the last forty years, Hudson Valley agriculture has been impacted heavily by development radiating from nearby metropolitan centers, including Albany and New York City. American Farmland Trust commissioned ACDS to conduct an assessment of the current economic conditions for agriculture in the valley. The study aimed to determine how local conditions impact the present and future of Hudson Valley agriculture. For the purposes of this study, the Hudson Valley was defined as those counties bordering the Hudson River south of Albany. To further refine the study area, the project team focused on counties with more than 5,000 acres of agricultural land and more than $5 million in agricultural sales.

This study examined agricultural economic trends in six counties of the Mid-Hudson Valley region: Columbia, Greene, Dutchess, Orange, Ulster and Westchester. In the year 2000, the six-county region generated $434.9 million in agricultural production and added impact on 2,477 farms and approximately 441,000 acres. To varying degrees, each county in the region is experiencing a transition from relatively low-value commodities that require a lot of land, such as dairy, feed and hay, to high-value and less land-intensive sectors.

The study's key findings:

1. Market opportunities abound in the region, given the near immediate access to a population base of 31 million people. However, marketing opportunities are varied and seem dominated by direct market oriented wholesale and retail outlets.

2. Farmers tend to be highly independent and naturally protective of market opportunities. This generally means that cooperative solutions to marketing opportunities are difficult to organize.

3. Intergenerational transfers are a challenge, as there are fewer farms with a willing next generation of farmers. New farmers are increasingly likely to come from new sources, including the current labor force and "second career" or avocational farmers.

4. Individual initiative and market innovation are dominant characteristics of many of the region's successful agricultural entrepreneurs.

5. Despite infrastructure depletion on the agricultural input side, output industries such as wholesalers, distributors and processors are plentiful in the Hudson Valley and metro New York.

6. The Hudson Valley Region supports several viable agricultural sectors including dairy, vegetable, fruit, equine and nursery/greenhouse. However, the economic and market conditions facing each of these sectors are fundamentally different, leading to a high level of disaggregation of the agricultural industry. This disaggregation does not naturally lead to inter-industry cooperation and reinforces individualist behavior.

7. Despite having solid downstream market infrastructure, there is little integration between agriculture and these industry sectors.

8. Within the agricultural industry, there is a high level of interest in protecting working landscapes as long as those lands can support viable production agriculture. However, despite the high level of public interest in open space protection, the public does not necessarily recognize of the needs of the farmers who maintain the working landscapes.

9. Agricultural economic development and land protection are crowded fields in the Hudson Valley region. Most entities engaged in these processes suffer from one of the following: 1) No program authority; 2) Too few resources; or 3) No clear program mission. This environment is confusing for farmers and policy makers alike.

10. The agricultural work force is currently solid but highly mobile between sectors such as construction and landscaping, meaning the labor market will likely tighten with economic recovery.

11. There is little imperative for counties in the region to cooperate in agricultural economic development and land planning initiatives due to differences in assets base, public interest, market influences, stage of development and other factors.

12. There are no clear boundaries to the market area, especially when viewed through the eyes of individual industry sectors, making it difficult to develop a brand or image campaign.

Study Recommendations

The following recommendations are strategies upon which solid agricultural economic development and land-use initiatives can be based. The project team developed the following recommendations in response to several factors that stand as significant hurdles to regional programming. For one, the region has no regionally authorized or endorsed entity to carry out agricultural development efforts. This factor is compounded by the sheer number of organizations that have missions to support agriculture yet lack programmatic authority. Second, the region has a long track record—at the individual, community and county level—of developing innovative responses to local issues, but the initiatives often fail due to lack of funding resources and/or leadership. Third, those farmers who are left in the valley tend to be highly independent, preferring specific business development efforts over cooperative development efforts.

The study's recommended strategies:

1. Identify or create an entity with sufficient authority and resources to implement the programmatic recommendations found in this report.

This strategy addresses the need for an entity that is responsive to the needs of agribusinesses and farmers. Such an entity could take a lead role in agricultural development initiatives, acting as a liaison between industry and government.

GOAL: The creation of a private or quasi-public entity such as a Community Development Corporation (CDC), with specific authority to develop physical community assets, promote economic development, foster leadership development, assist agricultural businesses with technical and financial services and build agribusiness capacity. Initial seed investments in the proposed entity should represent both the public and private sectors.

IMPLEMENTATION STRATEGY: Several existing entities in the region have the capacity to develop the needed systems and the infrastructure to achieve this goal, but start-up funding will be a constraint.

FUNDING CONSIDERATIONS: Institutional funding will be necessary to encourage the formation of a new entity and to encourage existing entities to engage in building this new business enterprise. The projected annual operating budget for a Hudson Valley Agricultural Development entity would range from $250,000 to $500,000.

2. Create a regional strategy for retaining, expanding and attracting regional agribusinesses in support of Hudson Valley production agriculture.

One of the primary reasons that economic development agencies like Empire State Development are not involved in Hudson Valley agriculture is the absence of a cohesive plan for supporting the region's industry.

GOAL: A Hudson Valley Agribusiness Retention, Expansion and Attraction Plan should be a joint effort of the various regional counties, outlining regional development needs of production agriculture as well as critical input and output industries. Without a system to generate critical deal flow, important business attraction opportunities may be bypassing the region. In addition, many local agribusinesses do not realize that economic development programs are available to assist with expansion, relocation and retention issues. This plan would help to effectively target resources where they could have the greatest impact on Hudson Valley's agricultural economy and would involve direct coordination with the regional tourism and economic development industries.

IMPLEMENTATION STRATEGY: Since the region lacks a financial catalyst to engage in a regional BREA planning effort, a newly formed agricultural development entity would be a preferred lead agency for such a task.

FUNDING CONSIDERATIONS: Regardless of which entity takes the lead, most comprehensive regional BREA planning efforts cost approximately $50,000.

3. Develop and expand enhanced technical and professional services for agribusinesses and farms.

Due to the level of disaggregation of industry relations within most agricultural sectors, wide spread efforts to support industry development—such as targeted workforce training—are unlikely to produce broad community benefits at this point. Instead, greater community benefit will be derived from supporting the discrete needs of individual operations through the provision of technical and professional support services.

GOAL: Encourage the expansion or development of a regional technical and professional support network for farms and agribusiness based on an "incubator without walls" model. Access to quality business development services in the Hudson Valley is limited especially for small farms and food processors. Opening access to sophisticated services may improve bottom-line conditions as well as the success rate of start-up businesses.

IMPLEMENTATION STRATEGY: A regional agricultural development entity would be an ideal program coordinator and delivery agency for new and existing small business development programs for farms and agribusinesses.

FUNDING CONSIDERATIONS: Business development programs generally require operational support for at least five years until they reach operational self-sufficiency. Sources such as USDA's Rural Development office and New York State's Grow New York program often provide seed funding and may also be a source of limited levels of short-term operating capital.

4. Advocate for greater program flexibility and enhanced funding for purchase of development rights programs and creative local financing options like real estate transfer fees and installment purchase agreements.

Productive and prime soils, a finite resource, are critical to the future of farm businesses in the Hudson Valley. The critical mass of farmland needed by the region's agricultural industry is quickly eroding as rapidly rising real estate values price farmers out of the market for farmland and limit their access to rented land. The Hudson Valley is rich in programming to support farmland protection programs, but most programs are under-funded or have too few program options to react effectively in this period of high development pressure and rapidly rising land values.

GOAL: Increase funding available to the region from federal, state, local and private sources to $20 million per year and protect 100,000 acres of farmland within 10 years.

IMPLEMENTATION STRATEGY: Increase funding from the Federal Farmland Protection Program, the New York Environmental Protection Fund and local governments (by using bonding authority and/or real estate transfer fees) and leverage private funding from organizations like Scenic Hudson, the Open Space Institute and other land conservation organizations.

FUNDING CONSIDERATIONS: Given the intensity of development pressure and the overwhelming demand for farmland protection program funds, the region will need at least $100 million over the next five years for farmland protection efforts. The region will need more than twice that amount over the next 10 years to help stem the loss of its most productive agricultural land.

5. Establish a Lease of Development Rights (LDR) program.

Leasing development rights for a term of years would help communities "buy" time and stabilize the farmland base while farmers expand, diversify or transfer their operations.

GOAL: Create an additional tool for landowners and communities, providing a mechanism to keep land in agricultural use while longer term strategies to strengthen agriculture and protect farmland are implemented.

IMPLEMENTATION STRATEGY: Two basic options that should be explored include a locally funded lease program that makes direct rental payments and a state-funded enhanced farmland property tax credit modeled after the Farmers' School Tax Credit but not subject to the "full time" farming requirements or income caps of

that program. Under both scenarios, farmland owners would agree to a "rolling" term of 8 or 10 years in exchange for the rental payment or tax credit and a right of first refusal.

6. Establish alternative grant making services that promote innovation and entrepreneurship.

Additional public and private incentives are needed to promote innovation and private entrepreneurial ventures, which offer private and community benefits, including industry stabilization, tax base enhancement and job creation.

GOAL: Matching funds from a farm viability grants program should be more widely available to farmers and agribusiness owners in the Hudson Valley Region. The successful Massachusetts Farm Viability Program could serve as a model.

IMPLEMENTATION STRATEGY: Such programs or services should be linked with strong technical and professional services, building on existing programs at the state and federal level and possibly including innovative forms of matching requirements such as agricultural use covenants, which are used in Massachusetts' Farm Viability Program.

7. Create alternative financing vehicles to support agriculture.

Improved access to capital will provide for needed capital investment in regional agriculture.

GOAL: Develop debt and equity tools to broaden access to capital. For instance, a regional bridge loan program like the Carroll County Critical Farms Fund in Maryland can bridge financing for the acquisition of critical farms, PDR settlements, conventional debt and lenders of last resort. Additional programming may include credit enhancements such as loan guarantees and linked deposits. In addition, an agricultural "angel" network that bridges the gap between the region's high wealth individuals and farmers/agribusinesses and could improve farmers' access to much needed risk capital.

IMPLEMENTATION STRATEGY: A regional partnership effort is needed to create a "critical farms fund" and a more effective "agricultural angel capital network" to enable farmers' access to additional sources of investment capital.

8. Enhance farm transition programming.

The majority of farm owners in the region are over 55 years old, and in many cases the next generation is not planning to take over the farming business.

GOAL: In addition to providing financing support as outlined above, a greater level of transition support should be made available to new farmers, including those who are non-career farmers and New Americans who may have special needs.

IMPLEMENTATION STRATEGY: Using the successful NY FarmLink program as a model or umbrella, the development of regional programs such as mentoring, specialized skills training, estate planning and farm management will be essential.

9. Encourage greater participation among farmers, especially young farmers, in leadership training programs.

As the LEAD NY program has successfully demonstrated, it is essential to help farmers develop leadership skills.

GOAL: Create a Hudson Valley regional agricultural leadership training program.

IMPLEMENTATION STRATEGY: Modeled on the successful LEAD NY program, these efforts should be used to enhance farmer participation within economic development and public policy forums, in partnership with organizations like Farm Bureau, county agricultural and farmland protection boards, the Hudson Valley Greenway and Cornell Cooperative Extension.

10. Create a public outreach and marketing campaign.

Public support for agriculture is critical to its future success. Positive public support can help motivate consumers to buy local agricultural products and encourage local governments to buy development rights, reduce property taxes

and craft farm-friendly local laws as ways to plan for agriculture.

GOAL: Initiate a campaign to formally bridge information gaps between farmers and the general community. The outcome should be goal congruence between the economic use of working landscapes and the quality of life desires of an expanding New York metropolitan region that now stretches from New York City to Albany. Stronger relationships between these interests should be used to enhance regional marketing opportunities, both in the Hudson Valley itself and in the New York metropolitan region.

IMPLEMENTATION STRATEGY: In light of the widespread interest in this issue, a broad-based partnership effort among area groups—such as the Hudson Valley Agricultural Partnership, agricultural and farmland protection boards, American Farmland Trust, Farm Bureau, Cornell Cooperative Extension, the Glynwood Center, Scenic Hudson, the Open Space Institute, local land trusts and local governments—could really move this forward.

11. Provide marketing and product development assistance.

Increasing the market share for Hudson Valley agricultural and food products will require significant market development.

GOAL: Work with Northeast Center for Food Entrepreneurship to create a market development program modeled after the West Virginia Specialty Foods Program.

IMPLEMENTATION STRATEGY: Services should be focused on opening markets, reducing stocking costs, product development, labeling, cooperative marketing and similar services. Services should be supported by industry and offered on a cost recovery basis.

12. Enhance work force conditions.

Despite the fact that the current agricultural workforce is generally viewed as sufficient, this condition is likely to change with time.

GOAL: Matching work force quality and availability with the needs of specific industry sectors in the region will require an active, long-term set of strategies that focus on providing the labor force with the appropriate life, professional, technical and language skills to achieve upward mobility and success in the work force.

IMPLEMENTATION STRATEGY: Needs of each industry sector should be clearly understood and periodically updated to provide tailored solutions. Issues such as H 2A reform and farm worker housing will need to be addressed in the near future.

13. Strengthen and expand marketing opportunities in the New York metropolitan region.

This major market region includes high income and ethnic consumers with great potential. In addition, the New York City Greenmarkets attract thousands of consumers at locations around the metro region, providing direct market opportunities for hundreds of farmers in the region.

GOAL: Build on the successful efforts at the Greenmarkets and explore ways to tap the wholesale market and other retail market opportunities in the metro region.

