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Gauging Support for Innovative Farmland Preservation Techniques

by

Joshua M. Duke and Lori Lynch

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Corresponding Author:

Lori Lynch (LLynch@arec.umd.edu)

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Department of Agricultural and Resource Economics
2200 Symons Hall • University of Maryland • College Park, MD 20742-5535 • USA • Tel. (301) 405-0057

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Joshua M. Duke
Food and Resource Economics, Legal Studies, and Economics
University of Delaware
Newark DE 19716-2130
P: 302-831-1309
F: 302-831-6243
duke@udel.edu

Lori Lynch
Agricultural and Resource Economics
University of Maryland
College Park MD 20742
P: 301-405-1264
F: 301-314-9091
llynch@arec.umd.edu

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Abstract

This paper describes four innovative farmland preservation techniques and gauges support through interviews of key stakeholders: program administrators, lawmakers, and landowners. Four techniques were selected for assessment from approximately 30 novel techniques: rights of first refusal; term conservation easements; land preservation tontines; and agricultural conservation pension. Rights of first refusal was the most favored, although respondents thought effective implementation would need targeting of land and a dedicated funding source. Agricultural conservation pension was also viewed favorably, although considered administratively difficult to implement. Tontines were perceived to be an interesting concept, but confusing, difficult to implement, and ill-defined. Term easements were viewed unfavorably because they did not preserve land permanently.

Introduction

Beginning in the mid-1950s, concern about the loss of farmland led to the creation of various farmland protection policies. Farmland preservation programs have sought to preserve a productive land base for the agricultural economy, to preserve the amenity values of open space and rural character, to slow suburban sprawl, to provide wildlife habitat, and to provide groundwater recharge in areas where suburban development is occurring (Bromley and Hodge 1990; Fischel 1985; Gardner 1977; McConnell 1989; Wolfram 1981; Duke and Aull-Hyde 2002; Kline and Wichelns 1998). A recent national analysis of state preservation program enabling legislation found that states indicate five important goals (with the first three appearing most frequently): food security, environmental services, protection of rural amenities, planned development patterns, and a healthy local economy (Hellerstein et al. 2002).

Preserving farmland has widespread support among the public. Stated preference and other valuation studies have found significant willingness to pay for land preservation (Beasley, Workman, and Williams 1986; Bowker and Didychuk 1994; Ready, Berger, and Blomquist 1997; Bergstrom, Dillman, and Stoll 1985; Halstead 1984; Duke and Ilvento 2004; Johnston et al. 2001; Johnston et al. 2003). Public choice research on the voting outcomes also indicates public support (McLeod, Worihaye, and Menkhaus 1999; Kline and Wichelns 1994). According to Land Trust Alliance (2002) data, U.S. voters have continued to pass ballot initiatives to fund open space and farmland preservation: in 2002, \$5.7 billion in conservation funding was authorized; in 2001, \$1.7 billion; and in 2000, \$7.5 billion. Furuseth (1987) also found that citizens living near farmland support preservation programs.

Support for preservation manifests in the proliferation of techniques to retain farmland, notably agricultural zoning, preferential property taxation, purchase of development

rights/agricultural conservation easements (for simplicity, PACE), and transfer of development rights (TDR). All 50 states now have some version of preferential taxation for agricultural land. More than 110 governmental entities have implemented TDR and PACE programs to preserve farmland permanently (AFT 2001a,b,c). As of February 2001, at least 20 states preserved 806,300 acres with agricultural land preservation programs, while local government programs preserved 190,839 acres (AFT 2001a,b). Spending on preservation in both state and local programs equals \$2.4 billion (AFT 2004). Twenty-four states permit agricultural zoning, six states have implemented growth management statutes that address farmland conversion, and sixteen states have agricultural district laws with a variety of incentives to encourage farmers to participate (AFT 1997).

Despite these established policies, there remains a seemingly broad and vocal consensus lamenting that too much farmland is being converted and that new and innovative techniques are needed.¹ The principal reasons given, which support the call for new techniques, are that: (1) PACE is too expensive; (2) TDR is not effective; and (3) preferential taxation only slows the rate of farmland loss but does not permanently retain the land (MALPF Task Force 2001; Gardner 1994; Lynch and Carpenter 2003; Blewett and Lane 1988; Parks and Quimio 1996; Heimlich and Anderson 2001). Some argue that existing techniques are insufficient (Adelaja and Schilling 1999), while others explicitly call for new techniques in urbanizing areas (Parks and Schorr 1997; Diaz and Green 2001) or the use of multiple techniques (Beesley 1999; Feitshans 2003; Daniels and Nelson 1986; Brabec and Smith 2002). Moreover, Daniels and Lapping (2005) claim that some regulatory approaches have actually exacerbated the problems preservation seeks to address. Similarly, Geoghegan, Lynch, and Bucholtz (2003), Irwin (2002), and Roe,

¹ This paper does not address the larger issue of whether farmland preservation is socially optimal or how many acres should be preserved. Mulkey and Clouser (1987) provide an introduction to challenges of conceptualizing the efficiency of preservation.

Irwin, and Morrow-Jones (2004) find that preservation efforts can generate positive amenities for adjacent homeowners and may increase demand for housing near preserved parcels, which makes achieving the goals of preservation more difficult.

The published literature finds that existing techniques are either ineffective or not very effective and that many do not address the goals of farmland retention (e.g., Beesley 1999). For example, spillover effects and farmland fragmentation led Pfeffer and Lapping (1995, 85) to argue that “without strict zoning regulations farmland often becomes parcelized” and that “a ‘checkerboard’ distribution of farmlands” occurs such that farmers cannot operate at optimal scales. This suggests that a critical mass of adjacent farmland should be a goal of farmland preservation techniques and a rationale for prioritization for funds (Lapping 1979; Daniels and Lapping 2001). Even with this as a goal, however, programs do not often achieve it (Lynch and Musser 2001). Furthermore, different techniques may be needed in different areas (Beesley 1999).

