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Fifty Years of Farmland Protection Legislation in the Northeast: Persistent Issues and Emergent Research Opportunities

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Over the past fifty years, several different types of publicly sponsored programs have been devised by state and local governments for the express purpose of encouraging owners to maintain land in an agricultural use. Although these units of government can, and do, wield considerable police power or regulatory influence, most attention has been given to voluntary, incentive-based approaches. First-generation programs were developed beginning in the mid-1950s, with state legislation centered on the provision of direct cash benefits via reduced property tax levies on farm real estate (Tremblay et al. 1987).

Such tax concessions, usually based on use-value farmland assessment, are now commonplace throughout the nation. State legislatures in the densely populated Northeast were early adopters of these tax concession programs, which exempt the nonfarm component of farmland value from the local real property tax. However, second-generation legislative initiatives keyed to farmland preservation/protection have evolved since the 1970s; an extensive menu of voluntary, incentive-based approaches has been created, usually with development rights purchases or conservation easements as their centerpiece. The Northeast is at the epicenter of these developments.

The purpose of this paper is to discuss those incentive-based policy initiatives, summarize some of the relevant applied research, and suggest further opportunities to assist policymakers with these persistent land use issues. The next

section provides a brief overview of food and agriculture in the Northeast, highlighting what we know and don't know about the status of the region's farming industry and its imprint on the landscape. Then, the farmland protection literature is summarized and critiqued. Finally, a concluding section identifies some issues that seem to warrant research attention going forward.

Farms and Farmland

Northeast agriculture has realized a long-term downward trend in farm numbers and land in farms. These decreases have moderated since the early 1990s and are not dramatically different from those in other regions of the United States, according to state-level data reported in the 5-year Census of Agriculture (USDA 2002). The Northeast's share of farms and farmland reported in the Census is not much different now than it was 30 years ago. Census data show much more variability at county level. Changes in county farmland acreage over 5-year Census intervals are routinely used by many in both the academic and farmland preservation communities to measure farmland loss. But, it is worth noting that not all acreage falling out of the Census is "lost" for agricultural pursuits, broadly defined. Rather, substantial acreages lurk on the edge of now antiquated USDA definitions of food and agriculture. Looking at definitions, the mainstay Census of Agriculture is outdated and ignores increasingly important sources of service income accruing to households with farming interests. These defini-

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tional problems are endemic but are relatively more acute throughout the Northeast.

The most prominent example is the Northeast's vibrant equine sector. Farm business operations that feature equine meet an uncertain fate in federal farm statistics. The Census and allied USDA data series concentrate on commodity sales. Horse farms are counted if they sell commodities, including equine. Many do not and vend services instead. This explains the steady appearance of statewide equine surveys, especially in states along the Eastern Seaboard. Northeast states with recent surveys include Delaware (Delaware Department of Agriculture 2004), Maine (Maine Extension Service 2000), Maryland (Maryland Agricultural Statistics Service 2002), New Hampshire (New Hampshire Farm Bureau 2002), New Jersey (Rutgers Equine Science Center 2007), New York (New York Agricultural Statistics Service 2001, New York Agricultural Statistics Service 2006), Pennsylvania (Swinker et al. 2003), and West Virginia (Hughes et al. 2004). These surveys and additional circumstantial evidence suggest that current data collection and reporting practices drive a wedge between published statistics and the facts on the ground for equine operations (Bills 2004). As a result, federal statistics on land cover diverge, sharply in some cases, from farmland uses reported in the 5-year Census of Agriculture. Several states have reported crop and pasture land uses at least 5 percent lower than the land cover estimates acreage reported in the USDA's 5-year National Resources Inventory (NRI) (USDA, undated). Discrepancies between land use and land cover mean that substantial crop and pasture acreages are falling outside the scope of the Census of Agriculture. Interestingly, all 13 Northeast states are represented among those states with substantial (more than 5 percent) discrepancies in reported crop and pasture acreage (Bills 2004).