IMPLEMENTATION STRATEGY: Secure a more permanent status for Greenmarket sites in New York City and explore the feasibility of a wholesale farmers' market in the New York metropolitan area.

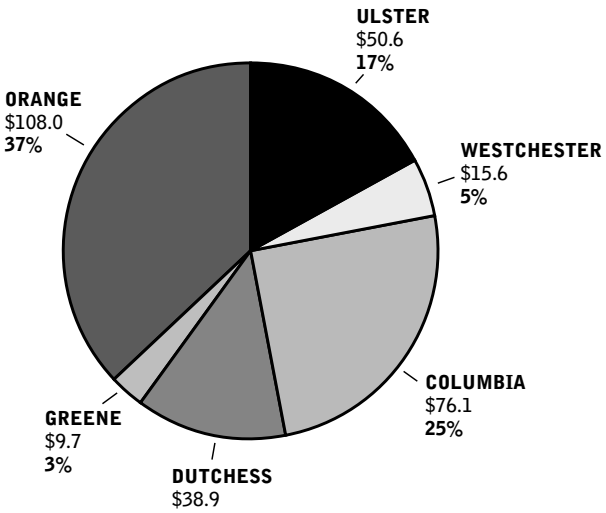
Hudson Valley Economic Trends

This analysis examines agricultural economic trends and impacts in six counties of the region: Columbia, Greene, Dutchess, Orange, Ulster and Westchester. In general, four of the counties (all but Ulster and Westchester) have dominant dairy sectors—albeit declining. Most of these counties are experiencing some growth in the vegetable and nursery/greenhouse sectors to offset losses in dairy. Ulster County, on the other hand, is dominated by orchard crops, vegetables and nursery/greenhouse products. The agricultural industry in Westchester County, also strong in the nursery/greenhouse sector, is dominated by the value of its horse sector. In the year 2000, the six-county region produced $298.9 million in commodity value on roughly 441,000 acres with 2,477 farm enterprises. **SOURCE:** *Bureau of Economic Analysis, Regional Economic Information System*

Columbia County

Dominated by the dairy sector and its related sectors of feed and cattle, the county's farm economy produced $76.1 million in output value in 2000, the second highest in the region. Amidst a general decline in dairy production in recent years, the dairy farms that have stayed have tended to become larger and more profitable. Six percent of the farms (28) account for over two-thirds of the economic output of the agricultural industry. However, external factors affecting dairy farming in the east are expected to cause further adjustments to the industry. No single smaller agricultural sector, at current growth rates, seems poised to absorb any future losses in the dairy and feed sectors.

Regional Output Value – 2000
($298.9 million)



Dutchess County

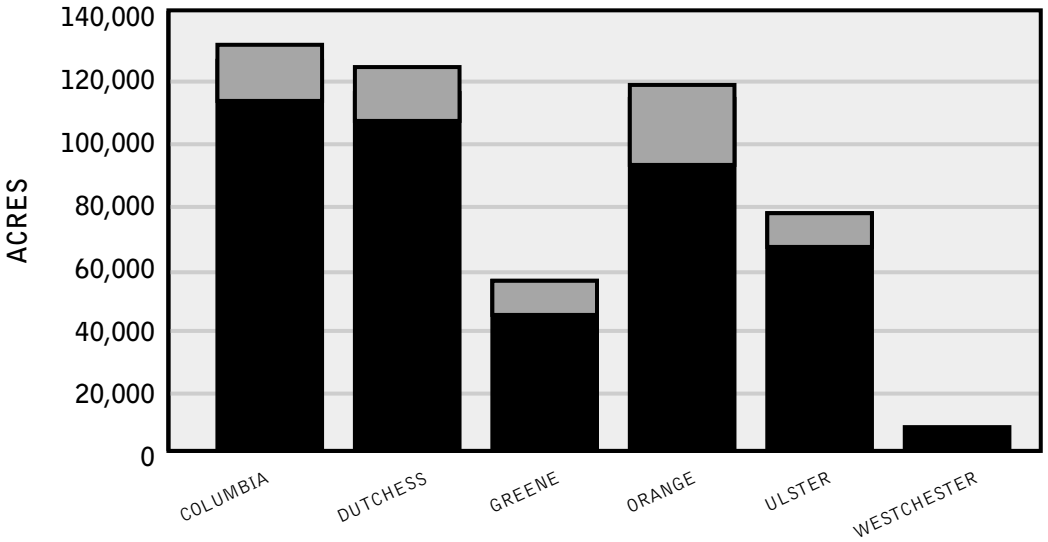
Dutchess County has also been dominated, historically, by dairy farming. Dairy products remain its top revenue commodity, helping to generate $38.9 million in output value in 2000. In the last 15 years, however, growth in the county's vegetable and greenhouse/nursery sectors have helped to offset lost revenues in the dairy and feed sectors. Hay production has recovered in recent years with the growth of the horse sector. The rise of vegetables and greenhouse/nursery sectors, along with a sizable horse and orchard industry, suggest that the county's agricultural base is diversified.

Greene County

Another dairy farming county, Greene, has suffered losses to the industry due to regional and national trends. The county produced $9.7 million in output value in 2000, the lowest in the region. Vegetables and nursery/greenhouse sectors have shown solid growth to help offset some of the losses in dairy. The newer sectors use less land to create higher values. These new farms tend to be smaller in size than the dairy farms they replaced, leaving sizable losses in farmland in the county.

Orange County

With the highest output value in the region ($108 million in 2000), Orange County represents a local farm economy that has transformed from a dairy-commodity industry built on low-valued production to an industry that capitalizes on its urbanization by producing high valued agricultural products. In the last 15 years, growth in Orange County's vegetable



Loss of Land by County 1987-1997

SOURCE: U.S. CENSUS OF AGRICULTURE

Acres 1997

Acres lost since 1987

and nursery/greenhouse sectors have more than offset the declines experienced in the dairy and feed sectors. The vegetable sector is now the largest segment of the farm economy and accounts for 40 percent of the agricultural output. However, some significant swings in the sector's output in the last decade suggest some instability.

Ulster County

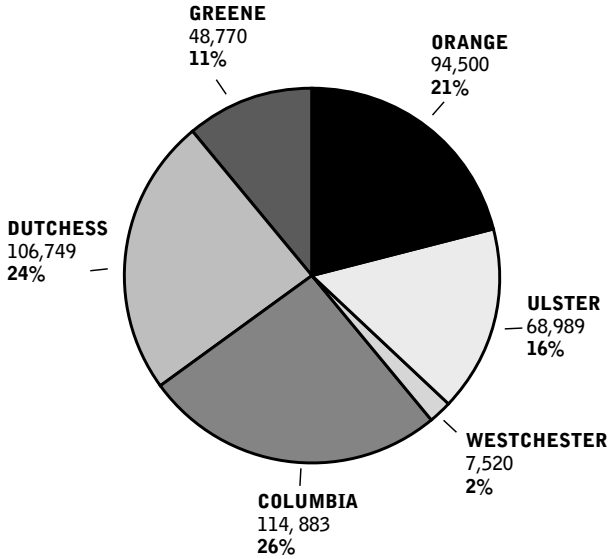
Despite a weakening trend in output value ($51.1 million in 2000 from $63.7 million in 1991), the slowdown masks important, positive changes happening in Ulster County. Over the last decade, there has been solid growth in output of orchard crops, vegetables and greenhouse/nursery crops. In 1987, these three crops accounted for 50 percent of the county's farm output.
In 2000, they accounted for more than 85 percent. However, there has been little or no corresponding increase in the county's wholesale trade and manufacturing sector related to these crops, which could limit future growth in the farm sector if not addressed.

Westchester County

Westchester County's agricultural output was valued at $15.6 million in 2000. Farming there functions in a highly urbanized area where high land costs prevent the growth of low-value, traditional grain and livestock products. Not surprisingly, the greenhouse/nursery sector accounts for 56 percent of the county's agricultural output. This sector underwent a significant structural change from 1992 to 1997, as crops grown on open land transitioned to bedding and garden plants grown in greenhouses. Growth in vegetable production has been matched by an increase in vegetable wholesale trade and in the number of fruit and vegetable retail markets. The horse industry, the only economically significant component of the county's livestock sector, has expanded in recent years due to the sale of high-value horses.

Regional Acres in Farms – 1997

(441,419 acres)

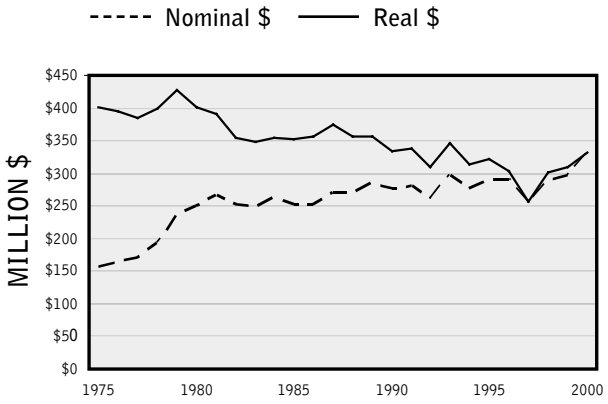


Land in Farms

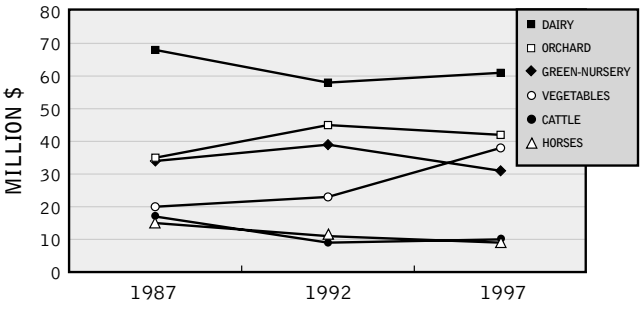
In 1997, the region had 441,419 acres of land in farms. All counties lost agricultural land between 1987 and 1997—ranging from 20 percent in Orange County to 12 percent in Ulster and Westchester counties. In total, 78,802 acres (18 percent of total land in farms) were lost to farming by conversion to other uses in that timeframe. This was accompanied by the loss of 522 farm enterprises (17 percent of total farms) in the region. The chart shows the relative amount of farmland in each county and their respective losses of acreage.

To varying degrees, each county throughout the region is experiencing a transition from relatively low-value commodities (dairy, feed, and hay), which require large acreages to be viable, to high-value but less land-intensive sectors. One result is that the amount of land in farms does not necessarily correspond directly to the amount of output value produced by a particular county.

Regional Value of Farm Marketings



Top Regional Commodities: 1987-97



Agricultural Commodity Output

Since the mid 1970s, the region's agricultural output value has increased in value from $150 million to nearly $300 million in 2000, although in inflation-adjusted dollars (real dollars), the region's value fell slightly. Much of the growth in the nominal value of agricultural output occurred in the crop sector, especially vegetables and greenhouse/nursery crops that helped to offset declines in dairy production values.

In spite of declines in the dairy sector, in 1997 it remained the single dominant commodity in the region with $60.9 million dollars in output value, followed closely by orchard crops, greenhouse/nursery and vegetables production. The value of horses produced in the region now surpasses the value of cattle.

Farm Costs and Returns

Farm production expenses include agricultural chemicals, energy (electricity and petroleum), feed, fertilizer, labor, equipment maintenance, seeds, plants and trees, and property taxes. The overall total dollars spent for inputs in 1997 was $184.97 million. This was essentially the same amount spent in 1987. However, these expenses were incurred on 78,802 less acres and 522 fewer farms.

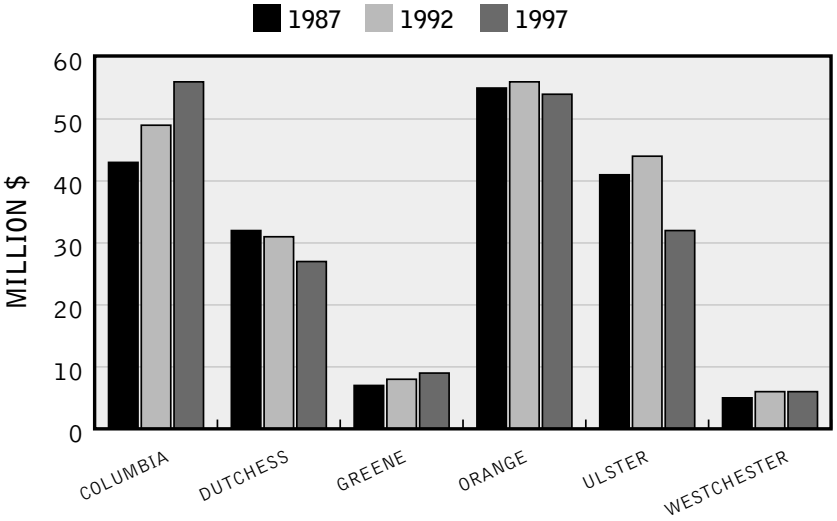
Although the regional numbers remained flat, individual counties saw increases and decreases and localized shifts in their agricultural sectors. As sectors expand and contract, so too do their differential production input needs. For example, in Columbia County, the increase in size of remaining dairy operations was accompanied by increased labor costs and energy costs. In Dutchess, Orange, Ulster, and Westchester counties, the largest increase in farm costs from 1987-1997 was for seeds, bulbs, plants and trees, reflecting the growth of the greenhouse/nursery sectors in those counties. In all counties except Greene, property taxes increased significantly from 23 percent in Orange County to 74 percent in Dutchess County during that time period.