Given this backdrop, this paper describes and investigates support for four innovative preservation techniques: (1) term conservation easements; (2) land preservation tontines; (3) rights of first refusal; and (4) agricultural conservation pension with PACE. These techniques were selected so as to satisfy the goals of most farmland preservation legislation (Hellerstein et al. 2002), including the overall goals of maintaining the agricultural economy by preserving productive and profitable farmland, retaining open space, and limiting sprawl development (dealing with the population growth in a way that does not consume farmland at an excessive rate). These goals have been characterized by whether they maximize the number of acres preserved, preserve productive farms, preserve farms most threatened by development, and preserve large blocks of land (Lynch and Musser 2001). In addition, new techniques must be

attractive to those landowners who have not chosen to participate in the existing preservation programs.

This research deviates from previous research in several ways. Three existing studies were identified that surveyed planners and/or other experts; Pfeffer and Lapping (1994) interviewed planners, Diaz and Green (2001) surveyed local officials, and Beesley (1999) surveyed, mainly, professors and planners. Zollinger and Krannich (2001) interviewed and surveyed landowners about their attitudes towards preservation techniques. In a Wyoming survey, Inman and McLeod (2002) estimated an empirical model explaining support for public versus private solutions to agricultural land-use problems and, surprisingly, found that landowners support public approaches when one controls for acreage owned. This study extends these efforts with parallel interviews of three groups of key stakeholders—farmland owners, lawmakers, and program administrators.

Beesley (1999) found that politicians and farmers are most important in the preservation process, followed by government agencies and planners. The interview approach differs from the studies examining public support for preservation (mentioned above) and the studies explaining why landowners did or did not participate in an existing farmland preservation program (Phipps 1983; Pitt, Phipps, and Lessley 1986; Conrad and LeBlanc 1979; Rilla and Sokolow 2000; Lynch and Lovell 2003), which most often used survey data and reference single, more-common programs. In our study, respondents were asked baseline questions about what the landscape should look like, how much farmland is needed, and what preservation goals should be. Then, respondents were asked specific questions about the techniques themselves.

Third, this research specifically examines attitudes toward new techniques, while three other studies focus on more traditional techniques (Pfeffer and Lapping 1994; Diaz and Green

2001; Beesley 1999). Fourth, the techniques chosen for evaluation satisfy many of the goals and attributes identified by the demand-side, stated-preference, and other studies of farmland preservation. The four innovative techniques described and assessed may offer a way to lower the costs of preservation activities, increase participation, and/or increase the acceptability of preservation techniques (and thus political feasibility) among key stakeholders.

This paper is organized as follows. The four techniques are described in the second section. Then, the data collection methods and interview instrument are described in the next section. The fourth section presents the results of the interviews. Likely acceptance is evaluated by analyzing the responses from the interviews with key stakeholders. The section also offers synthetic results from the respondents. A final section concludes.

Conceptual Framework: Four Preservation Techniques

Duke and Lynch (2006) describe and classify 29 distinct preservation techniques in four types—regulatory, incentive based, participatory, and hybrid. Regulatory techniques define agricultural land markets by specifying the maximum intensities of both agricultural and nonagricultural land uses. Incentive-based techniques increase the costs facing landowners who convert agricultural land or lower the costs facing landowners who pursue socially desirable preservation goals. Incentive-based techniques differ from regulatory techniques in that they do not alter the institutional structure of markets; they simply alter relative prices within markets. Participatory techniques involve the government acting as a demander (buying land fee simple) or supplier (selling land with an easement attached) in a land market. Hybrid techniques combine the characteristics of two of the preceding types of techniques.

This section describes two types of participatory techniques: **rights of first refusal** and

term conservation easements. One incentive-based technique and one hybrid technique are also evaluated: the **land preservation tontine** and the **agricultural conservation pension**.

Table 1 offers a summary evaluation for the four techniques from Duke and Lynch (2006). In effect, these claims provide hypotheses to be compared with data collected from landowners, administrators, and the lawmakers. The results show that most of the hypotheses proposed in table 1 are supported by the stakeholders. However, some were not. For example, landowners did not support term easements, and administrators suggested that the agricultural conservation pension would be too difficult to implement. For some techniques, it was unclear whether the hypotheses were supported or refuted because the subjects could not provide well-constructed opinions. More details on the specific program design were needed for them to make a complete evaluation.

Rights of First Refusal

Rights of first refusal (ROFR) enable agencies to match offers that agricultural landowners receive from developers (Malcolm, Duke, and Mackenzie 2005). ROFR ensure that agencies are “at the bargaining table” whenever landowners decide to sell for development and allow an agency to decide whether to match the price negotiated between the developer and the landowner. If the offer is matched, the agency prevents a conversion and buys the land. Unlike other preservation programs, the government does not pay any money—or, only nominal sums for the right—until an offer has been made, the farmer has decided to sell, and conversion is imminent. ROFR should be a cost-effective land preservation tool because only those parcels actually threatened with conversion are targeted.

After purchasing those parcels deemed desirable, an agency can resell the land for an

agricultural use with an easement attached and thus only bear the costs of the conservation easement. ROFR are classified as a government-participatory technique because a state agency participates in an existing market for lesser rights in land (Duke and Lynch 2006) and can be linked to other programs. For instance, agreeing to ROFR could be a condition for participating in a use value assessment program. Or, the government could use eminent domain to obtain ROFR in key areas. This technique could be voluntary or compulsory in a targeted area.

Developers may be opposed to this technique since they invest resources in developing offers. It also could decrease the supply of land available, which will increase the price of developable land. Agricultural landowners and developers also could potentially collude to increase the price of the land. Implementation challenges may arise. For example, administrators would need to justify the purchase of individual parcels. Purchasing the land is more expensive than purchasing development rights. Furthermore, once purchased, administrators would either need to sell the land with easements attached (potentially taking a loss) or manage the property with all the inherent staff and resources needed.

Term Conservation Easements

Term conservation easements preserve land by allowing a government or nonprofit agency to pay landowners a rental fee in exchange for a negative easement, prohibiting a set of activities associated with development for a set period of time. Duke and Lynch (2006) classify this as a governmental-participatory land preservation technique because the government acts as a participant in an existing market for lesser rights in land. Agricultural landowners are familiar with buying and selling leases to farmland for production and conservation. Some landowners who chose not to participate in PACE might be attracted to a “lease” of conservation easements

because it is familiar and because it is for a temporary period.