Some of these differences are undoubtedly due to data-gathering procedures, but the larger issue is differences in definition. The Census definition of farm does not turn on land cover, as with the NRI, but upon the market value of farm product sales. Many equine operations look like farms, take up considerable acreage, but are not organized to generate business revenue. Others generate business revenue from the provision of services (riding, training, boarding, and so on). Revenues from the provision of such services are out

of bounds under prevailing farm definitions, and such equine operations are not regularly counted in the Census. In contrast, the NRI makes an accounting of the landscape dimension of such equine operations in determinations of land cover.

Looking beyond concerns with equine, the anecdotal evidence suggests that Northeast households with farming interests diversify in increasing numbers their businesses and regularly supplement commodity sales with income gathered by providing a range of allied services that range from recreation to hospitality. These activities are part of a general class of efforts to reach down the value chain and grow the business in ways that does not necessarily rely on expanded farm commodity production. The wider farm policy discussion, in turn, is alive with references to value-added farm production and prospects for industry survival through ag-based economic development efforts. In fact, concerns over the economic vibrancy of farm businesses have overtaken concerns with farmland preservation in many policy circles in the Northeast. For example, New York State has afforded counties the opportunity to engage in comprehensive planning for farm and food; to date, farmland protection plans have been prepared by Agricultural and Farmland Protection Boards in 45 of New York's 57 counties. These plans give farmland protection and agricultural economic development approximately equal weight and pave the way for concerted efforts to promote agricultural economic development statewide (Maloney Robb and Bills 2001, Bills et al. 2004b).

While the anecdotal evidence suggests that the value-added harvest is well underway for many farmers in the Northeast, the results are virtually impossible to track in published statistics. Current data sources are constructed using the farm business as the unit of observation; to look at the contributions of value-added we need more evidence that has the farm household as the unit of study. Then, one's analytical reach can extend beyond the commodity production component of the farm operator's income portfolio to take closely allied ag-based, value-added enterprise. Examples include wholesale-retail farm markets, food processing and manufacturing, and transport/trucking/delivery services.

Unfortunately, USDA data conventions are not robust enough to capture such complexities, and

the necessary core data to demonstrate these trends are missing (Streeter and Bills 2003). Along with the 5-year Census of Agriculture, the USDA's annual Agricultural Management Survey (ARMS) is crucial because it makes farm households the unit of study, and users can get a broader picture of income accruing to household members. However, ever larger amounts of self-employment income reported there cannot be partitioned to show how much of it is farm-related (Mishra et al. 2002). Consequently, USDA ARMS data mask growth of value-added production controlled by farm operators, with income accruing through the provision of transport, food manufacturing, and wholesale/retail enterprises.

Farmland Conversion

Challenges with basic data and intelligence extend well beyond the metrics used for defining agriculture and explaining its dimensions to audiences in the Northeast. Perhaps without exception, state governments in the Northeast are not investing in the core data needed to accurately monitor land conversions, either on a small area or regional basis. For example, New York State has not invested in a comprehensive inventory of land use/land cover since the late 1960s. Only with the advent of fully automated local property tax rolls and advances in geo-referenced data management (GIS) has the research community been able to catch a comprehensive glimpse of land use changes. Unfortunately, these tax parcel data are not always of research quality because local assessing officials must also grapple with accurate, up-to-date classifications of open space lands.

The conversation over farmland conversion rates suffers accordingly. The fallback position for most analysts is one of four federal sources, all of which conflict with each other. As mentioned above, the 5-year Census of Agriculture, now conducted by the USDA, produces land use information that directly contradicts, and increasingly so, baseline data on 5-year changes in land cover from the NRI. Land conversion estimates are also embedded in the decennial Population Census, with accounting made for settlement in "urban" territory (see Lubowski et al.

2006 for details). Finally, periodic surveys of land cover are also available from the consortia of agencies producing the National Land Cover Database (NLCD).