Regional net farm returns (product sales minus

production expenses) was $48.41 million in 1997, up 12 percent from 1987. However, the bottom-line profitability varied greatly across the region. Green County saw losses overall while Columbia and Westchester counties saw enormous increases in net returns.

In some cases, the improved profit situation may be attributable to better production practices of individual farms or to higher prices of select commodities, but it is also likely driven by the elimination of unprofitable farms over this time period. Still, only Columbia and Orange counties show more than half of their farms making a profit.

Regional Production Costs



Regional Farm Profitability 1997

	COLUMBIA	DUTCHESS	GREENE	ORANGE	ULSTER	WESTCHESTER
Total Farm Net Returns	$18.80 mil	$3.49 mil	$.20 mil	$12.8 mil	$8.93 mil	$4.19 mil
% change since 1987	65%	-22%	-119%	-17%	-4%	245%
Avg. Net-Returns per Farm	$40,264	$6,440	($819)	$20,346	$21,662	$46,095
% change since 1987	100%	-12%	-122%	4%	25%	355%
Farms with Net-Gains	**59%**	**36%**	**37%**	**50%**	**42%**	**48%**

SOURCE: 1997 CENSUS OF AGRICULTURE

Economic Impact of the Region's Agricultural Sector

Quantifying the economic impact of the agricultural sector is important for allocating investment resources, whether from the public or private sectors. There are two common methods for measuring the impact of any sector of the economy. The first is a direct measure of the value of the output of the sector. In 2000, agriculture in all the counties in the region produced $298.3 million in product value.

However, economic value does not exist in a vacuum. There are upstream effects: the goods, services and labor from within the economy used to produce the output. And there are downstream effects: the transformation of the output by other sectors of the economy, thus stimulating more business activity. Therefore, an output multiplier is used to measure the total effect of agriculture on the economy. These multipliers vary by agricultural sector (i.e., dairy, greenhouse/nursery, vegetables, etc.) and by local economies.

The major commodities grown in the region—vegetables, greenhouse/nursery and orchard crops—contribute more to the local economy (higher multipliers than average) because they are relatively labor intensive, which stimulates economic activity in other sectors. Dairy, in contrast, has the lowest output multiplier, because its use of labor is less relative to other input costs such as equipment and feed, which may not be produced locally.

The chart on this page shows the direct output value of each county relative to one another, as well as the multiplier effect of their respective mix of agricultural sectors.

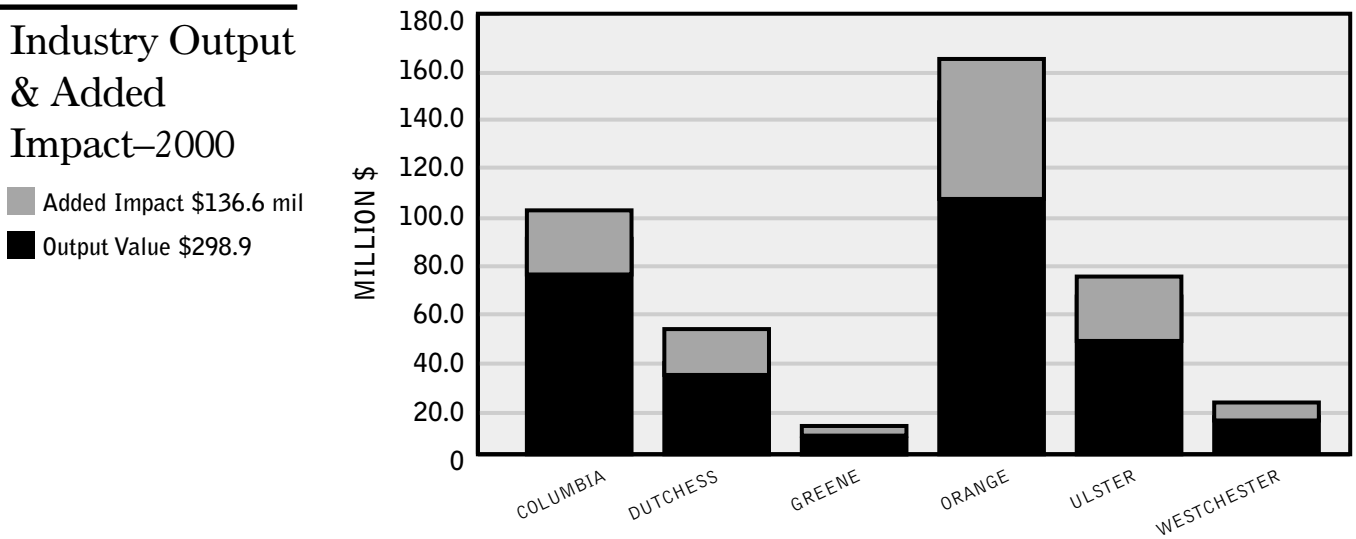
The average multiplier across the region for agriculture generally was 1.43 in 1997. This means that every dollar of total farm output led to an additional 43 cents in economic activity in other sectors of the local economy. So, for the region as a whole, the $298.3 million in agricultural production generated an additional $136.6 million of economic activity in other sectors. In total, the region generated $434.9 million in agricultural production and added impact (source: Minnesota Implan Group, 2000).

Agricultural Service, Wholesale and Retail Sectors

The economic impact of agriculture translates into important connections between the farm sector and other sectors of the local economies. The Hudson Valley region is experiencing shifts as some farm sectors decline and others grow. This has important implications for input suppliers and agricultural service firms, as well as the wholesale and retail trade.

Service related firms consist of agricultural support services (e.g., crop consultants, animal production support), veterinary services and farm

Industry Output & Added Impact–2000



supplies. Regionwide, the number of firms providing these services dropped 9 percent. However farm supplies saw a precipitous decline of 58 percent. The slight increase in veterinary services may be a function of non-farm pet services with population increases rather than service to the farm sector where livestock numbers have declined.

Food manufacturing activity in the region reflects the shifts seen in the agricultural sectors. The number of dairy product manufacturing firms dropped by half, from eight to four. Fruit and vegetable manufacturing firms declined as well but there have been some internal shifts. For example, in keeping with the growth of its vegetable sector, Orange County added three such manufacturing firms to its existing five for the most in the region by far.

Similar trends hold true for wholesale trade: the number of firms dealing in dairy products and farm product raw materials have declined significantly between 1993 and 2000 while the number of flower and nursery stock and fresh fruit and vegetable wholesalers has increased.

In the retail trade, the already numerous nursery/garden centers and landscapers saw modest declines in that time period and direct fruit and markets grew steadily. Such marketplaces may provide better access to local producers than grocery chains.

Number of Firms in Related Ag Sectors in Region

SECTOR	1993	2000	%CHANGE
SERVICES			
Agricultural Support	89	75	-16%
Veterinary	150	172	15%
Farm Supplies	59	25	-58%
MANUFACTURING			
Fruit and Vegetable	18	15	-17%
Livestock Production	1	1	0%
Dairy Products	8	4	-50%
WHOLESALE			
Dairy Products	14	9	-36%
Flower/Nursery Stock	27	30	11%
Fresh Fruit & Vegetables	32	48	50%
Farm Product Raw Material	21	13	-38%
RETAIL			
Nursery/Garden Centers	102	87	-15%
Landscaping	859	802	-7%
Fruit/Vegetable Markets	29	48	66%

SOURCE: COUNTY BUSINESS PATTERNS

Assessing Hudson Valley Agriculture

The following assessment describes key conditions that impact Hudson Valley agriculture. These conditions are categorized as strengths, weaknesses or mixed factors, depending upon how they affect the economic health of the industry. This assessment incorporates the views and comments of more than 100 individuals who were interviewed as part of this study. Where practical, the data gathered through the interview process was verified against independent sources.

In the following assessment, *strengths* are those factors that contribute to the growth and stability of the agricultural economy, as measured by profit-making opportunities at the farm level. Strengths also may provide public benefits such as tax base enhancement, job creation and quality of life improvements at the community level. *Mixed* results are those factors that have significant positive and negative qualities or may be indeterminate factors given their current transitional nature. *Weaknesses* are those factors that present challenges to the development of the agricultural industry or act as impediments to expanding the public benefits related to agriculture.

HUDSON VALLEY STRENGTHS

Industry Health

What is it?

The strength of an agricultural industry sector is usually measured by evidence of sustained growth in sector sales, acreage or output. Identifying such sectors in an area with so much potential for conversion to non-agricultural uses presents a challenge. For the purposes of this study, those sectors currently able to maintain or increase sales base or production—despite the rapidly declining base of agricultural land—qualify as relatively strong industry sectors.

Why is it important?

Having a diversified agricultural base, especially one that contains one or more sectors that are stable or growing, supports a region's ability to weather market cycles and provides production opportunities for new, expanding and transitioning farmers. It is also a likely indicator that some base level of agricultural infrastructure will remain in the region.

Regional Considerations

Despite the fact that agriculture is generally considered in decline in the Hudson Valley region, there are many positive signs of industry health, beginning with the diversity of the regional agricultural economy. The Hudson River Valley boasts a diverse agricultural industry, which helps buffer it from extreme shocks in any given sector.

By value of output, the region's top commodity sectors include dairy (1), orchard crops (2), greenhouse/nursery (3) and vegetables (4). Other regionally significant sectors include livestock and equine industries. Each industry has its own unique characteristics, often varying by county.

Dairy

Despite declines in the number of dairies in the region, the industry remains a major force in agriculture, accounting for a large portion of the agricultural land base. Based on project team interviews, many regional dairies are challenged by low milk prices but find themselves operating at better efficiencies and, in many cases, are profitable. Dairy support operations anchor the region's corn, small grain and hay production. In addition, dairies are primarily responsible for the region's remaining feed and livestock marketing infrastructure. Market innovation is a hallmark of the remaining producers, with new initiatives such as school vending machines and direct market bottling and delivery.

Orchard Crops

Several years of poor weather, along with depressed markets and the extended storage life of fruit, have severely impacted the local

orchard industry. The industry is in transition as wholesale, fresh market growers seek new opportunities. Bright spots are evident in the areas of value-added processing, direct market sales, agricultural entertainment and the expansion of sales alliances that extend local grower market participation beyond the Hudson Valley apple deal. In some areas of the region, investment in growing stock is evident. Like dairy, the region's orchards are a fixture of the landscape and a tourist attraction in the fall season.

Greenhouse and Nursery

As one of the few agricultural sectors that consistently demonstrate compatibility with urban/suburban areas and benefit from direct access to large metropolitan markets, greenhouse and nursery production is increasing. Despite challenges from other areas such as Canada, this sector is one of the few where the project team found active relocation of producers into the Hudson River Valley region.

Vegetable Production

The "black dirt" region of Orange County remains a nationally prominent player in the onion business. In addition, there is prominent sweet corn production in Ulster County and market vegetable production in Dutchess and Columbia counties. While activity in the vegetable sector is small relative to dairy output, it is vibrant. In the case of small-scale consumer oriented production—including Community Supported Agriculture (CSA), market gardening and farm based retailing—vegetable production for direct market sales seems to be increasing.

Equine

Because the equine industry encompasses agriculture as well as recreation, sport and hobby, it is not well understood. The economic impact of the equine industry is poorly reported throughout the Hudson River Valley. Nonetheless, this is a critical agricultural sector from investment, output, land-use and infrastructure perspectives. Horse operations have a direct and immediate impact on tourism, create scenic view sheds and support critical infrastructure such as large animal veterinary services, farm supply and feed dealers. They also anchor support production of hay and help to stabilize some of the land base idled by the declining number of dairy operations.

Livestock

Livestock producers constitute a very small sector in the Hudson River Valley, but are likely to rise in importance with the influx of new farmers and new market opportunities. Such changes are already evident in the rise of small rumen flocks in many parts of the region, as small producers attempt to enter niche markets such as Kosher and H'Allal.

Summary

The project team found that Hudson Valley agriculture has consistently demonstrated its health due to the resiliency and adaptive behavior of its entrepreneurs. While agriculture is likely to continue in the region, changes in demographics and development patterns will alter the distribution of its commodity sectors, introducing new sectors to the region over time. The entrepreneurs who work within these sectors will continue to dictate the fate of agriculture.

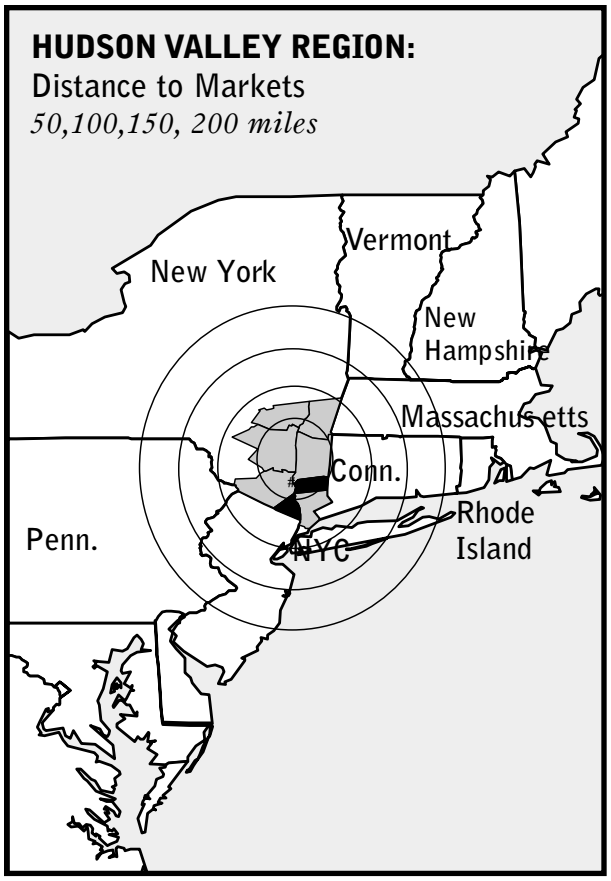
Market Access

What is it?