These leases should be less expensive (per year and for the set period) than PACE because there is no permanent commitment. In this sense, term easements could be used to preserve, at a lower cost and temporarily, critical areas during periods when there are insufficient funds for higher levels of preservation. Moreover, because participation ought to be greater under the shorter time frames, leases could be used in a similar fashion to moratoria to stabilize a particularly threatened region until a more permanent solution could be adopted. However, given that some landowners do not participate in PACE because of perceived obstacles or insufficient payments paid, these landowners may actually need higher payments to participate in a term conservation lease than existing PACE participants.

Land Preservation Tontines

An agricultural land preservation tontine is a contract that internalizes the negative pecuniary and technological externalities² that one agricultural landowner who converts imposes on neighboring owners remaining in agriculture. Specifically, the tontine provides incentives for owners to maintain agricultural land use through:

- (1) claims to a fund that owners forfeit when they convert (prototypical version); or
- (2) claims to a penalty that converting owners pay to owners remaining in agriculture (alternate version).³

² Several impacts on remaining farmers arise from conversion. First, conversion brings residents into agricultural areas so that remaining farmers likely operate below their most intensive, profitable level to prevent agricultural nuisance lawsuits. Second, these changes are capitalized as a lower value for remaining lands in agriculture land use, which in turn raises the incentive to convert. The impact of conversion also may lower or raise the value of land in developed use, depending on several factors in the land market. The authors contend it is likely that the value of agricultural land in developed use rises as neighbors convert. Hence, the incentive to convert increases further.

³ Michael McGrath, a planner with the State of Delaware, first sketched the alternate version of this technique in the following scenario. Assume 10 farmers agree to the land preservation tontine contract and assume that there is no

Duke and Lynch (2006) offered an original development of the prototypical version after they were unable to find a written source that describes the use of tontines for agricultural land preservation. This paper evaluates the prototypical version. Tontines address the external effects that neighboring agricultural landowners have on one another rather than acting as a method of providing the amenities and environmental benefits (public goods) from farmland preservation. They could be used alone or in conjunction with other preservation techniques.

The land preservation tontine provides an increasingly powerful incentive because, as more of their neighbors convert, the pool of remaining owners shrinks and their payouts rise with the last owner of agricultural land “winning” the entire fund. Tontines are essentially contracts among owners rather than an interaction between landowners and governments. The conversion decision of any one agricultural landowner in productive areas affects the viability of his or her neighbors’ operation—even though that landowner has the right to convert. In this sense, tontines are designed to achieve a key preservation goal of avoiding the fragmentation, and maintaining a critical mass, of agriculture land.

Agricultural Conservation Pension

Since many agricultural landowners say the equity in their land is their retirement fund (Lapping 1979), one assumes that, if their retirement could be financed another way, then the owners would not need to sell for development when they retire. The pension plan concept guarantees retirement income to farmers who attach an easement to their land as well as other benefits. The guaranteed income attenuates the risks owners face if their accumulated savings is

initial capital. If one owner sells to a nonfarmer or gets a subdivision plan approved, then the remaining nine share 10 percent of the proceeds. In this version, there is no need for any member or the government to establish a cash fund.

too low to retire merely on the proceeds of selling their land for its agricultural value rather than its development or market value. In addition, the expected value of the pension may be higher than the expected returns to selling land. States are better positioned to insure against cyclical savings risks than individual farmers because they can pool risks over the population of farmers and/or state employees. This technique also benefits the taxpayers by spreading the financial burdens of PACE over a long period of time.

Duke and Lynch (2006) classified this technique as a hybrid of an incentive-based technique (pension incentive) and a participatory technique (government participation in the market for less-than-fee-simple rights in land). Two general versions are the pension tied to the land as an annuity and the pension tied to the owner.

In the annuity version, described by McGrath (see footnote 3), a pension runs with the land rather than a specific owner. If one farms for X years in the program, the pension runs for X years. In the owner version, the payments would be tied to an individual/couple and act as a pension from a retirement age (say, 65 years) until the person's death. This version takes advantage of the risk-pooling benefits of the state. In both versions, the easement restriction is permanent.

Alternatively, the program could be designed as a reverse mortgage, which converts the value of the conservation easement into cash to live on during retirement. In this case, the owner could extract a percentage of the land value each year to finance living expenses. The government could ensure that these payments will continue for the life of the owner and/or spouse in exchange for an easement or outright sale of the land. When the owners die, the estate would be settled so that the land is sold for farming purposes and the following owner would not be eligible to participate in the pension plan. During the interviews, the respondents were

initially presented with the “owner” version, but many variations arose in the discussions. As such, the comments presented below were more exploratory than a definitive reaction to a single version of the technique.

Data

Data for this study were collected using interviews of various stakeholders and decision makers. In-depth individual or small-group interviews were conducted with four landowners, four lawmakers, and six administrators. Of these, nine were male and five were female. Sample statistics are presented in Table 2.

The same instrument (script of questions) was used in each interview, although the emphasis on specific items in the instrument varied in response to the dynamics of the interview process. Program administrator and landowner interviews began with several baseline questions about preservation preferences: (1) What should the agricultural landscape look like?; (2) How much agricultural land is needed?; and (3) What should the goals of farmland preservation be?

Then, the enumerator would describe a technique in disinterested terms and a series of questions would guide discussion of that technique:

1. Do any aspects of program X appeal to you?
2. Do you find any aspects of program X to be not appealing (or objectionable)?

Landowners were asked these additional questions:

1. Would you consider participating in program X?
2. Do you think your neighbors would consider participating in program X?
3. What would participation hinge upon?

Administrators were asked these additional questions:

1. What aspect of X is easy (or hard) to administer?
2. What aspect of X is easy (or hard) to fund?
3. What is your perspective on constituents' support or opposition to this program?

Lawmakers were asked one additional question:

1. What is your perspective on constituents' support or opposition to this program?

Interviews with all three groups concluded with a question asking for a specific comparison about which technique is the most attractive. Interviews lasted between 45 minutes and two hours. Each session was tape recorded and then transcribed.