All of these data sources lurch in various directions, dictated not only by the facts on the ground but also by critical differences/shifts in definition and method. The USDA land cover estimates, coming from the 5-year National Resources Inventory (NRI), yield state-level land conversion estimates, but definitions of urban and built-up land uses cause the numbers to veer away from more conservative Census estimates (Lubowski et al. 2006). In turn, satellite imagery from the NLCD, the cornerstone of much current GIS-based analysis, dates to the early 1990s; an update was recently made available for a 2001 database, but users are not encouraged to make comparisons over this proximate 15-year interval because of methodological issues (Homer et al. 2007).

Despite these chronic data problems, many economic analysts are reasonably sanguine about patterns of land use and movements of active agricultural land to irreversible developed uses. This merely requires one to, either explicitly or implicitly, assume the problem away and imagine that differences in land in farms reported between Census periods represent "lost" farmland, i.e., acreage converted to developed use. For example, Liu and Lynch (2006) analyzed cross-sectional, time-series panel data for 269 counties in six Mid-Atlantic states, incorporating acreage reported as land in farms by the Census between 1949 in 1997. They concluded that the presence or absence of development rights purchased for development rights transfer programs for farmland likely generated more than a 40 percent reduction in the rate of farmland loss over this time-frame. They noted that "...some of the farmland lost could have converted to forest, tourism or recreational uses rather than residential or commercial uses. However, we are fairly certain that most counties with preservation programs were losing farmland to residential and commercial uses, thus irreversibly" (p. 23). The evidence for such confidence was not reported, nor was any mention made of the Mid-Atlantic region's robust equine industry which, as noted above, occupies sizable amounts of open space land but is routinely omitted from Census reports.

Farmland Protection Efforts

Policy interest in farmland protection ("preservation" and "retention" are terms used in many cases as well) in the United States is a "baby boomer" issue and evolved out of settlement patterns witnessed in the aftermath of World War II. Those years generated population spillovers from urban cores that coincided with dramatic changes in the structure of commodity agriculture. Those developments created a perfect storm for many rural communities throughout the Northeast. An immediate pressure point was the local property tax. New rural residents, along with the courts, pressured local governments to upgrade their property assessment procedures and update assessments of farm real estate. Tax levies also increased to fund growing public service needs. Owners of farm real estate sought legislative relief. In 1956, the Maryland state legislature made provisions for differential assessment of farm real estate for local property tax purposes (Hady and Siebold 1974). Differential assessment lowered tax bills by valuing property based on current farm use. The USDA and other organizations carefully chronicled these developments (for example, see Barlowe, Ahl, and Bachman 1973, Davies and Beldon 1979, Hady and Siebold 1974, Hady and Stinson 1967, House 1968, Tremblay et al. 1987). These tax concession programs rapidly proliferated across the United States and became the focus of scholarly and policy discourse around farmland protection.

The policy discussion has evolved and deepened over the years. A family of farmland protection policy tools has evolved (for a useful summary of those tools, see Freedgood 1997). This discussion made a very noticeable turn nearly 30 years ago after legislation promoted by the County Executive in Suffolk County, New York (on Long Island), in the early 1970s called for public purchases of farmland development rights [see Lesher and Eiler (1978) for an early and comprehensive discussion of the Suffolk County program]. The New York State Legislature passed enabling legislation for public acquisitions of partial ownership interests in open space land. This paved the way for a Suffolk County bond issue and negotiations with farmland owners on development rights purchases; several other states rapidly followed suit. Separated development rights,

acquired through either purchase (PDR) or transfer between owners (TDR), soon became the next big thing for farmland protection policy in the Northeast.