Market access refers to the ability to reach the real or potential marketplace for farm or agribusiness products. It assumes a fit between what is produced and what consumers want to buy, but it is essentially the system of connections from farmer to consumer. An area with good market access has a mixture of market outlets from retail to wholesale and the means to supply them.

Why is this important?

A large production area does not necessarily have good market access if there is no efficient system to get farm products to the consumers. The more effective (for both cost and timeliness) the connection is, the more competitive the products can be. A farm operator, like any business owner, benefits from easy access to markets, but the perishable nature of most agricultural products presents an added challenge.



Regional Considerations

The region is fortunate to be both geographically close to large population centers (with favorable demographic conditions) and to have in place a solid marketing infrastructure. In the Hudson Valley, there exists a large network of wholesale and retail outlets for agricultural products focused on delivering food, fiber, entertainment and horticultural products to the nearly 31 million residents who live within a 200 mile radius of the geographic center of the region. This market area represents one of the most concentrated markets within the United States. The crown jewel of this market is the New York City metropolitan area, one of the richest and most diverse in the world.

Due to the size and variety of New York's market, there are a myriad of marketing systems within which local farmers may choose to operate. In the traditional market sense, the Hunt's Point Market in the Bronx provides the nation's largest single market outlet for fruits, vegetables and meats in the United States. Purveyors of this market are still served by many regional farmers, and they often serve the role of wholesalers of commodity crops to other wholesalers, institutions and large accounts. Due to the size of these operations, farmers must often meet stringent volume, delivery and quality standards, meaning that Hunt's Point and many similar market outlets are not suited to many regional farms.

Opportunities for direct marketing in the region also abound especially on the wholesale side. Just as there are many large accounts to be served in the region, there are even more small accounts such as specialty food purveyors, restaurants, gourmet food stores, Greenmarkets and natural food stores.

TRADITIONAL WHOLESALE FIRMS

	NYC/CMSA	HV Region
Manufacturing		
Food manufacturing	950	247
Dairy Product Manufacturing	99	30
Meat/Poultry Packing Plants	19	6
Vegetable Processing	44	22
Wholesaling		
Groceries	977	130
Packaged Frozen Foods	104	22
Meats and Meat Products	374	62
Fresh Fruit and Vegetables	386	65
Other Food Wholesalers	2,010	397

DIRECT MARKET WHOLESALE OPPORTUNITIES

	NYC/CMSA	HV Region
Fruit/Vegetable		
Restaurants	3507	745
(Ethnic, Independent, Health)		
Fruit/Vegetable Markets	680	146
Health Food & Gourmet Retailers	760	218
Grocery Stores	4958	854
(Independents, Co-ops, Small Chains)		
Meat Markets	818	135
Nursery, Greenhouse, Horticulture		
Landscapers (Installers & Designer)	1355	1588
Garden Centers (Primarily Independent)	125	152
Florists	1307	448

SOURCE: DUN & BRADSTREET, I-MARKET - 2002
NOTE: NYC, CMSA represents the New York City Consolidated Metropolitan Statistical Area as Defined by U.S. Census Bureau.

Because these accounts often require a great deal of special attention, including more frequent or smaller deliveries and specialized products, they are often better served by smaller farms. Also important in the direct marketing mix are the region's many roadside stands, Community Supported Agriculture (CSA) operations and farmers' markets.

The New York Metropolitan Market is one of the largest and most prized of all food markets in the United States. As such, the regional sales of agricultural products, especially commodity type products that transport well, are highly competitive. The challenge for local farmers is to stay one step ahead of competitors outside of the region by focusing on desirable niche markets, highly perishable products and balancing market demand (e.g., filling the gap in sweet corn or bean supplies while production is shifting from the Mid-Atlantic to Wisconsin).

Innovation and Entrepeneurship

What is it?

Innovation is the source of new ideas for (and improvements to) products, services and processes. Entrepreneurs are the risk-takers who build enterprises around such innovations.

Why is it important?

Farming in today's marketplace, especially in such a highly urbanized market as the Hudson River Valley, requires strong entrepreneurial skills and a constant source of process, product and service innovation to remain competitive. These elements are crucial to the success of farming in this environment. Given the relatively high cost of production in the Hudson Valley, growers rely on innovation and strong entrepreneurial skills to maintain market position.

Regional Considerations

Producers in markets like the New York metropolitan area often find themselves on the cutting edge of innovation. The southern portion of the Hudson Valley region (including Westchester County) has a history of agricultural innovation ranging from Henry A. Wallace, a pioneer in plant genetics, to Cabbage Hill Farm, a leader in small scale integrated agricultural systems. The current crop of agricultural innovators seem driven to develop new marketing tools and to design sustainable, high-intensity production systems that achieve higher production per square foot over a longer growing season than previously possible.

Communities with a strong history of converting innovation to economic return also support entrepreneurs as part of their culture. Entrepreneurs, not the innovations themselves, build businesses and create employment and wealth generation opportunities. However, entrepreneurs are not born. They are trained and supported by their communities. There is encouraging evidence of such support in the Hudson Valley region.

Numerous organizations are increasing the agricultural industry's access to innovation and

Sample of Product, Process and Marketing Innovations in the Region

- Cattle Embryo Transfer
- Integrated Farm to Restaurant System
- Low Cost Recirculating Aquaculture Systems
- Sod Processing/Washing Equipment
- Fruit Brandy Processing
- Variable Speed Dairy Pumps
- Milk Vending Machines
- Hard Fruit Ciders
- Mini Dairy - Product Development
- Chinese Medical Herb Products
- Aseptically Packaged Single Serve Fruit Products
- Large Scale Sheep Dairy - Cheese Making
- Marketing to NYC Greenmarkets

CASE STUDY:

West Virginia Value-Added Agriculture Program

To increase the state's production of value-added agricultural products and to enhance rural entrepreneurship, West Virginia created a program that has been very successful in linking producers to markets, services providers and related businesses.

Initially administered through the state Department of Agriculture and regional Resource Conservation and Development Councils, the program began with two part-time professionals who delivered one-on-one counseling services to value-added producers. The program's employees, hired for their industry experience and qualifications, assisted producers with a range of services from locating processing/production facilities to marketing and distribution. As the program took hold and the number of participating agricultural businesses increased (from approximately 20 at inception to now over 300), the state transitioned the program from a government-supported initiative to an industry-based association called the West Virginia Specialty Foods Association.

The West Virginia Specialty Foods Association was created to be a nonprofit cooperative entity— made up of various organizations and vendors in West Virginia, including the West Virginia Department of Agriculture, the Mountain Aquaculture and Producers Association, the Center for Sustainable Resources, Inc. and others—to promote the marketing of West Virginia's specialty foods, crops and related products. The program focuses on the following nineteen product categories: aquaculture fish; aquaculture plants; arts and crafts; eggs and produce; farmers' markets; honey and syrup; herbs and spices; jams and jellies; lotions and scents; mushrooms and ramps; nuts and berries; organic foods; plants and trees; resources; salsa and mixes; seed and rootstock; specialty meats and poultry; water and wine, and wood products.

The West Virginia Specialty Foods Association focuses much of its business support programming on market access and marketing support to specialty processors. The association works to place local products in the market through organizations such as the state-owned Tamarack, a 59,000 square ft. retail outlet and gallery with products from over 2000 juried artists, craftsman, and processors. Tamarack dedicates floor space to displaying and selling locally produced furniture, cabinetry and other wood products as well as West Virginia specialty foods. The West Virginia Specialty Foods Association, the Department of Agriculture and Tamarack officials work with juried vendors to hone marketing messages, refine packaging and reach wholesale level buyers.

The association also produces one of the most comprehensive listings of West Virginia products—enabling producers, wholesalers and retailers to locate hard-to-find mountain-grown or crafted products instantly. In addition, the association's extensive collaboration with the Center for Sustainable Resources allows it to conduct various regional workshops and develop community networks that keep producers updated on market opportunities and allow them to access technical assistance.

CONTACT:
West Virginia Department of Agriculture;
1900 Kanawha Boulevard
East Charleston, West Virginia 25305
(304) 558-3200.m

entrepreneurial culture. Agencies like the Columbia-Hudson Partnership offer technical assistance and funding to agricultural entrepreneurs, most recently to two food processors. In Orange County, local professional service providers have been actively engaged with new and expanding businesses to improve the competitive positioning of the area relative to business attraction. Outside of agriculture, the regional network of service professionals in finance, accounting, and legal professions to support entrepreneurial companies is equal to any place in the United States.

Median Family Income: 1999

Columbia	$41,915
Dutchess	$53,086
Greene	$36,493
Orange	$52,058
Ulster	$42,551
Westchester	$63,582

SOURCE: 2000 US POPULATION CENSUS

Market Demographics

What is it?

Market demographics refer to the characteristics of the real and potential consumers in a market area. Census data and other sources describe groups of people by their numbers, geographic distribution, ages, income levels, family size, ethnicity, places of employments, mobility, buying habits, etc.

Why is it important?

Demographic considerations are critical factors in marketing any product because distinct population groups have different consumption patterns. Even for a commodity as basic as food, ethnicity and income levels figure prominently in making a fit between consumer preferences and what products are grown and how they are processed. For instance, many naturalized Asian ethnic groups are known to have strong preferences for convenience foods, while Hispanic populations show a distinct preference for raw foods.

Regional Considerations

The counties outlined for inclusion in this study represent a total population base of 1,834,014 or .65 percent of the U.S. population. Approximately 44 percent of this population falls between the ages of 25 and 54 and includes many first and second generation immigrants. While the market area is large, it is dwarfed by the New York metropolitan market's population of 21,199,865.

The counties in the region contain a wide range of demographic characteristics, especially related to income levels. For example, the median household income in 1999 was $63,582 in Westchester County and $36,493 in Greene County. While individual counties historically have had fairly distinct demographic identities, regional growth trends are changing the make-

Median Income by Ethnicity: 1999

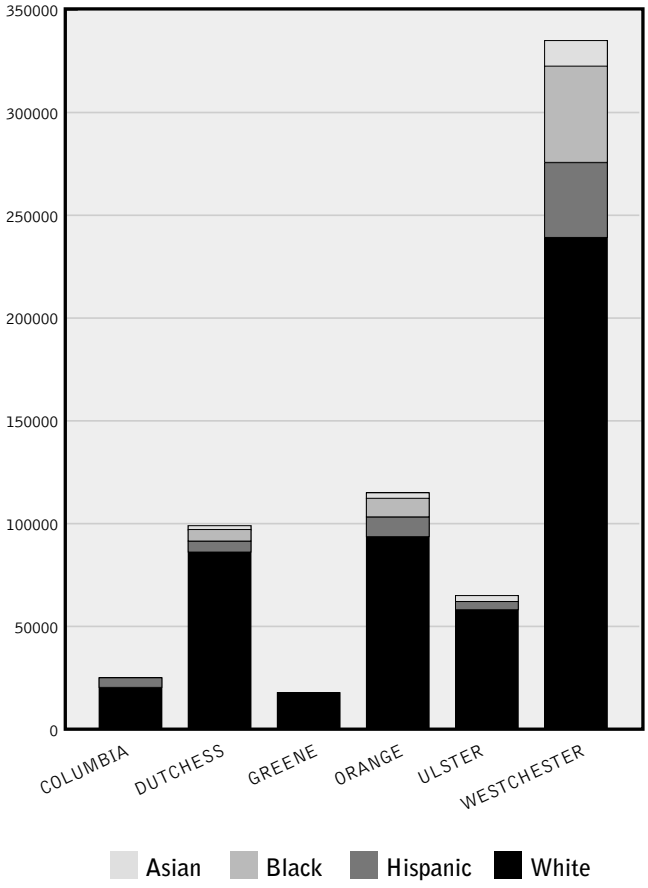
	POP HV & NYC MSA	NYC MSA	NEW YORK STATE	UNITED STATES
All Groups	8,401,402	$50,795	$43,393	$41,994
White	5,327,603	$61,044	$49,474	$45,367
Hispanic	1,180,706	$33,163	$30,499	$33,676
Black	1,310,228	$34,496	$31,364	$29,423
Asian	458,704	$54,548	$45,402	$51,908

up of the area. The overall trend is toward homogenization of the in-region market into a middle class, commuting workforce. Those in the northern market area are increasingly traveling to the Albany area for employment. Those in the south are going to the New York metropolitan area for work.

Looking beyond the actual borders of the region as defined for this study, the New York Consolidated Metropolitan Statistical Area (CMSA) presents one of the world's largest and wealthiest markets. Eight percent of the United States population lives within the New York, North Jersey and Connecticut consolidated metropolitan area, making it the largest metropolitan market in the United States. Seven counties in the New York Metropolitan Statistical Area rank among the top 20 jurisdictions nationally for per capita income: New York City (1), Fairfield, Connecticut (6), Somerset, New Jersey (7), Westchester, New York (10), Morris, New Jersey (11), Hunterdon, New Jersey (13), and Bergen County, New Jersey (15).