Results

All three stakeholder groups thought ROFR was most appealing in terms of both cost and acceptability. Although significant implementation hurdles were noted, the interviewees had the ideas and motivation for overcoming these challenges. In contrast, no group found term conservation easements appealing and many respondents found the temporary nature of the program to be a fatal flaw.

Most respondents viewed the land preservation tontine technique as interesting but too unusual to be acceptable, and they noted significant implementation challenges. Tontines were described only in general terms and, not surprisingly, many respondents had trouble understanding the concept. This result is similar to Zollinger and Kranich's (2001) finding that PACE programs were generally unpopular and were only acceptable to those landowners who were already familiar with them. Almost all respondents found the agricultural conservation pension to be an attractive technique. Like tontines, however, most wanted further details to determine how acceptable and cost-effective it would be in practice. The main concerns

involved the formula for turning land value into pension payments and the method for compensating the successors in interest (to the land) or survivors (of the owner). For both tontines and the pension plan, the technique could be redesigned to be more specific and then further research may be warranted.

General Perceptions about Preservation⁴

Collectively, administrators express a broad, yet nuanced, vision for the agricultural landscape (Table 3). Landowners, in contrast, were more interested in the details of land use planning and the state land preservation process. While landowners expressed preferences for some landscape attributes, they did not articulate specific preservation goals. Administrators offered many goals for farmland preservation, classified here as agricultural, orderly development, and other goals. The administrators lack agreement on the importance of aesthetic and open space services. Balancing these competing goals was a challenge noted by Pfeffer and Lapping (1994) in their survey of planners.

Both landowners and administrators supported using preservation to perpetuate a historically agrarian landscape while allowing agricultural uses to evolve over time. Landowners expressed frustration with the state using eminent domain powers for roads. The importance of eminent domain to these landowners reinforces Beesley's (1999) concern that the effectiveness of a technique will be affected not only by the incentive structure of the technique, but also by external conditions affecting the agricultural region and other public policies. Landowners were especially concerned about changes currently occurring in agricultural areas and the recent escalation in land prices for development.

Following the discussion of general views about farmland preservation, the three groups

⁴ This set of questions was asked only of the landowners and program administrators.

were asked the scripted questions about the four techniques. The following subsections synthesize each group's thoughts about the techniques. In addition, Tables 4-6 contain the specific comments made by administrators, lawmakers, and landowners, respectively. The rows in these tables represent the interview questions outlined in the data section, while columns refer to techniques. Comments in each cell are further organized in terms of three main challenges associated with preservation techniques identified in Duke and Lynch (2006): (1) cost, i.e., whether the technique is perceived to be more or less cost-effective; (2) acceptability, i.e., to landowners and other interested parties; (3) timing, i.e., in terms of both enrollment, permanency, etc.; and (4) other relevant comments about acceptability.

Rights of First Refusal

ROFR held appeal for this sample of administrators, lawmakers, and landowners. Administrators were enthusiastic about the cost effectiveness of ROFR and the possibility of targeting (i.e., prioritizing) important agricultural areas. Yet, this group expressed concerns about obtaining dedicated funds for this program and the potential for abuse by owners and developers. Most administrators agreed that a successful ROFR program would need to prioritize parcels at the outset. Targeting is a complex challenge; Pfeffer and Lapping (1994) argue that preservation as a growth management tool can be affected by market forces, which makes it difficult to target agricultural acres deemed most desirable. Furthermore, Kline and Alig's (1999) empirical analysis shows that it is unclear how effective land-use planning is in preventing development in exclusive agricultural areas. Other implementation challenges would include monitoring land sales, enforcing contracts, and managing land bought fee simple. However, the administrators had thoughts on how best to address these challenges. The

implementation challenges are best addressed when the highest levels of government coordinate planning across local governments (Carruthers and Ulfarsson 2002).

Lawmakers also found the ROFR technique to be appealing. Like administrators, lawmakers suggested that prioritization was important and could possibly be achieved through existing, high-level plans such as Livable Delaware. They also stressed the need for dedicated funding to avoid a “cash crunch” when a parcel became available. Landowners had more reservations but valued the voluntary nature of ROFR.

Term Conservation Easements

Term conservation easements found little favor from administrators, lawmakers, and landowners. Most respondents viewed negatively the temporary attribute of term easements relative to the permanence of PACE. Although some respondents identified important benefits of the technique—such as attracting new participants—most respondents viewed the temporary nature of term easements to be a fatal flaw. This flaw likely explains most of the respondents’ disapproval and contrasts with previous results on support for the similar, but permanent, PACE technique; Pfeffer and Lapping (1995) report that planners thought 45 percent of farmers would support PACE. Few respondents thought new funding for the term conservation easements could be obtained.

Administrators did not support this technique, although they acknowledged certain benefits. Specifically, term easements might enroll a large number of acres at a low cost, thus buying time to employ alternate preservation techniques, and might attract new participants who are wary of long-term commitments. Nonetheless, administrators perceive this technique to provide merely temporary benefits with the same or even higher administrative costs than PACE

because of anticipated higher levels of monitoring and enforcement. Overall, term easements would have questionable cost effectiveness and, for this reason, would be tough to sell to lawmakers and the general public. The administrators lacked consensus about whether the technique would actually be less expensive—when all costs are considered—than PACE.

Lawmakers did not see term easements as the best option when considering new techniques. Perhaps the most open-minded group with respect to this technique, lawmakers wanted additional information on possible landowner participation. One lawmaker rejected the technique out of hand because of its temporary duration.

Landowners were very skeptical about term easements and the government's ability to administer the program fairly. They believed that term easements would not provide the benefits of permanency they want as landowners. This result ran counter to Duke and Lynch's (2006) hypothesis that landowners would support them. One would have expected that landowners would be the primary supporters of term easements given the greater flexibility. It also contrasts with Zollinger and Krannich's (2001) result that Utah landowners preferred tax relief programs even though they did not guarantee permanent preservation.