The response in academic and planning communities was swift and certain as well. Academic attention to differential assessment programs and allied programs for property tax avoidance dropped off precipitously, while charting progress with easement acquisitions on farm and other open space lands gained much currency. The shift in direction is ostensibly quite explainable on conceptual or policy grounds. First, differential or use value assessment (UVA) gets low marks for farmland protection in many quarters because enrollment is year-to-year and no promises on future land uses are exacted from participants. This means that, whatever effects the program might have on a landowner's decision for using the property, such effects will not necessarily be permanent. Permanency—indeed, permanency into perpetuity—emerged as a highly prized feature of the land use policy debate. Second, with or without the tax rollback provisions, if the benefited parcel is converted to a developed use—a feature in some but not all state programs—the accumulated research literature is usually interpreted to say that financial benefits are not large enough to materially influence even a near-term land conversion decision (Tremblay et al. 1987).

A recent study by Duke and Lynch (2006) is representative of this stance: these authors cite four studies, dating to the late 1980s, in support of their conclusion that the evidence is "mixed" with respect to the effects that UVA exerts on conversion rates and land values. Interestingly, however, the tie that binds these five commonly cited studies together is not method but an absence of core data on UVA enrollments and the concomitant tax expenditures (property taxes foregone) by local governments. Chicoine, Sonka, and Doty (1982) analyzed different assessment regimes using a simulation model for an individual farm; Blewett and Lane (1988) looked at agricultural census data on property taxes paid by farmers; Parks and Quimio (1996) used a state-level time series on overall effective property tax rates in New Jersey; Heimlich and Anderson (2001) simulated differences between market and use value of farmland based on a presupposed index of population pressure; and Lynch and Car-

penter (2003) incorporated dates of UVA inception at state level into an econometric analysis of panel data calibrated to the 5-year Census of Agriculture.

Analyses of these various types, while useful and suggestive, appear to be good candidates for reaffirmation with hard evidence. Estimates of tax expenditures associated with New York State's UVA program, based on actual parcel enrollments, size of exemption, and tax levies, pegged taxes avoided in New York State in 1995 with UVA at \$51.2 million (Bills et al. 2004a, Bills and Gross 2005). This sum compares to a \$26.9 million estimate for New York by Heimlich and Anderson (2001), suggesting that their approach underestimates the benefits accruing to enrolled New York farmland owners by about 90 percent. Unfortunately, there is little reason to doubt that the USDA-ERS estimates for other states and regions were wildly inaccurate as well. In addition, in the New York case, provisions are also made for a 10-year property tax exemption on new or newly constructed farm buildings and an innovative refundable state income tax credit on the taxes bona fide farmers pay for local elementary and secondary education; tax expenditures generated by tax avoidance options for New York State farmland owners—exemptions on land and buildings and refunded school taxes—generate over \$130 million in benefits to New York State landowners each year (Bills et al. 2004a). These tax expenditures dwarf yearly State outlays for purchases of farmland development rights.

The situation elsewhere in the Northeast is more problematic. This may be partially attributable to, once again, data issues. Not all local property tax records are readily accessible, thus making researches based on more accessible data look more attractive. Also, the local property tax and its management can be a politically charged topic, especially in states with local governments that are highly dependent on property tax levies. Finally, although the Northeastern United States generally enjoys a well-earned reputation for high population densities and high public service costs, there are some dramatic differences in arrangements for local public finance across the region. According to data obtained from the U.S. Census Bureau, the top 10 states in per capita property taxes collected in 2005 were, in order, New Jersey, Connecticut, New Hampshire, New York,

Wyoming, Vermont, Rhode Island, Maine, Massachusetts, and Illinois (New York State Business Council 2007). Noteworthy absences on this list are Pennsylvania, Maryland, and Delaware; these Northeast states, somewhat surprisingly, rank 21, 27, and 43, respectively, in per capita property tax collections.

What Are the Priorities for Easing Open Space Land?

In sharp contrast, Pennsylvania, Maryland, and Delaware operate the nation's most highly touted state farmland PDR programs, accounting for 60 percent and 52 percent, respectively, of the acreage and money obligated to date east of the Mississippi River (American Farmland Trust 2007a). But discussions and summaries of farmland easement purchases tend to be piecemeal and overlook the larger picture. Easements are an enduring, long-lived feature of American property law. Restrictive easements and encumbered property deeds, executed for any number of purposes, are recorded and stored in county courthouses across the land in untold and unreported numbers.