In addition to its high wealth, the NYMSA market area supports a racially and ethnically diverse population that includes large Hispanic/Latino, Asian, African, East European, Mediterranean, Russian and West

Regional Population by Ethnicity: 1999



Comparison: Regional and New York Consolidated Metropolitan Statistical Area (CMSA) Population by Ethnicity

	ASIAN	BLACK	HISPANIC	WHITE
Hudson Valley study area	17,649 2.7%	64,689 9.9%	56,672 8.7%	514,019 78.7%
New York CMSA	441,055 5.8%	1,245,539 16.3%	1,124,034 14.7%	4,813,584 63.1%
New York State	321,702 4.6%	1,031,866 14.8%	840,357 12.1%	4,763,779 68.5%
United States	3,129,127 3.0%	12,023,966 11.6%	9,272,610 9.0%	78,983,497 76.4%

Indian populations. In fact, of the 109 ancestries reported by the United States Census Bureau, the New York Metropolitan Market supports 10 percent or more of the national population of 57 nationalities. These groups also demonstrate high income characteristics. The combined levels of ethnic diversity and high income create a positive market environment for farmers and food marketers within the region.

Combined, these demographic conditions create a full range of niche marketing opportunities for enterprising agricultural operations that can target product and service development to the needs of one or more of these discrete market segments.

Regional Recreation and Tourism Economy

What is it?

In rural areas, recreation and tourism often occurs amidst a backdrop of working landscapes. Sometimes agriculture interacts directly with the recreation and tourism industry, with u-pick crops, agri-tainment businesses, hunting and horse trails, for instance. More often, farms add ambiance to rural activities, providing a secondary public benefit beyond the production of food and plants.

Why is it important?

Making the connection between tourism and agriculture is important for a number of reasons. Agriculture gives tourism a big part of its "product." Tourism, in turn, can bring potential direct market consumers to farmers' doorsteps. Often, tourism capitalizes on the presence of working landscapes without any consideration for the industry that sustains them. The vistas are taken for granted and those planning for tourism assume that pastoral views will always be there. In some communities, tourism is a larger industry than agriculture, but nevertheless depends on farming. Linking the two industries will raise the profile of agriculture in the minds of citizens whose support is needed to protect the land base and support agricultural economic development initiatives.

Regional Agri-Tourism Venues

	ON-FARM VENUES	FARMERS' MARKETS
Columbia	54	4
Dutchess	68	7
Greene	39	1
Orange	50	10
Ulster	71	3
Westchester	11	12
TOTAL	**293**	**37**

SOURCE: NEW YORK DEPARTMENT OF AGRICULTURE AND MARKETS

Regional Considerations

Measuring the consumer dollars spent on tourism and recreational activities is complex, especially when agriculture is involved. With a thriving tourism industry in the Hudson River Valley, most communities understand that agriculture plays a key role in regional tourism, providing pastoral landscapes and scenic vistas. Agricultural events and recreational activities certainly abound in the region.

In 1999, more than $2.7 billion was spent in the Hudson Valley region for tourism, according to Marist College. This included lodging, transportation, food, entertainment and shopping. The industry employed 64,752 people in the region in 2001, accounting for a $1.2 billion payroll. Surveys indicate that those visiting the region increasingly tend to be families coming from farther away and staying longer.

The equine industry is one of the leading industry proponents of greater integration among recreation, tourism and agriculture. Currently, the equine industry supports a wide variety of tourist oriented activities, including ranked shows and events that draw international participation; several regional fox hunts; and a widely dispersed but underdeveloped/under-

Sample of Regional Agri-Tourism Events

- Shawangunk Wine Trail
- Dutchess County Wine
- Warwick Apple Festival
- Huguenot Street Apple Festival
- Autumn Fest at Fly Wheel Park
- Cider Harvest Festival
- Future Farmers of America Fall Festival
- Grape Harvest Festival
- Great Pumpkin Giveaway
- New Paltz Harvest Festival
- NYS Sheep and Wool Festival
- Campbell Hall Pumpkin Festival
- Wigsten's Farm Corn Maze

marketed trail system that takes advantage of the region's scenic vistas.

The produce industry, focused in large part on apple production, similarly takes advantage of weekend travelers through the use of roadside stands, farm markets, on-farm entertainment (hay rides, corn mazes, etc.) and fall festivals. Another important industry sector taking advantage of the relationship between tourism and agriculture is the wine industry, which is anchored by two wine trails that attract significant regional day trip and weekend travelers.

Despite clear recognition that the tourism industry exists symbiotically with agriculture, it remains somewhat unclear if local farms and agribusinesses make the most of the opportunities. Certainly, commodity grain, livestock, and dairy operations are not generally direct beneficiaries of agri-tourism opportunities, despite the fact that these operations often make up the bulk of the visible working landscape.

Environmental Assets

What is it?

Environmental assets are the components of the physical world that make agriculture possible: soils, water and climate. Of primary concern in this analysis is the accessibility of the core assets—soil and water—to the farmer.

Why is it important?

Good soils, adequate water and favorable climate are the essential prerequisites for an agricultural industry. Their characteristics and location largely determine the type of agriculture in an area. The better the natural conditions for agriculture, the less soil disturbance occurs, the fewer inputs (e.g., fertilizer, pesticides) are needed, and the least interventions are required (e.g., irrigation). Generally speaking, these translate into lower production costs and more environmentally benign farming. However, highly productive soils are often the most easily developable lands. In the Hudson River Valley, high land values, driven by developability and demand, add pressure for production agriculture to maximize its return on assets, both natural and capital.

Regional Considerations

The region has substantial soil resources but they are not uniformly distributed, nor are the best soils equally accessible for farming. Orange County, for example, contains a solid base of highly productive soils anchored by nearly 15,000 acres of muck soils. Dutchess, Columbia and Ulster counties also hold large contiguous blocks of prime farmland.

On the other hand, in the southern portion of the region (Putnam, Rockland, Westchester and parts of Dutchess and Orange counties), much of the best soils have been made inaccessible to agriculture by development. Only the fertile muck land in Orange County (where development potential is limited naturally) and those prime soils throughout the region that are permanently protected by conservation easements are secured for future agricultural use.

Access to water is a highly localized issue, but water is generally considered abundant in the area. In the southern portion of the region, water resources are largely reserved for local and New York City public water systems and recreational use. As development increases and the region transitions to more water-intensive agriculture such as nursery/greenhouse, water may become a significant issue, creating competition for ground and surface water. Water may also be a limiting factor based on the availability of municipal and private water and sewer systems needed to support expanded food processing in the region.

The area's climate is generally supportive of a wide variety of crops and animal agriculture, although the season is relatively short compared to regional competitors on Long Island and in Southern New Jersey.

Access to good quality soil resources in economically viable farming units and access to water resources are critical success factors for the continuation of agriculture in the Hudson Valley. While these resources do exist in abundant supply, they are many areas fundamentally threatened by fragmentation of the resources.

Financial Capital

What is it?

Financial capital drives operations and capital investments in agriculture. Most people think of capital in terms of debt instruments like mortgages, credit cards, operating loans, commercial credit and leases secured by a claim on assets. However, financial capital also includes equity investments made by venture capitalists and angel investors.

Why is it important?

Entrepreneurship depends on human and financial capital. Given the relatively low financial returns to agriculture in the last decade, it is important to consider the types of financial capital available to the industry. Traditional debt instruments—limiting because of the immediate cash flow needed to support debt service—are not flexible enough to accommodate the types of risks and cash flow patterns of inventive agricultural businesses. This stifles innovation on farms. Without "risk" capital, few farmers have the ability to capitalize expansions, develop new products or adopt new, unproven technology.

Regional Considerations

The region is well served by traditional lenders and trade credit. Low interest rates and a trend of wealthy individuals purchasing farmland have contributed to a supportive climate for growth in mortgage financing. Despite the availability of debt financing, the study team found few farmers willing to assume additional debt, given depressed farm-gate sales and the attendant cash flow impact. For those farms in a position to assume debt, the current loan terms are highly favorable. This means that additional debt sources to support agriculture are unlikely to have a significant impact on the future of agriculture.

Agriculture's financing challenge is finding a source of risk capital. Risk capital, an investment in the success or failure of the business, is rewarded through distribution of profits and enhancement of business value. New York is home to the world's best known financial industry and many high wealth individual investors, yet few of these investment dollars ever reach agriculture. This supposition is corroborated by quarterly MoneyTree reports produced by PriceWaterhouseCoopers that show less than a handful of agriculturally related

2002 First Pioneer Farm Credit Lending Activity

	ALL	BEGINNING	YOUNG (< 35 YEARS OLD)
Number of Loans	2,390	723	600
% of Loans	100%	30.3%	25.1%
Average Loan Size	$175,258	169,448	$148,167

SOURCE: FARM CREDIT ASSOCIATION

2002 Second Quarter Venture Capital Funding

REGION	VALUE	DEALS
Upstate New York[1]	$ 33 million	4
New York Metro[1]	$ 399 million	58
United States	$4.46 billion	699

[1] *No agriculturally related investments were reported for this quarter.*

SOURCE: PRICEWATERHOUSECOOPERS

equity investments over the last three years. According to this data, none of the investments have occurred in the Hudson River Valley.

In summary, debt resources seem widely available for qualified agricultural and related needs in the Hudson Valley Region. Yet, the access of farmers and agribusinesses to risk and equity capital is very restricted, which may have a negative impact on entrepreneurship and on-farm innovation.

Land Tenure

What is it?

Land tenure refers to the degree of owned farmland versus rented farmland as well as certain characteristics of owners and operators.

Why is it important?

Traditionally, this measure gauges the level of control that farm operators have over their agricultural properties. In areas where significant acreage is transitioning from owner/operators to non-operator ownership, one might expect to see a less stable agricultural base and lower operator investment. Acres not under direct control of the operators (tenant acres) are usually seen as being "at risk" for conversion to non-agricultural uses. Characteristics of owners and operators speak to issues of intergenerational transfer of operations and farmland.

Regional Considerations

Farmers in the region are, as a group, slightly older than their counterparts in other parts of the state. More than half are older than 55 years of age. They are somewhat less likely to live on the land they farm but are more likely to cite farming to be their principal occupation. Farms in the region also seem more likely than others in the state to be under corporate and partnership legal structures. This is important for a number of reasons. The corporate form of ownership facilitates intergenerational transfer by reducing the estate tax burden on succeeding generations. There is also anecdotal evidence that corporate farms are more likely to transfer management to a younger generation at an earlier stage than are sole proprietors.

The project team found a significant presence of wealthy landowners willing to buy large farmed properties for country estates that often challenged the conventional wisdom about non-owner operators and the "riskiness" of rented land. These individuals may or may not actually be directly involved in agriculture, but they keep the land in active agriculture to maintain their lower agricultural tax assessment and to keep their immediate surroundings pastoral. This is particularly true on the east side of the Hudson River, which has historically seen a high concentration of wealth among landowners. Country estates do take land out of the direct control of the producers, but there are some positive elements of this arrangement:

- Large expanses of land are kept open and available for farming, often at minimal rental prices.
- These new landowner/farmers often make significant investments in capital items such as tractors, barns, etc., which supports local infrastructure.
- These owners are more likely to push the innovation envelope when engaged in the operations.
- There may be some correlation to higher levels of permanent land protection.

For farming, this is better than development

CASE STUDY:

Saving Critical Farms in Carroll County, Maryland

In the late 1970s, Carroll County, Maryland—located within easy commuting distance of both Baltimore and Washington D.C.—established a goal of permanently protecting 100,000 acres of farmland. The county enacted 1:20 cluster zoning (a change from 1:1 zoning) to stabilize the land base and then began vigorously participating in the state's purchase of development rights program. (To date, the county has agricultural easements on over 33,000 acres.) However, the county soon discovered that the state program could not respond quickly enough when prime land was at the critical point of changing ownership.

The county's response was to develop a critical farms program that functions as an enhancement to the state PDR program, guaranteeing a minimum easement value for farms that are being transferred. Applicants must be the contract purchasers or recent purchasers of a farm that qualifies for the state PDR program and ranks high on the county's preference formula. Based on an appraisal of the easement value, the county offers the new owner a payment of 75 percent of the easement value in exchange for an option for the county to acquire the easement at the end of the five-year period.

When the new owners receive the money for the option contract, they are obligated to put the farm in a state agricultural district and to offer to sell the easement to the state program for five years. If the state acquires the easement, the county is repaid the exact amount that was provided up-front and no-interest payment is required. The money is then recycled into the Critical Farms Program. At the end of five years, if the easement has not been purchased by the state, the farm owner has two options: repaying the county with interest for termination of the option agreement; or accepting the easement as permanent with no additional payment from the county. Since it began in 1992, the Critical Farms Program has entered into 30 option contracts on 3,946 acres. So far almost all of the easements have been purchased by the state; the rest are in the pipeline.

that permanently takes land out of production, but the situation does keep land values high, making land ownership expansion by existing producers nearly impossible. These types of farms are also rarely conducive to supporting all types of agricultural production (e.g., livestock and hogs), often seeking agriculture operations that are supportive of lifestyle choices and other uses of the land (e.g., trail riding and hunting).