Land Preservation Tontines

Administrators, lawmakers, and landowners did not find the land preservation tontine concept to be a viable technique. Many respondents expressed a general level of interest, especially administrators. Overall, however, the concept seemed too "bizarre" and many implementation problems were noted. Since the respondents had trouble understanding the concept, a redesign for clarity and a follow-up investigation may generate more useful policy information.

Administrators were most interested in the incentive structure and the private, collective quality of the technique. However, they had many qualms. For example, administrators noted significant implementation challenges—perhaps the most of any of the four techniques—which is somewhat surprising since the land preservation tontine is a “private” solution. Many noted practical problems, such as explaining the concept, attracting participants, and preventing abuse. Understanding the concept seemed to be the main hurdle to funding and encouraging participation. Several noted that a refinement could be more workable, ranging from a simple name change to more significant modifications like eliminating the government role and explicitly modeling the concept as a cooperative.

Neither lawmakers nor landowners found land preservation tontines to be an attractive concept. Several expressed an interest in the technique and the incentives created, but most were too unsure of the concept to offer definitive opinions. One lawmaker found the technique to be “bizarre.” Landowners argued that regular cash payments would be essential to any preservation effort. It is somewhat surprising that landowners did not support tontines because, in theory, tontines may be best at preventing conflicts with nonfarming neighbors. This reinforces Pfeffer and Lapping’s (1994) mixed results on whether planners thought farmers would be more supportive of preservation techniques in the presence of these types of conflicts.

Agricultural Conservation Pension

Almost all respondents found the agricultural conservation pension to be an appealing concept. Yet, all wanted more details on how the concept would be implemented, and many respondents offered suggestions on the design. The main concerns involved the formula for turning land value into pension payments and the way successors in interest (to the land) or

survivors (of the owner) would be compensated. Most suggested that this concept holds greater appeal for younger owners. Further specification and research on stakeholder support is needed before possible implementation.

Administrators found this concept to be very appealing and interesting. In particular, they felt it directly addressed a common reason owners give for conversion—the need to finance retirement—which provides additional empirical support for this claim made in Lapping’s (1979). Because the concept was described in general terms, most of the administrators’ concerns involved the specific manner in which the technique would be designed. Administrators offered many suggestions on how it could be designed and the challenges overcome.

Lawmakers also were attracted to the concept, but suggested that a single version of plan needed to be described in greater detail. It was suggested that legislative staffs could further flesh out the details of such a plan. Similarly, landowners thought the concept offered an attractive option, but wanted more details.

Final Ranking of the Techniques

At the end of the interviews, the participants were asked to make final comparisons and/or rank the proposed techniques based upon the discussion. Most administrators were willing to make comparative comments. ROFR ranked the highest among administrators. One noted that it is a potentially high-benefit technique but without sufficient and secure funding it could not be successful. Another administrator ranked it first, but with the caveats that it depends on the quality of the contract instrument and careful targeting. A third administrator, who liked all of the techniques, noted that ROFR was especially promising, but also that it might

be politically “sensitive” to introduce because it creates explicit winners and losers. Pension plans were deemed the second most promising technique. One administrator suggested that pension plans are high-benefit, but low-feasibility. Term easements and tontines were ranked lowest by administrators. Several noted that term easements would be unpopular because of the impermanent nature, although one suggested that it would be the best from the farmers’ points of view. Tontines were perceived by most administrators to be an interesting concept, but with low feasibility. One administrator suggested that tontines might become workable if set up explicitly as cooperatives without government funding. Another administrator expressed skepticism at the need for new techniques, arguing that higher budgets and secure, dedicated funds for existing techniques are more important.

The lawmakers also ranked ROFR as the top choice. It was noted that ROFR should be given a new, less-intimidating name. Term easements’ rankings were mixed, with lawmakers expressing both strong positive and strong negative opinions. One lawmaker said that this technique would “go over well,” but other lawmakers believed that the impermanent nature of the technique would raise many objections. The pension plan technique rankings were also mixed, tying for second place among some lawmakers, while others wanted more information before ranking. At minimum, all lawmakers thought the technique was worth exploring. Lawmakers ranked tontines the lowest, arguing either that the technique was insufficiently clear and undeveloped or that its potential for implementation and success was the lowest.

Landowners preferred pension plans and ROFR. Nothing specific was noted in the concluding questions about term easements or tontines. Landowners liked the voluntary nature of participation in ROFR. They also thought that competition in the development land market would lead farmers to get the highest possible return for their land. Landowners indicated they

would rank ROFR lower if it were mandatory. Overall, the landowners said that education is important with any new program, noting that they thought they learned about PACE too late. Zollinger and Krannich (2001) came to a similar conclusion that an information campaign could increase the acceptability of PACE. Most information about land preservation came via word of mouth from neighbors rather than from the programs themselves.

Conclusions

The general public continues to express concern about disappearing farmland and supports on going farmland preservation. Concern exists, however, that the current techniques are not sufficient to retain farmland either due to limited funding or inadequacies in their design and operation. While there have been many studies looking at what the general public desires from preserved farmland, there have been relatively few asking policy makers, administrators, and landowners what types of techniques they think would be acceptable and effective. This paper describes four innovative farmland preservation techniques and then investigates their acceptance with these three stakeholder groups. These four techniques were chosen from a list of 29 farmland preservation techniques—representing three of the four types of preservation techniques—and were chosen as ones that may overcome some limitations of current techniques.

Following interviews with representatives of these stakeholder groups, this study argues that ROFR is deemed the most acceptable of the four options. Respondents found that its permanence, voluntary nature (although it could be mandatory), cost-effectiveness, and familiarity were positive attributes. There was some disagreement as to its cost-effectiveness: it could be costly to secure the rights and the permanency benefits do not accrue for many years to come and/or the state must purchase the land at its full market value rather than for lesser rights.

Overall, though, respondents thought with prioritization schemes this technique could help achieve farmland preservation goals.

While stakeholder groups believed flexibility to be a desirable attribute, they did not like term conservation easements due to their temporary nature. Respondents seemed to perceive that term easements simply give money to landowners in return for nothing, and that they had the potential to undercut existing PACE programs. Both the agricultural preservation tontine and agricultural preservation pension plan were thought to be worth exploring, but more details would be needed before respondents could fully evaluate their acceptability and cost-effectiveness.