Efforts to ease development rights on farmland began just 30 years ago, when, as noted above, Suffolk County, New York, launched the nation's inaugural farmland purchase of development rights program. Several states along the Eastern Seaboard, and a few in the West, followed suit; local governments in a few states have been actively engaged in farmland acquisitions as well. Since that time, according to the American Farmland Trust (2007a, 2007b), about 1.8 million agricultural acres nationwide have been brought under this form of easement, at an estimated cost of about \$2 billion (a great deal more if expressed in present value terms). This effort has been fueled primarily with public funds. Nonprofit organizations (land trusts in many cases) acquire farmland easements as well. The dozen top programs, mostly in the Northeastern United States, have accumulated more than 20,000 easement acres each (Sokolow and Zurbrugg 2003). These farmland protection easements have received an enormous amount of attention from academic, planning, and lay audiences; a huge and rapidly evolving literature has accumulated on agricultural development rights and the techniques used to encumber them

(e.g., Daniels 1991; Daniels and Bowers 1997; Farmland Preservation Report, various issues; Gutanski and Squires 2002; Hellerstein et al. 2002; Rilla and Sokolow 2002; Sokolow 2006a, 2006b; Sokolow and Zurbrugg 2003, 2006; Wiebe et al. 1993).

Since a comprehensive reporting system for easements does not exist, there is no convenient way to place state/local efforts to purchase farmland easements in a wider and hence more appropriate policy context. This wider context is crucial for policymakers because, as Hellerstein et al. (2002) point out, numerous programs complement farmland easement acquisitions by targeting preservation of other open space lands and other rural amenities. These wider considerations also help explain the priorities observed in existing state-operated farmland protection programs.

Hellerstein et al. (2002) conducted case studies in five Northeast states (Maryland, Massachusetts, New Jersey, Pennsylvania, and Vermont); the cases appear to have entailed a review of several, but only selected, rural land programs operated by state and local governmental agencies. To engage in that overarching assessment of protected open space land, an exhaustive inventory was conducted for New York State. The inventory showed that conservation restrictions/easements on open space land now exceed 600,000 acres after accounting for both farm and forest land uses and the increasingly vibrant easement programs operated by third-party local and regional land trusts and conservancies (Bills et al. 2004). The results contrast very sharply with the piecemeal descriptions of program activities now commonplace in the mainstream academic literature on farmland protection. The standard reference in the literature—periodic inventories of state and local easement purchase programs conducted by the American Farmland Trust (2007a, 2007b)—cover less than 10 percent of the total open space land under easement in New York State.

Finally, an even broader context for conservation lands extends beyond the territory encumbered by conservation easements and accounts for acreage presently protected for conservation purposes through full ownership interests. These full ownership interests are held by a combination of federal, state, and local governments and non-profit third parties. These interests, combined

with easement acreage, total about 5.4 million acres, or 18 percent of New York's total land area (Bills et al. 2004).

Farmland Easement Purchases and the Continuation of Farming

Compared to forest and other open space lands, easement purchases on active farmland hold special promise for the taxpaying public: continuing food and fiber production, and an active, working landscape. Fulfilling that promise draws attention to what can be called the “backend” issues surrounding their purchase. Namely, these programs deny opportunities for land development in perpetuity, but do they, in the end, ensure long-term farm and food production? Early reports have been enthusiastic in some cases. Ferguson and Cosgrove (2000) reported that recent farmland easement purchases in Vermont have improved morale among participating farmers, induced new investment in the farm business, and increased prospects for economically viable farm businesses going forward. However, Maynard et al. (1998) inquired about early experience with easements in Pennsylvania and reached more guarded conclusions. They found that the Pennsylvania program, in general, did not seem to lead to many changes in farming operations. Similarly, the Pennsylvania study concluded that the longer-term fate of preserved farms is uncertain. Wichelns and Nakao (2001) conducted a similar study of eased farm properties in Rhode Island and reached equally tentative conclusions.