The high land values in the Hudson River Valley have another, perhaps temporary, side-effect: The high cost of entering the market area from a land acquisition standpoint makes it difficult for new farm entrants to come into the Hudson River Valley. This provides a degree of protection to existing landowners and producers, offering them the opportunity to develop significant localized niches, but it may limit industry transition and expansion. Hudson Valley agriculture is faced with a true mixed bag of benefits and challenges relative to land tenure.

Farm Tenure Characteristics

	REGION	NY STATE
Total # Farms	2,365	31,757
Total farm acres	453,818	7,254,470
Legal structure		
Sole Proprietorship	74%	85%
Partnership	12%	10%
Corporation	14%	5%
Other	1%	1%
Type of Interest		
Full Owner - farms	59%	50%
Full Owner - acres	34%	38%
Tenant - farms	10%	6%
Tenant - acres	7%	5%

SOURCE: 1997 CENSUS OF AGRICULTURE

Farm Operator Characteristics

	REGION	NY STATE
Total # Farms	2,365	31,757
Total farm operators	2,365	3,175,700
Average Age	57	53.5
Operator by age group		
54 and younger	49%	55%
55 and older	51%	45%
Operator by place of residence		
On-Farm	78%	83%
Off-Farm	16%	12%
Principal Occupation		
Farming	61%	58%
Other	39%	42%
Operators by gender		
Male	87%	90%
Female	13%	10%

SOURCE: 1997 CENSUS OF AGRICULTURE

Labor Force

What is it?

Human capital, as well as financial capital, is a key determinate of the success of any business. Agriculture is no exception. Evaluation of an industry's labor force looks to characteristics of the current labor force, including skill level, employment categories, historic employment trends, commuting patterns, availability, training, work ethic and cost. Also important is the future direction of the labor force as measured by primary and secondary school programs, immigration patterns and work force training programs.

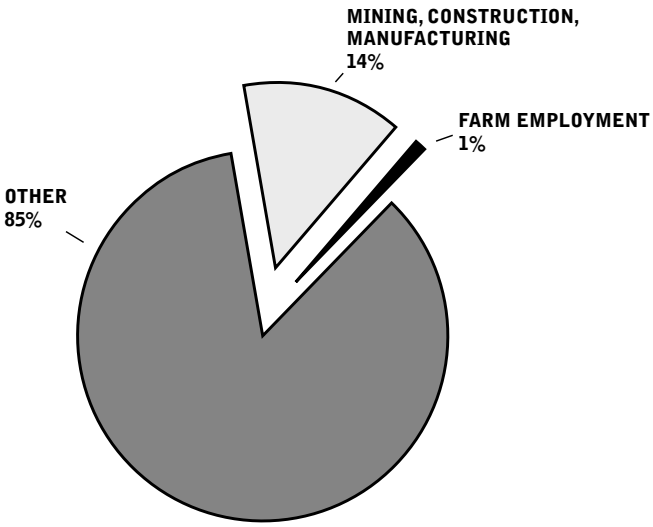
Why is it important?

Agriculture is a labor intensive industry that relies heavily on skilled, semi-skilled and low skill labor. The agricultural labor pool can be highly seasonal and generally pays low wages relative to other industries employing a similarly skilled labor base. However, as regional agriculture becomes more sophisticated, the demand for a more skilled labor force will increase. With competition for workers from so many other sectors of the economy, the availability of labor to agriculture will remain a perennial question.

Regional Considerations

Under current conditions—an economic downturn and an annually renewing work force of new Americans—regional agriculture is currently well served by a sufficiently skilled work force. By and large, interviewed farmers considered the work force to be readily available and affordable, with wages for entry level and field labor ranging from $7.00 to $12.00 per hour. Since many laborers are immigrants or new citizens from agrarian backgrounds, they have a basic understanding of farming. Concerns about this labor force revolve around language and communications, timing to market and the development of advanced skills (including acquisition of driver's licenses, chemical applicator's licenses, etc.). Despite a generally high level of contentment with the labor force, farmers remain concerned that a significant upturn in the economy will draw

Non Metro Counties
Work Force: 2000
(Total employment 971,437)



down the labor pool as highly mobile, entry-level labor turns to restaurant, landscape and building trades, which often pay higher wages.

Attracting farm management seems to be reasonably easy for many farms. However, some farm operators, especially in dairy and fruit production, express strong reservations about their ability to attract skilled management. Many such managers, especially those within the family, are opting for careers outside of agriculture or in other agricultural economies.

Labor force training is a challenge because the region supports few ways for young people and new Americans to gain adequate skills. SUNY

H2A Labor Reform

Despite being relatively satisfied with the current labor situation, many farmers are concerned about the fate of migrant labor reform. Based on interviews, regional farmers demonstrated a strong interest in improving the functionality of federal labor programs and improving their relations with labor advocacy groups.

Morrisville, for instance, integrates training and job preparation for the food industry as well as for production agriculture through equine, livestock, and dairy programs. The Hudson River Valley region has no such programs and must largely recruit its management and skilled labor from outside.

Despite the industry's overall satisfaction with the labor force, the project team feels that there is the potential for labor to become a negative factor in the near future. Quick changes in the region's economic health can quickly draw down available sources of agricultural labor. Shifts in industry sectors away from dairy and livestock and toward higher value perishables will change labor force needs and skills requirements, making certain subsets of the labor pool in short supply. No real programs currently exist to deal with these issues.

Stakeholder and Public Support

What is it?

Stakeholders are the individuals who have a direct interest in the success of an industry. Public support is the willingness of the larger community to participate in the development and sometimes the funding of public policy, outreach and programming initiatives. No economic development planning and implementation will be successful without both groups on board.

Why is this important?

Economic development is conducted in part to enhance a community's tax base, create jobs, generate wealth and sustain or improve the quality of life. In the case of agriculture, a relatively small proportion of the population is directly involved in the industry. However, the health of the agricultural industry has broad ramifications based on its potential to stabilize local economies, help balance government budgets and contribute to the quality of life. In order to become reality, any actions taken to benefit the agricultural industry need the support of the broader community, whose members are indirect beneficiaries and often the political force behind public policy. In regions experiencing growth from outside, the demographic profile of the community is most likely changing. The challenge is to engage the newcomers who have their own reasons to support agriculture.

Regional Considerations

Regional stakeholders are generally stymied by the plethora of programs and initiatives in the region. This creates confusion about who the players and organizations are, and what the scope and authority is of their missions. As a result of the lack of focus by stakeholders, many individual counties have seen poor economic development coverage.

The general public tends to be vocally supportive of agriculture, demonstrating a willingness to support agriculture related programming. Ironically, the residential growth being experienced in parts of the region has raised awareness of agriculture's contribution to local fiscal health and quality of life for both new and long-standing residents. While interest in enhancing agriculture seems nearly universal, there are often missteps between community leaders and the agricultural industry. Active, assertive public education is the key to educating local policymakers as well as new residents, who may want nothing to change now that they have arrived.

This latter group often seeks to keep the rural character in place that attracted new residents to the area, without much understanding of the industry that produces the rural landscape. Although they may be the very people whose arrival contributes to the conversion pressure on agriculture, the sentiment they embody can be a powerful tool in supporting, protecting and rejuvenating agriculture.

There are several tangible indicators of this trend on the part of citizens, not necessarily involved in natural resource industries like farming, to become interested in protection of the land base. The first is the growth and activity of private, nonprofit land trusts dedicated to

protecting land in their locality or region by conservation easements or outright land purchases. The northeast region of the United States (CT, MA, ME, NH, NY, RI, VT) leads the nation in the number of such organizations, with 497 in the year 2000. In the previous decade, those organizations increased their protected lands by 188 percent to a total of 1,735,971 acres. New York alone has 72 land trusts statewide that have protected 552,220 acres, half of that with conservation easements on private land. In the Hudson Valley (as geographically defined in this study), a survey by American Farmland Trust found that ten nonprofit land trusts had conserved approximately 22,472 acres of farmland by 2004. In addition, the New York State Farmland Protection Program—which often works in partnership with regional land trusts—had conserved 5,183 acres of the region's farmland by the end of 2003 and awarded grants to protect an additional 1,609 acres in January 2004.

Another rough measure of public support for government initiatives to protect land from development can be seen at the ballot-box. Twelve referenda concerning the funding of open space, natural resources and recreation initiatives passed in towns in New York in 2000. Two other similar referenda passed in 2002.

In October of 2003, residents in the Dutchess County town of Red Hook voted by a 4-to-1 margin in favor of a proposed $3.5 million bond to purchase the development rights from interested town farmers (in addition, matching funds will be provided by Dutchess County, which has earmarked $7 million from its own Open Space and Agricultural Protection Fund to help communities buy development rights on local land). The Red Hook town board unanimously approved the bonding in July of 2003, but a resident referendum was required after enough votes were collected on a petition. Still, the ensuing public interest in the referendum was generally positive, given the overwhelming final voter tally in favor of the land protection spending.

Also in 2003, five Orange County towns—including Goshen, Crawford, Hamptonburgh,

Montgomery and Warwick—proposed a 0.75 percent fee on property sales in order to use revenue from the real estate transfer fee to fund open space protection. When the state legislature failed to vote on the proposal, the town of Goshen instead asked taxpayers' permission to borrow money to purchase the development rights on approximately 750 acres of farmland and open space. Although the town passed a resolution in August of 2003 authorizing a $10 million bond for land conservation, Goshen voters narrowly defeated the proposition at a public referendum in November 2003. Opponents argued that the town's plan would drive up property taxes, although Goshen Supervisor Honey Bernstein had argued that the plan would actually help stabilize the tax rate, since preserving open space would slow down growth and ease the strain on town resources.

Public referenda of this sort tend to ebb and flow with economic cycles, but they reflect an awareness on the part of the general public that

meeting the community's open space needs (including valued working landscapes) requires deliberate action and public investment. The project team feels that the lack of congruence in goals, and therefore action, between the agricultural industry and new rural residents—who are creating the land conversion pressure and pushing restrictive land-use policies—must be addressed before stakeholder and public support becomes a more consistent positive factor for agriculture. This new rural public is currently an under-utilized constituency that could support agriculture or turn away from agriculture.

HUDSON VALLEY WEAKNESSES

Development Patterns

What is it?

Development patterns refer here to the amount and location of residential and commercial development in agricultural areas of the region. No longer does growth tend to concentrate in or near towns and villages. Increasing, low-density development spreads across the landscape, seemingly without rhyme or reason. Contributing to this is the pervading view that farming is an "interim" land use and farmland is a "holding zone" for residential development. This notion is often supported by local zoning regulations that typically accommodate agriculture within residential zoning categories (which tend to be restrictive of agricultural uses), instead of within agricultural or industrial zoning categories (with restrictions to residential development), which would be more fitting for agriculture as an economic use. While agriculture benefits from regional approaches to industry problems (including protecting a land base), land use authority—where the development decisions are made—resides at the smallest level of local government: towns, villages and cities.

Why is it important?

Agriculture and residential developments do not always make good neighbors. Despite the bucolic setting sought by people moving to the country, farming smells, noise and dust are rarely welcome realities to new residents. Nevertheless, the best agricultural lands, generally speaking, are also the easiest to develop, especially low-density residential developments that use well and septic systems. A significant exception to this is the highly productive "muck" soil in parts of the region that is not suitable for development.

Development patterns affect agriculture at two scales: the shear number of acres converted and lost to production and the form and specific location that the development takes at the community level. Because conversion is incremental and scattered, even small numbers of acres have a "zone of influence" around them that makes farming more difficult for surrounding operations and conflicts more likely.

Regional Considerations

American Farmland Trust's 1997 report *Farming on the Edge* (updated in 2002), identified the Hudson Valley as the tenth most threatened agricultural region in the nation, due in part to the proximity of major metropolitan areas and the amount of prime or unique farmland converted to urban uses.

The relatively rapid pace of urbanization in upstate New York, however, can not necessarily

Growth in Single Family Construction Permits

(Second Quarter 2002–2003)

COUNTIES W/ GROWTH	% CHANGE
Columbia	25%
Dutchess	8%
Ulster	46%
Hudson Valley Region	31%

SOURCE: MARIST COLLEGE BUREAU OF ECONOMIC RESEARCH

CASE STUDY:

Long Island Real Estate Transfer Fee

In June of 1998, New York Governor George Pataki signed the Land Bank Bill authorizing five towns on the East End of Long Island to collect a two percent fee on most real estate transactions in order to fund the protection of farmland and open space. The five Suffolk County towns—East Hampton, Southampton, Shelter Island, Southold and Riverhead—were then required to gain voter approval for the fee through referendums.

The real estate transfer fee was expected to raise $10 million annually for the Peconic Bay Community Preservation Fund, which protects environmentally and culturally significant lands through acquisition or conservation easements. By 2003, the Nature Conservancy estimated that the fee had produced $140 million on the East End and saved 7,500 acres. The real estate transfer fee is paid by those who purchase property, although it provides an exemption for land sold to a farmer who intends to farm it or for lower-priced properties to avoid increasing the cost of affordable housing. In East Hampton, Southampton and Shelter Island, the first $150,000 of a home sale is exempt from the land transfer fee. The first $100,000 of a vacant land sale is also exempt from the fee. In Riverhead and Southold, the first $150,000 of a home, and the first $75,000 of a land sale, is exempt.

In 2003, the town of Brookhaven in eastern Long Island attempted to fund an open space trust program through a similar two percent real estate transfer fee. Although a state Supreme Court justice ordered the measure to be removed from the ballot less than a week before the election, citing confusion in the wording of the proposition, the town intends to resubmit the referendum proposal in November of 2004.