Investigations like this highlight some of the attributes of policies that are appealing and unappealing and could lead to further technique development. Clearly, administrators have well-formed opinions on the issues, though they do not always agree. Further interviews with this stakeholder group would be desirable after more development of the agricultural preservation tontine and pension programs. Lawmakers held some strong opinions on the acceptability and feasibility of new techniques—and they also did not always agree—but this group also tended to be open minded about learning more about new options and their constituents' opinions of these options. Lawmakers did tend to favor techniques that were most familiar and simple. Interviews with this group provided a useful reality check on whether the techniques were too complicated to be politically feasible.

Interviews with the landowners produced less useful information on the broader version of the techniques. Landowners may need more specific program proposals on which to respond to elicit additional information. They also were more focused on their specific circumstances and how the new technique might apply to them.

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Table 1
Evaluation of Farmland Preservation Techniques (Relative to the Average Technique)

Evaluation Criteria	Explanation	Term Easements	Land Preservation Tontine	Rights of First Refusal/PACE	Agricultural Conservation Pension
Property Rights Issues					
Right Holder	Implied holder of rights to develop	Landowner	Landowner	Landowner	Landowner
Duration	How long is the retention supposed to last?	Temporary	Temporary	Permanent	Permanent
Credibility of Persistence	How easy is it to redefine rights, say, through variances?	Persistent	Persistent	Persistent	Persistent
Satisfaction of the Goals of Farmland Preservation					
Acres Enrolled		Average	More effectively	Less effectively	Much more effectively
Conversion Prevented	How does the technique promote one goal relative to other techniques?	More effectively	Average	Much more effectively	More effectively
Productive Farms		Average	More effectively	More effectively	Average
Critical Mass		More effectively	Much more effectively	More effectively	Average
Financing					
Financing Source	From what source will preservation be funded?	General tax revenues & bonds	Self-funding or general tax revenue & bonds	General tax revenues & bonds	General tax revenues & bonds
Stakeholder Acceptance					
Agricultural Landowner	How likely is the technique to be accepted relative to the other techniques?	Very high	Somewhat high	Average	High
General Public		Somewhat high	Somewhat high	Somewhat high	Somewhat high
Environmentalists		Very low	Somewhat high	Somewhat low	Average
Developers		Somewhat low	Average	Very Low	Somewhat low
Program Administrator /Simplicity of Implementation	How challenging is it to implement the technique relative to the other techniques?	Easier	Low	Easier	Average
Attract Nonparticipants					
Attract	Does the program have an ability to attract (or force) participation from those not participating in existing farmland preservation efforts?	Some ability	Some ability	Unusual ability	Unusual ability

Source: Adapted from Duke and Lynch (2006).

Table 2
Summary of Interviews Conducted in Delaware (11) and Maryland (3)

Interviewees	Participants	Gender
Landowners	4	2M, 2F
Public Program Administrators/Officials (all individual interviews)	5	5M
Nonprofit Program Administrator/Official	1	F
Lawmakers (one group and one individual interview)	4	2M, 2F
Total	14	9M, 5F

Table 3: General Views on Land Preservation

	Program Administrators	Landowners
<i>What Should the Goals of Farmland Preservation Be?</i>	<p>Agricultural Goals: Viable agricultural economy Agricultural productivity/protection of best soils Agricultural, not an open space, focus Avoid impermanence syndrome Need for critical mass An adequate agricultural land base Improve farm practices and water quality</p> <p>Orderly Development Goals: Stop development from gaining momentum Not spreading cluster development in countryside</p> <p>Other Goals: Protecting sensitive ecological areas Scenic and open space values Cultural and historic values Preserve as much land as possible</p>	<p>Landowners had no specific vision for program goals because they have concerns (distrust) about state and local governments’ ability to solve land problems – however they can picture the landscape they would like (see below) Appreciate ability to pass on land to family Concerned about rapidly escalating value of land – help keep farmland affordable</p>
<i>What Should the Landscape Look Like?</i>	<p>Historic agricultural landscape with working farms Agricultural use that evolves over time Aesthetics should be an “outcome, not an objective” Alright to mix agriculture with other uses sometimes</p>	<p>Open space Historical agrarian landscape attributes Natural wooded settings Concentrate development and avoid rural sprawl</p>
<i>How Much Agricultural Land is Needed?</i>	<p>Triple the acreage preserved Can vary given other goals Uncertain—number of acres is a moving target Enough to support infrastructure of agricultural input sector Enough so the area looks agricultural</p>	<p>Enough to avoid condemnation for roads Agriculture cannot compete with development in the price of land—difficult to keep in agriculture</p>