More recent work sponsored by the American Farmland Trust (Sokolow 2006b) does much to help inform the emergent policy discussion on backend issues. Looking at 46 easement programs in 15 states across the United States, Sokolow reached somewhat disturbing conclusions from the perspective of program administration. He found that most of the programs analyzed are not prepared for the long-term job of protecting the continued viability of their holdings and preventing or responding to problems of noncompliance with easement restrictions. The situation is often uncertain because insufficient resources are going toward stewardship activities, as seen in inconsistent and incomplete efforts to periodically monitor the conditions of easement properties. Further,

Sokolow projected a likely increase in easement compliance problems in the future and suggested that more resources should be directed to monitoring and other stewardship activities. The monitoring, according to Sokolow, should include better data on changes in parcel ownership and stronger efforts to work with new landowners of eased land parcels.

Sokolow (2006b) also points to other fundamental issues surrounding the ultimate fate of eased open space parcels. Namely, not unlike criticisms regularly leveled at longer-lived sister programs for use value farmland assessment, do easement programs really insulate landowners from the vagaries of operating a viable farm business and ensure the continuance of active agriculture? He found that testimony from program administrators/observers on the ground was mixed; respondents pointed out that continued vibrancy would depend on how one keeps score on farm activity. In particular, along with incentives to switch commodity production to higher-valued crops on eased farm parcels, a growing tendency for resale to equine operations on the eased properties was also documented in several cases; in turn, any program amendments that would ease restrictions on equine land uses were thought to boost chances for maintenance of a working landscape in the longer term. It is especially noteworthy that, among 25 programs where Sokolow (2006b) found some definitive information on land transfers and cropland uses, nine programs featured prominent movement to equine operations.

Discussion

The ongoing public debate over land use and the public stance on farmland protection will continue to be fertile ground for economic analysts going forward. A recurring theme in this paper is that the academic community should intensify its efforts to sift through the available evidence on land use changes and how they are influenced by alternate policy instruments. There are formidable obstacles to incisive research on public objectives for open space land parcels. A stronger partnership and a more vigorous dialogue with data providers will be needed. Marginal changes in definition and scope of ongoing data collection efforts could materially increase the precision of our analyses of land use changes, along with more

insight on the benefits and costs associated with policy interventions to enhance farmland retention. Data needs stressed here include a more expansive accounting of service income accruing to households engaged in agricultural pursuits. Another acute need is an effort to rethink how services provided by equine thread through rural communities in the Northeast. Similarly, more incisive evidence on value-added production by businesses with farming interests will provide an avenue for a more holistic vision of the industry. That wider vision and its implications for a working landscape needs to find its way into ongoing applied research efforts. Such developments will help set the stage for a rebalanced discussion of land use policy options at the state and local level throughout the region.

Going forward, increasing tension can be expected around issues for the real property tax in many parts of the Northeast. A re-examination of tax expenditures, the benefits accruing to landowners receiving property tax concessions, and their prospects for promoting effective management of open space land is warranted. This re-examination should, in some cases, include more consideration of the interplay between property tax relief and restrictions on land conversions. Intense interest in perpetual restrictions on land development through easement purchases, now the norm in the farmland preservation community, should not preclude consideration of some alternatives. An important direction could be more scrutiny of term (less than perpetual) development easements, perhaps granted in return for property or income tax concessions.

Over the last three decades, a vast literature has accumulated around public purchases or transfers of farmland development rights. The academic community has been instrumental in efforts to kindle enthusiasm for very sizable public outlays of funds to acquire and hold these partial interests in perpetuity. Going forward, more needs to be known about the interplay between these programs and other, often more robust, efforts to protect other classes of open space lands. In addition, much more needs to be done to anticipate and inform an emergent and growing interest in the true social contract for these lands. Is the long-term promise of perpetual farmland easements about farm and food production or is it about open space protection?

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