In May of 2004, New York State Assemblyman Tom DiNapoli and New York State Senator Carl Marcellino introduced new legislation dubbed the "Home Rule Community Preservation Act." The legislation would extend the authority currently held by five Suffolk County towns, allowing town governments across the state to enact local real estate transfer fees for the purpose of establishing local funds for farmland and open space conservation.

be linked to population growth. Rolf Pendall's 2003 report "Sprawl Without Growth: the Upstate Paradox," published by the Brookings Institution, found that 425,000 acres of land in upstate New York were converted from rural uses (mainly farm and forest land) to urban development between 1982 and 1997, a 30 percent increase. At the same time, however, the region's population grew only by 2.6 percent, resulting in urban sprawl in the form of reduced density.

While much of the Hudson Valley is feeling growth pressure, the strongest pressure is relative to distance from New York City and regional highways. Rates of population growth in the region vary widely from 0.2 percent in Columbia County to 11 percent in Orange County over the past decade. Growth is being driven by a variety of factors, including rapidly rising house values in the southern part of the region, the attraction of local amenities (includ-

Average Selling Price of Single Family Homes
(First Quarter)

	1999	2000	2001	% CHANGE
Columbia	$167,391	$188,374	$209,329	25%
Dutchess	$190,386	$204,926	$205,726	8%
Greene	$83,055	$97,152	$97,114	17%
Orange	$151,232	$175,734	$203,921	35%
Ulster	$119,409	$156,877	$174,328	46%
Westchester	$380,064	$525,328	$537,878	42%
Hudson Valley Region	$181,923	$224,732	$238,049	31%
New York State	$145,968	$150,518	$143,372	-2%

SOURCE: MARIST COLLEGE BUREAU OF ECONOMIC RESEARCH

ing open space) and, to a certain extent, an exodus from New York City following September 11, 2001. Given the current economic situation facing agriculture nationally, it is difficult for farmers to compete against this onslaught of competition for land resources.

Much of the growth experienced by the region is in the form of low-density single-family homes. In agricultural areas this can often mean at least two acres of land are consumed by each new home—at least a thousand acres for every 500 new homes built. With this growth comes demand by essentially suburban populations for non-agricultural uses on open land, including recreation (e.g., dirt bike riding, hunt clubs, environmental research, retreat centers, parks, greenways, wildlife habitats, etc.), environmental buffers and reserve land for public infrastructure to accommodate growth.

The valuation of agricultural land for non-agricultural uses, especially residential development, is quickly outstripping the land's intrinsic agricultural value. With few local controls on the consumption of agricultural land and limited investment in farmland protection, the future of the land base is in serious question.

Service and Supply Networks

What is it?

Service and supply networks represent the input, output and ancillary industries that support production agriculture: the cluster of businesses that collectively form a healthy agricultural economy. The service and supply network varies by industry, but it is an essential component for any production agriculture sector. Examples of service and supply businesses include agricultural finance, food processing, agricultural chemicals, sales and service of dairy equipment, veterinary services and corrugated box manufacturers.

Why is it important?

Production agriculture does not exist in a vacuum. It relies on a network of inputs and services as well as product markets to thrive. Unfortunately, much of this infrastructure is specialized by industry and requires a regional "critical mass" of agriculture to survive. As agricultural production diminishes, so does the infrastructure that supports it. As infrastructure shrinks, farmers are often forced to go farther for basic inputs and services, or the area may end up with one, non-competitive provider. Each scenario has the effect of reducing competitiveness, increasing costs of doing business and can make production agriculture economically unfeasible.

Regional Considerations

The Hudson River Valley is highly challenged on the input service and supply side, with steadily diminishing local options available to producers. The burden falls hardest on traditional, commodity agriculture sectors such as field crops, dairy and livestock. For instance, the region supports only one livestock auction, one dairy service firm, no rendering capacity, only three grain elevators, five agricultural tractor dealers and only six field crop and orchard service companies (i.e. soil preparation and agricultural chemicals). Welders and mechanics that do field service also are in short supply.

While the area is served by local agricultural infrastructure, farmers are increasingly turning to a broader geographic region for competitively priced inputs and equipment. For more expensive capital items, farmers are finding sources on a national basis. Many in the dairy industry express a high level of concern over the loss of infrastructure, especially the ability to get timely veterinary care and milking equipment service. Generally speaking, though, the infrastructure for growth sectors such as equine and nursery/greenhouse sectors are sufficient.

Service and Supply Networks

	# OF FIRMS		
	1993	2000	PERCENT CHANGE
Agricultural Support	89	75	-16%
Veterinary	150	172	15%
Farm Supplies	59	25	-58%

SOURCE: MINNESOTA IMPLAN GROUP

With an ever shrinking base of service and supply networks, it is becoming more costly, and in many cases less efficient, to farm in the Hudson River Valley as logistics lines become stretched and local markets become less competitive.

Cost of Doing Business

What is it?

Cost of living analyses measure the costs of doing business in a region against other rural/farming areas of the country. They also analyze the actual costs of supporting a family in the local economy, based on factors such as the cost of consumer goods, housing and transportation.

Why is it important?

Given the highly competitive nature of agricultural markets, the costs of operating in a region must not exceed the market's ability to provide a fair return to farm businesses. Therefore, the costs of operating in the Hudson Valley must

not exceed the market opportunity (price point) and the transportation differential with other regions of the country.

Agriculture relies heavily on the availability of a land base for economic success. It is often in the best interests of agricultural producers to own/control a large portion of the land base they require. This is especially true in commodity agriculture, but because commodity agriculture often exhibits low marginal returns, holding excess land capacity can be a challenge.

Regional Considerations

Without question, the Hudson River Valley is a high cost of living environment, whether examining housing, food or utilities costs. This is complicated by low average regional farm wages of $17,434[1], which are significantly lower than non-farm employee wages averaging $42,444 across the region. This means that regional farms often require an outside income to sustain farm operations. Considering the average net cash return to regional farms is approximately $40,000 annually, it is difficult to understand how the average Hudson Valley farm can even maintain its capital structure.

This study collected anecdotal information about investment decisions faced by farms, including how farmers assess opportunity cost[2]. For most interviewees, the primary determinates of land investment decisions were high property taxes and the ratio of land values over agricultural value per acre (e.g., a $200.00 net return for hay on land worth $25,000).

The first challenge facing Hudson Valley farmers is the high cost of acquiring land relative to regional competitors in western New York and South Central Pennsylvania. With agricultural land selling for as much as a $25,000 premium per acre[3], it is difficult to make a case for strategically acquiring land to be used exclusively for agricultural purposes. There are, of course, exceptions in the greenhouse, equine and winery sectors.

Cost of Living—U.S. & Region

	US AVG	HV REGION AVG
Consumables	1	1.10
Transportation	1	1.09
Health Services	1	1.15
Rent, Utilities, Insurance	1	1.20
Income and Payroll Tax	1	1.05
Total Cost of Living	1	1.11

SOURCE: ECONOMIC RESEARCH INSTITUTE, GEOGRAPHIC ASSESSOR, 2003

The second key issue is the annual tax burden of agricultural property. New York has several farm tax relief programs, including Agricultural Assessment, the Farmers' School Tax Credit and various farm building exemptions (for more information, see American Farmland Trust's *New York Agricultural Landowner Guide to Tax, Conservation and Management Programs*). However, New York farmers still face a significant property tax burden relative to jurisdictions such as Maryland, where state and local income tax play a greater role in tax structure. Combined with cost of living, the property tax burden can mean that it is difficult for farmers to acquire land for production and even more difficult for them to hold on to it, given the property taxes and opportunity costs (forgone income opportunity) of the initial investment.

The regional cost of living cannot be overstated as an impediment to agricultural industry development, especially as it relates to current industry structure. Simply put, it is very difficult to maintain a low cash return/low wage industry in a high income/high cost of living environment.

[1] Bureau of Economic Analysis, 2001
[2] Opportunity costs was the measure of foregone income baed on a particular investment or operational decision.
[3] Based on anecdotal evidence collected through the interview process.

Regional Cooperation

What is it?

Regional cooperation is the capacity of stakeholders, agencies and government entities in a geographical region to work together for mutual benefit, despite the fact that certain counties, based on market conditions, are likely to benefit more at any given time from a program or business attraction/expansion effort than other counties.

Why is it important?

The Hudson River Valley region is nearly uniform in its access to an enormous market (NYC), but is not uniform in its distribution of physical assets and industry sector make-up. Nevertheless, agriculture exists to some degree in every county and has some common needs. Viewed another way, industry sectors in each county are relatively small and are not necessarily focused on common objectives. Pooling resources on a regional basis to solve sector-wide problems would make for more efficient and effective actions. For example, a unified region has a far better chance of attracting needed agribusinesses than if individual entities in different counties compete against each other for the same benefit.

Regional Considerations

The region does not suffer from lack of effort to find solutions beyond the county level. In fact, it suffers from too many programs operating with vaguely stated goals and insufficient funding to have any real impact. The counties tend to have strong self-identities and, generally, little interest in cooperation. Few people in local government seem to subscribe to the theory that "a rising tide raises all boats." For example, the area currently has four meat packing feasibility discussions in progress and at least two regional product-branding discussions under way. There seems to be some reluctance to join together in properly supported/capitalized efforts. This leaves producers confused about who is doing what, for whom and when.

Adding complexity to the above situation is the inherently independent nature of regional farmers. This natural independence is reinforced by the development tract followed by most industry sectors, which has focused on internal business and market improvement strategies rather than industry-wide development. This has left a highly independent group of producers who tend to be protective of market positioning and employ adaptive business strategies that keep their operations financially healthy rather than openly cooperative.

The lack of a cohesive approach to regional needs combined with a lack of leadership on a regional level may be a "chicken and egg" situation, but they certainly contribute to one another. There are few leaders rising from the various industry sectors for a number of reasons: some of the most capable people are busy with their own businesses; and so many initiatives have led nowhere that many people have simply stopped participating. The average age of the region's farmers does not help either. Beyond the nursery/greenhouse sector there is little young blood with an eye to the future coming into organizations.

Finally, the industry compositions, varied cultures, and diverse asset bases represented by the study counties make it a true challenge to develop a region-wide concept of problems and solutions. Within an economic development context, some counties may view other regional players as competitors rather than collaborators, reducing the imperative for cooperation. This makes regional players like Empire State Development, Non-Governmental Organizations (NGOs), Cornell Cooperative Extension and RC&D councils critical for bridging the gap. In summary, without the

During the course of discovery, the project team was confronted with the fact that, during the last decade, at least 25 studies addressing agricultural land-use, agricultural development and agricultural marketing have been undertaken. Despite costing an estimated $2.8 million, these efforts generated few long-term programmatic successes due to improper resource access, lack of authority, poor capitalization, competition or the fact that these efforts simply lacked industry support.

CASE STUDY:

Community Development Corporations

Community Development Corporations (CDC) first formed 30 years ago to improve housing conditions in decaying urban communities. Since then, CDCs have been used to address broader physical, social, economic and community development issues. A common theme among CDCs is that they often operate on numerous related projects—such as small business assistance, crime, housing, and real estate development—with a "single minded attack on one issue."[1]

CDCs are most often formed as not-for-profit, non-stakeholder corporations with investment and board participation that represents the private and public sector as well as members of the impacted community. This type of partnership has been essential to bring together the disparate interests of a target community, by formulating a shared vision and working toward common goals. The CDC organizational structure supports long development horizons—typically 10 to 20 years for observable results in most CDC projects. Recently there has been a trend toward foundation-supported CDCs that link a financial sponsor's interests with a community development mission as identified by community participants. Typical project types for CDCs include—but are not limited to—real-estate development; training and education; business development; community finance; work force training; youth and elder care programs; healthcare; downtown/street revitalization; and home ownership.

Capitalization of CDCs has changed in the last decade, which is helping to expand the types of development projects in which CDCs can engage. Programs such as USDA Rural Development and HUD's HOPE VI provide assistance in housing and industrial projects. The Treasury Department's Community Development Financial Institutions (CDFI) and Community Development Venture Capital (CDVC) funds and SBA's 504 program expand opportunities to finance a range of business activities using both debt and equity financing. There are many other funding opportunities at the public and foundation level, including the National Equity Fund, the Local Initiatives Support Corporation (LISC), the Enterprise Foundation and others, each providing discrete support for programmatic and policy initiatives, making CDCs highly adaptable development tools.

Private sector investments have also increased in the last decade. This is in part due to the requirements of the Community Reinvestment Act (CRA), which provides an incentive for bank participation in CDC projects for CRA credits. As well, the Internal Revenue Service allows taxpayers to receive tax credits for donations and loans to CDCs for qualified purposes. Numerous CDCs, such as the Greater Southwest Development Corporation in Chicago and the Rural Capital Network in California, have also demonstrated to private companies that investments in their projects and communities can be profitable.

While CDCs have largely been an urban development phenomenon, they are increasingly being employed in rural areas to address a range of issues from youth retention and healthcare access to providing speculative development financing as part of business attraction and retention efforts. In some areas of the country, CDCs provide important linkages for small business financing as well as work force training. Based on recent research conducted by LISC, it is expected that CDCs will play a

greater role in rural economic and community development over the coming decade, as CDCs adapt to the needs of more dispersed populations and as new funding opportunities arise.

[1]"The Whole Agenda", LISC.