Table 4: Program Administrator Responses

	Term Easements	Agricultural Preservation Tontine	Rights of First Refusal	Agricultural Preservation Pension with PACE
Appealing	<p>Cost⁵ Preserve more acres in short term* Prevent impermanence syndrome</p> <p>Acceptability Might be more acceptable to some owners than PACE and Ag districts</p> <p>Timing Might buy time until more effective regulations or land-use planning can be implemented* Quicker agreements with landowners Heads off problems in development hot spots</p> <p>Other An ongoing payment/relationship may produce more contact and thus better land management</p>	<p>Cost Increased trust among neighbors would reduce monitoring costs Progressively increasing incentive to remain in farming No downside for owners if state financed A collective way to manage risk—at a lower cost</p> <p>Acceptability A private solution—no governmental role Would appeal to owners who distrust government Creates a formal incentive to stay in agriculture—everyone wants to be the surviving owner A grassroots solution—farmers want to ensure that their area remains in farming</p> <p>Timing May help bind farmers to a course of action when the farm is owned by many owners (say siblings or cousins) Chain reactions: developers leave; farmers invest</p>	<p>Cost Should be inexpensive if owners are comfortable with government</p> <p>Acceptability Should be some interest among certain types of farmers Offers flexibility</p> <p>Timing Targets parcels truly threatened so timing right</p> <p>Other Could be designed to target certain areas in the state requiring intervention Gives policy makers a high degree of control Can target key parcels Appealing if integrated into the use-value assessment program (like NJ)—also may stop developers from taking advantage of use-value assessment</p>	<p>Cost Pooling of risks provides advantages*</p> <p>Acceptability Generate new participants—many avoid PACE because “my land is my pension” Deals directly with an important, frequently cited incentive to convert—retirement* Could this plan correctly counteract the conversion incentive and satisfy owners?</p> <p>Timing Leverages dollars as PACE payments paid over a long period of time Expedite the transfer of land to young farmers</p> <p>Other Provides security* Paying people to be farmers with a pension Buying annuities rather than easements</p>
Unappealing / Objectionable	<p>Cost “A glorified transfer payment of public funds to farmers” Questionable cost effectiveness—much of enrolled land would not be developed, so what benefit is secured?</p> <p>Acceptability May undercut perceived attractiveness of existing permanent programs May attract the wrong type of participants, like developers waiting to develop</p> <p>Timing Temporary* Questionable durability*</p>	<p>Cost Potential for bad incentives, including corruption</p> <p>Acceptability “Strange” and “weird”* and so unusual Do not call it “tontine” “I just don’t see how it could work” Landowners will have trouble understanding this and wouldn’t risk participating Why not just create a farmer’s cooperative?</p> <p>Timing Will the incentive really stop the farmer who has a life event?</p> <p>Other Difficult to understand—do not see what government’s role will be*</p>	<p>Cost Difficult to get the rights voluntarily May require a lot of money up front, with little immediate returns on what that money was spent for Inflate cost of purchasing land/rights “Large” offer may be contingent on a subdivision, which has little chance of being approved Unlike PACE, which preserves now at low cost, ROFR waits and could be very high cost</p> <p>Timing Farmers and developers will figure out which parcels are enrolled on their own, through word of mouth</p>	<p>Cost Annuity has to be large enough to “get people’s attention”</p> <p>Acceptability Health insurance is more important Might not leave enough money in the land for heirs in large families</p> <p>Timing More attractive to young farmers</p>

⁵ “*” indicates at least two people made this comment.

	<p>Landowners enroll while they wait to develop—join once but not re-enroll</p> <p>“Going in the wrong direction” because the durability of <u>permanent</u> easements is increasingly being challenged</p> <p>Other Not clear what is being purchased Not adaptable to future circumstances</p>	<p>If funded publicly, could farmers collude to undercut the incentives</p> <p>May create animosity among neighbors</p> <p>How could the pot provide a large enough incentive to override the incentive to convert?</p>	<p>Uncertain how this will affect speculation</p> <p>Other Opportunities for fraud. State is going to be taken advantage of developers and owners will abuse/manipulate the system if targeted parcels are known*</p>	
Difficulties in Administration and Funding	<p>Cost High monitoring and enforcement costs—even more than permanent easements*</p> <p>More staff time than the permanent program</p> <p>Need dedicated source of funding</p> <p>Participants need assurances that money will be there each year in the future</p> <p>May be cheaper to purchase permanent easements*</p> <p>Acceptability IRS passed regulations requiring that easements be perpetual to be tax deductible</p> <p>Timing Difficult to negotiate a yearly payment 10 or 20 years into the future—how do you account for land market changes and inflation?</p> <p>Other Difficult unless the agency has an existing permanent program with the accompanying infrastructure</p> <p>Some participants will want to break the agreement; should the contract be “iron clad” or should there be a penalty for leaving?</p> <p>A rollback penalty would counter some undesired incentives from landowners—i.e., enroll, then leave and convert</p>	<p>Cost Must figure out the state’s role in enforcement to avoid litigation every time a farm is sold</p> <p>Need a significant amount of state funding to get landowners interested—say, dividends</p> <p>Where will the money come from?</p> <p>A lot of administration effort in getting groups to agree</p> <p>Managing the money may be easy, but not managing the participants if behavior degenerates</p> <p>Higher management costs than PACE</p> <p>Acceptability How to articulate, clearly, how this tool works?*</p> <p>Difficult to generate participation, motivate the formation of tontines, and educate</p> <p>Unsure if people would participate; perhaps, try a pilot project to understand the challenges</p> <p>Clarity of acceptable activities essential</p> <p>Uncertainty—“How big does the pot have to be to affect the decision making of farmers?”</p> <p>Need more work on the incentives—think hard about the possibility for side deals, and how to deal with these</p> <p>May be a “bias” in the legislatures against innovation—what we do is working, so why try something new?</p> <p>Timing Challenges in the state’s role: how to make the process timely?</p>	<p>Cost Requires additional staff—more effort than PACE, although some disagree</p> <p>Needs a database to monitor when farms is sold—need for monitoring mechanism *</p> <p>State could hold purchased properties over time, but with more management expenses</p> <p>Large funding required at uncertain times*; need an “Emergency Land Protection Fund”</p> <p>Needs funding up front to attract owners</p> <p>Use seed money to begin purchases, then account rises with land sales and falls with purchases</p> <p>Unlikely to have a large endowment that the state promises not to touch</p> <p>Acceptability Not all agencies can own land fee simple</p> <p>Ownership may be a burden on the state</p> <p>Easier to get funding if a well-developed targeting plan exists</p> <p>Any targeting plan will upset some folks if they are not in the targeted area</p> <p>Increase familiarity—perhaps start by having the farm community ask for ROFR with their leases</p> <p>Timing May take time to figure out what land is really worth</p> <p>Other Difficult to write law, write contracts, and defend it in litigation</p> <p>May get very complicated in rules for</p>	<p>Cost Complicated for PACE staff, but may rely on other groups in government that handle pensions</p> <p>Because the payment is made over time, PACE staff may be familiar with this sort of financial arrangement</p> <p>Acceptability Sell to the legislature as another way to get development rights</p> <p>Consider whether this is a way to avoid the estate tax?</p> <p>Timing Implement for people who are younger</p> <p>Other Difficult to determine a value—normal pensions are based on salary, but this one is different and more complicated</p> <p>Create a formula (instead of salary and years of service into pension) where farm value is analogous to salary</p>