CASE STUDY:

Lightstone Community Development Corporation

Lightstone Community Development Corporation (LCDC) was founded in 1994 by the Lightstone Foundation to enhance social, economic and environmental viability by supporting sustainable enterprises in the rural mountain communities of West Virginia and Virginia. LCDC—one of three Community Development Financial Institutions (CDFIs) certified in West Virginia—is the only CDFI in West Virginia focusing on small business lending and lending to resource based industries. LCDC operates several programs including the Sustainable Enterprise Loan Fund, which provides equity and debt financing for local small businesses and start-ups; an equity investment program which syndicates investments in resource based industries; and the Welfare to Micro-enterprise Program, which seeks to encourage commercial self-sufficiency. In addition, LCDC is engaged in the development of rural industrial clusters in food, wood, fiber, crafts, tourism and services in collaboration with other private and public sector entities. LCDC's activities support the broad funding objectives of the Lightstone Foundation, including community based economic development; support for small family farms; enhanced agroforestry stewardship; increased internet capacity and literacy; and the development of entrepreneurial capacity.

CASE STUDY:

New York AgriDevelopment Corporation

In June 1999, the Metropolitan Development Association (central New York's principal economic, planning and research organization) joined with several leading agricultural companies and their business partners to form a new organization to stimulate statewide business growth in the food and agricultural sector. The mission of the NY AgriDevelopment Corporation is to increase the number and profitability of agribusiness companies, the number of people employed by those companies, the level of investment in agriculture projects and ventures, and the visibility and viability of agriculture in New York state. Thirteen firms have committed resources to fund the organization, and those firms determine what types of projects and programs are pursued. Representatives from the firms comprise the organization's board, which has elected officers and relies on MDA staff to provide day-to-day administrative support. Current initiatives of NY ADC include growth of controlled-environment agriculture facilities; new market opportunities for upstate processors and growers; and attraction of new meat processing facilities.

emergence of a key regional player that represents industry interests and has the resources and capacity to carry out region-wide development efforts, it is unlikely that regional planning and development efforts will succeed.

Investment in the Future

What is it?

This refers to the gradual capital disinvestment in individual operations (known as the impermanence syndrome) as well as the lack of a traditional "next generation" of farmers to take over the industry in the Hudson Valley region. The two phenomena are deeply connected.

Why is it important?

A whole range of attitudes underpin the decisions made by individual operations, from uncertainty made worse by shifts to different commodities and types of agriculture to the knowledge that the next generation in a traditionally family business may not want to farm. In the best of circumstances, intergenerational transfer—the passing of the farm operation to sons and daughters—can be a challenge for the families involved and a critical moment in the farm's survival. Development pressure can mean lucrative alternatives to farming, for both the landowners and the young people making career decisions.

Regional Considerations

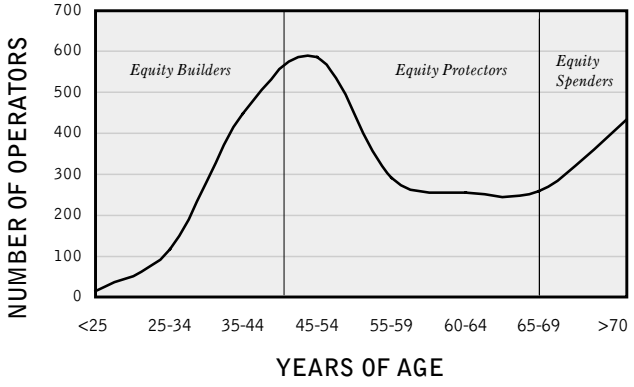
The average age of Hudson Valley farmers is 57, slightly higher than the statewide average of 54. The age distribution of the region's farmers is important when considering how, when and who will take over the reins of the industry. Based on his or her stage in the work-life cycle, a farmer's concept of investment and equity building can be fundamentally affected. Younger farmers tend to be equity builders (investors/risk takers) while older operators tend to be equity spenders as they spend down their assets during retirement. Farmers and farmland owners in the middle and later career brackets (ages 50 to 65) tend to focus on protecting their equity base from erosion as they plan for retirement. The land under control of the largest age cohort group of farmers can represent an increased vulnerability of the agricultural land base at a point in time—10, 15 or 20 years ahead—as this cohort group spends down its equity (land, equipment, etc.).

Even for those farmers whose children are interested in taking over the farm operation, careful estate planning is critical. Especially in areas near cities where land values are high or climbing rapidly, estate taxes can deal a fatal blow if not planned for. In addition, farmers in the region tend to treat the next generation of farmers as laborers until the parents (farm owners/ operators) pass away. In many cases, this leaves a middle-aged worker suddenly in charge of managing the farm without sufficient skills or access to resources.

An alternative scenario is that a portion of the next generation of farmers may indeed be new citizens from current waves of Hispanic and Asian immigrants, following previous generations of German and Italian immigrants. Another phenomenon is the "non-traditional" or "second career" farmers. These groups often bring different concepts of agriculture and can push market and/or product innovation. However, there are currently few effective programs linking these individuals with skills training, land, finance and mentors.

One issue that the project team feels is significantly over-emphasized in transition support programs for these groups is land ownership. Given current trends in the region, farm opera-

1997 Age of Distribution of Farm Operators



Impermanence Syndrome

Impermanence syndrome is a condition recognized by economists and industrial psychologists. The syndrome occurs when industries and individuals believe their status is declining and the situation is out of their control. As a result, they do not make the necessary investments in their businesses and do not employ best management practices. Ultimately, the defeated attitude becomes a self-fulfilling prophecy. The impermanence syndrome is a wide-spread phenomenon in agricultural areas near expanding suburban and urban parts of the country.

tors are increasingly divested from the land and are paying, in some cases, substantially less to lease agricultural property than they would to own the properties. Matching new farmers with willing lessors may prove to be a more advantageous strategy than trying to match new farmers with willing sellers of land.

Without investment in agricultural infrastructure, both on- and off-farm, the future of agriculture is in question. Introducing new capital into the industry will only happen when the industry, by virtue of a positive economic climate or by stage of life cycle, sees a clear economic incentive for such an investment. Bringing new farmers and young farmers into the community may be a good step in closing this loop.

Data and Models Used in the Report

This report assembled data from many different sources to provide a complete picture of the agricultural industry in Hudson Valley counties. The data are published by several different government agencies at varying time intervals. We sought to provide the most recent data available from each source, but the years on some statistics differ due to the various publication schedules.

We relied on the Census of Agriculture from 1987, 1992, and 1997 to provide details on farm numbers, farm acreage, vegetable production, and greenhouse and nursery production. These censuses are conducted in five-year intervals. (County specific data from the 2002 Census of Agriculture was not available at the time of this report.) In addition, data from the New York Agricultural Statistics Service was used for annual field crop estimates and dairy cow information from 1992 to 2001.

Data on farm sales, employment, and income from 1975 to 2000 also were collected from the Regional Economic Information System (REIS) from the U.S. Department of Commerce's Bureau of Economic Analysis.

Agricultural industry sector data on number of firms, employment and payroll were taken from the Bureau of Census County Business Pattern data sets from 1993 to 2000.

The IMPLAN model was used to estimate economic impacts of the various crop sectors. IMPLAN uses data from the population census, County Business Patterns, Regional Economic Information System (REIS) data, and especially the annual BLS ES-202 wage and employment data. All data sources for the IMPLAN model are based on 1997 information. IMPLAN is an inter-industry input-output model used to capture the inner-workings of local economies. The USDA Forest Service, in cooperation with other federal agencies, originally developed IMPLAN. To address the prohibitive cost of extensive primary data collection on local inter-industry purchases, IMPLAN and other "non-survey" modeling systems combine available data about the national economy with state and county level data to estimate the flow of goods and services through a local economy.

One of IMPLAN's strengths is the fact that it integrates many sources of data at different levels of aggregation into a comprehensive, internally consistent system that can be applied to any county or region in the United States. Although this integration requires numerous assumptions and estimations of data for specific industries in specific counties, great effort is made to make all estimates compatible with the most accurate available measured data.

References

ACDS, LLC. **Economic Trends and Impacts of the Agriculture Industry in Orange County, N.Y.** Columbia, M.D.: ACDS, LLC, 2003.

Alpern, Sherry. **Re-invigorating a Wholesale Farmers' Market in New York City: A Study by New York State Department of Agriculture and Markets.** New York, N.Y.: New York State Department of Agriculture and Markets, 2004.

American Farmland Trust. **New York Agricultural Landowner Guide to Tax, Conservation and Management Programs.** Saratoga Springs, N.Y.: American Farmland Trust, 2003.

Berkenkamp, JoAnne and Mark Lattanzi. **Harvesting Support for Locally Grown Food: Lessons Learned from the Be a Local Hero, Buy Locally Grown Campaign.** Amherst, M.A.: Community Involved in Sustaining Agriculture, 2003.

Bills, Nelson and Maureen Maloney Robb. **Farmland Protection Planning in New York.** Ithaca, N.Y.: Department of Applied Economics and Management, College of Agriculture and Life Sciences, Cornell University, 2001.

Columbia County Patterns for Progress Task Force. **Report of the Columbia County Patterns for Progress Task Force.** Saratoga Springs, N.Y.: The Saratoga Associates, 1999.

Dutchess County Agricultural and Farmland Protection Board. **Dutchess County Agricultural and Farmland Protection Plan.** Poughquag, N.Y.: Dutchess County Agricultural and Farmland Protection Board, 1998.

Goldsmith, Kate. **"Farming at a Crossroads."** Dutchess May/June 2003: 28-37.

Greene County Agricultural and Farmland Protection Board. **Greene County Agricultural Development and Farmland Protection Plan.** Catskill, N.Y.: Greene County Agricultural and Farmland Protection Board, 2002.

Glynwood Center. **The 2003 Countryside Exchange.** Cold Spring, N.Y.: Glynwood Center, 2003.

Greenberg, Jan. **Hudson Valley Harvest.** Woodstock, V.T.: The Countryman Press, 2003.

Ferguson, Kirsten. **Saving Working Landscapes.** Saratoga Springs, N.Y.: American Farmland Trust, Scenic Hudson and Open Space Institute, 2002

Kealy, Janet. **"The Hudson River Valley: A Natural Resource Threatened by Sprawl."** The New York Environmental Lawyer Winter 2003: 9-23.

New York State Legislative Commission on Rural Resources. **Columbia County Guide to Technical and Financial Assistance for Economic and Business Development Leaders.** Albany, N.Y.: New York State Legislative Commission on Rural Resources, 2002.

New York State Legislative Commission on Rural Resources. **Greene County Guide to Technical and Financial Assistance for Economic and Business Development Leaders.** Albany, N.Y.: New York State Legislative Commission on Rural Resources, 2002.

New York State Legislative Commission on Rural Resources. **Ulster County Guide to Technical and Financial Assistance for Economic and Business Development Leaders.** Albany, N.Y.: New York State Legislative Commission on Rural Resources, 2002.

New York State Senate. **Task Force for Hudson Valley Fruit Growers: White Paper Outlining Fruit Growers Action Plan, Second Draft.** Albany, N.Y.: New York State Senate, 2004.

Nolan, John. **Drawing the Boundaries of Growth.** Newburgh, N.Y.: Mid-Hudson Pattern for Progress, 2003.

Northeast Sustainable Agriculture Working Group. **Agricultural Policy in the Northeast States: Inventory and Innovation.** Belchertown, M.A.: Northeast Sustainable Agriculture Working Group, 2003.

Northeast Sustainable Agriculture Working Group. **Northeast Farms to Food: Understanding our Region's Food System.** Belchertown, M.A.: Northeast Sustainable Agriculture Working Group, 2002.

Orange County Agricultural and Farmland Protection Board. **Orange County Agricultural and Farmland Protection Plan.** Orange County, N.Y.: Orange County Agricultural and Farmland Protection Board, 1996.

Pendall, Rolf. **Sprawl Without Growth: The Upstate Paradox.** Washington D.C.: The Brookings Institution Center on Urban and Metropolitan Policy, 2003.

Robb, Maureen Maloney with R. David Smith and Nelson Bills. **Grow New York: Review of Neighboring County Farmland Protection Plans.** Ithaca, N.Y.: Cornell University, 2001.

Robb, Maureen Maloney. **Defining Indicators of Success for Agricultural Economic and Community Development Efforts.** Ithaca, N.Y.: Cornell University AIDER Program, 2001.

Robb, Maureen Maloney. **Defining Indicators of Success for Agricultural Economic and Community Development Specialists.** Ithaca, N.Y.: Cornell University AIDER Program, 2001.

The Trust for Public Land. **Report on Conservation Finance Options, New York Metropolitan Region: Catskills, Lower Hudson, Long Island.** New York, N.Y.: The Trust for Public Land, 2003.

The Trust for Public Land. **A Conservation Finance Ballot Measure for Orange County.** New York, N.Y.: The Trust for Public Land, 2003.

Ulster County Agricultural and Farmland Protection Board. **Ulster County Agricultural and Farmland Protection Plan.** Kingston, N.Y.: Ulster County Agricultural and Farmland Protection Board, 1997.

U.S Department of Agriculture National Agricultural Statistics Service. **2000 Direct Marketing Survey.** Washington, D.C.: National Agricultural Statistics Service, 2000.

American Farmland Trust

NORTHEAST OFFICE
6 Franklin Square, Suite E
Saratoga Springs, NY 12866
tel: 518-581-0078
www.farmland.org