		<p>Lawyers need to figure out how to write the contracts</p> <p>Legislatures need to create enabling statutes</p> <p>Figure out how a pot of money will adjust over time to reflect inflation and land-market conditions</p> <p>Might be able to combine with other tools</p>	<p>resale</p> <p>State preservation is well-positioned to do this, depending on the volume</p> <p>Need to prevent fraud: if board does not act on its ROFR, then severe penalties if developer does not buy</p> <p>Publish the list of targeted farms so developers believe the state will credibly match offers</p> <p>Develop a contract-enforcement plan</p> <p>In targeting, the state needs to be thoughtful in deciding where they want growth to go</p>	
<p>Perspective on Constituent Support</p>	<p>Cost Tough to fund (sell to lawmakers)—a cost for a nonpermanent benefit*</p> <p>Could be seen as throwing money away</p> <p>Acceptability Talbot County, MD, tried this and failed because state-level politicians did not like the temporary nature</p> <p>Easier to sell if it were linked to a target group, like new farmers</p> <p>Public has to learn about the technique and be convinced that this is good policy</p> <p>Public already buys into PACE—a new term easement program may cause confusion or skepticism</p> <p>Landowners will be attracted to the temporary attribute—more flexible</p> <p>Landowners should like it because benefits are more tangible than Agricultural Preservation Districts</p> <p>Timing Easier to sell as a solution inside a growth zone with PACE outside the zone</p> <p>Others Viewed as a poor-quality technique: “Do not like investing the time and effort into anything that is less than perpetual”</p>	<p>Cost Taxpayers won’t fund it because it is too “weird”</p> <p>Acceptability “Free market crowd” may find this appealing</p>	<p>Acceptability Farming community will not accept it if it is perceived to be a new regulation (i.e., is coercive)*</p> <p>May feel “creepy” to landowners if coerced or as a requirement for participation in another program</p> <p>Passionate agricultural landowners may participate, but others may not without a strong incentive</p> <p>Others If the state exercised ROFR on every property in a targeted area, then developers would stop bringing offers to these farmers—this could alienate developers and drive up the costs of the contracts</p>	<p>Acceptability Varying views on attractiveness to farmers and whether it will generate interest</p> <p>Most farmers are already comfortable participating in government programs, so they probably will not object to the arrangement with the state</p> <p>Nonfarmers may object, saying how come we don’t get a pension?</p> <p>Version with a low monthly payout and a bigger death payout would probably sell better</p> <p>Better for farmers who don’t need cash for their agricultural operations</p> <p>Others Determine whether farmers who sell were just making “excuses” when they claimed retirement is the reason farmers would like the security* Amish or Mennonite farmers may not want to be seen as employees of the state</p>

Table 5: Lawmaker Responses

	Term Easements	Agricultural Preservation Tontine	Rights of First Refusal	Agricultural Preservation Pension with PACE
Appealing	<p>Timing May slow the progression of sprawl development</p> <p>Acceptability Help where the permanent program has been less successful</p>	<p>Cost An incentive to preserve for the last party</p>	<p>Lower Cost Less expensive because state could pay price of the first offer rather than after the property has been “flipped” several times</p> <p>Acceptability An “appealing” concept Does not “penalize” the farmer Familiar tool as it is used privately</p>	<p>Acceptability “Great concept on paper” Security in the farming community</p> <p>Other Helps address problems when an owner’s children do not enter farming Interesting*</p>
Unappealing / Objectionable	<p>Cost Not sure this would be the best use of money</p> <p>Timing Temporary—“What good does that do?”</p>	<p>Acceptability “It’s kind of bizarre” Need to consider further before giving an opinion</p>	<p>Cost Risk of “cash crunch”</p> <p>Timing State does not act fast enough if a farmer pressed for time State may not be able to come up with enough money quickly</p>	<p>Cost Tough sell to get funded—seems like just another expensive program</p>
Difficulties in Administration and Funding	<p>Cost How can the state compete with developers as land values rise so rapidly?</p>	<p>Other Complicated equity—participants having different acreages with different values and different-aged owners</p>	<p>Cost Need dedicated revenue stream to support it Must select priority areas to target*</p> <p>Acceptability Difficult to prioritize</p>	<p>Cost Difficult to fund</p> <p>Acceptability Small business owners may get option to participate in state health insurance Lawyers and legislative research staff could figure out details</p>
Perspective on Constituent Support	<p>Acceptability Likely that landowners would want to participate, but need evidence May help address declining interest in PACE</p>	<p>Acceptability Not sure how this technique would “go over” Nonfarmers will not feel strongly</p>	<p>Cost Nonfarming community may object to the expenditures</p> <p>Acceptability Concept implies changing titles, which would intimidate farmers Constituents may favor some parcels selected, but oppose others</p>	<p>Acceptability No opposition from any group to this plan Farmers need to be educated about the program Would be of interest</p>

Table 6: Landowner Responses

	Term Easements	Agricultural Preservation Tontine	Rights of First Refusal	Agricultural Preservation Pension with PACE
Appealing	No positive comments	<p>Acceptability Need a cash payment to be appealing No incentive without a payment—the pot of money is not sufficient</p>	<p>Cost Full compensation for land value Acceptability Voluntary nature of participating</p>	<p>Acceptability More appealing to younger farmers Would overcome incentive to sell land for retirement Depends on the tax implication of taking pension payments or a one-time payment for PACE</p>
Unappealing/ Objectionable	<p>Timing Need permanent easements—people will simply sell their land after lease term Skeptical that there will be too many loopholes that allow people to opt-out* Acceptability Will not be funded well enough to be appealing Distrust government with implementing this technique due to its use of eminent domain A rollback penalty would not be fair</p>	<p>Acceptability “Not confusing to me, but it’s just not attractive” Difficult to reconcile ownership with interest in this pot of money You could not use this interest as collateral at a bank Timing Might only appeal to the youngest farmers</p>	<p>Acceptability Concept was confused with eminent domain for roads and with TDR Would it would bind heirs?—flexibility</p>	<p>Cost Figure out how to increase pension over time to keep up with appreciation in the land market Appraisal needs to be unbiased Acceptability Cash upfront is more flexible Other Contingencies for accidents: Guaranteed payment and/or benefits go to survivors?</p>