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MYRL L. DUNCAN*

Toward a Theory of Broad-based Planning for the Preservation of Agricultural Land[†]

People must fully understand the irreplaceable value of prime farmlands, and the ominous meaning of the war between the bulldozer and the plow. When farmland goes, food goes. Asphalt is the land's last crop.

M. Rupert Cutler, Assistant Secretary of Agriculture
for Natural Resources and Environment¹

INTRODUCTION

Thomas Jefferson believed the independent farmer and his way of life to be such fundamental elements of democracy² that he advocated the allocation of small tracts of Virginia's seemingly limitless western lands to every adult male.³ Two hundred years later, Jefferson would no doubt be astounded to learn that the adequacy of that vast agricultural land base is threatened by every encroaching development. The recent report by the National Agricultural Lands Study (NALS) reveals that between 1967 and 1975 some 23.2 million acres of agricultural land,⁴ an area equal to slightly less than the combined land areas of Vermont, New Hampshire, Massachusetts, Rhode Island, New Jersey, and Delaware,⁵ were converted to nonagricultural use.⁶ Approximately one-third of the nearly three million acres developed each year⁷ comes from prime farmland, lands pos-

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1. Cutler, *The Peril of Vanishing Farmlands*, New York Times, July 1, 1980, A19, col. 5.

2. "[G]enerally speaking, the proportion which the aggregate of the other classes of citizens bears in any State to that of its husbandmen, is the proportion of its unsound to its healthy parts, and is a good enough barometer whereby to measure its degree of corruption." Jefferson, *Notes on the State of Virginia*, query XIX (1787).

3. Katz, *Thomas Jefferson and the Right to Property in Revolutionary America*, 19 J. LAW & ECON. 467, 470 (1976).

4. National Agricultural Lands Study (NALS), *Final Report* (1981) (hereinafter Final Report). For discussion of the creation of NALS, see *infra*, notes 30-31 and accompanying text.

5. The total land area of these states is 23,470,272 acres. U.S. Dep't. of Commerce, Bureau of the Census, *1974 Census of Agriculture*.

6. Final Report, *supra* note 4, at 36.

7. The figure included 675 thousand acres of cropland, 537 thousand of range and pastureland, 825 thousand from forestland, and 875 thousand from "other" land uses. *Id.* at 35.

sessing the best combination of physical and chemical characteristics needed to preserve sustained high yields.⁸ While the nation is in no danger of completely destroying its 1.36 billion acre privately owned agricultural land base,⁹ the large scale conversion of farmland must be evaluated in the context of projections indicating that substantial additional farmland will be required to meet increasing demand for agricultural products.¹⁰ When the future is viewed from that perspective, NALS believes that "the conversion . . . is a cause for serious concern."¹¹

After examining the nature and causes of the problem, this article will review a number of programs which are attempting to stem the tide of conversion. The analysis will reveal that programs which incorporate elements of land use planning and control have been, or have the potential to be, more successful than strictly voluntary programs. Thus, while this article will not attempt to propose specific programs, it seems clear that the protection of agricultural land will be most effectively achieved through a system of broad-based land use planning and control.¹²

NATURE OF THE PROBLEM

Federal Recognition of the Problem

While the full magnitude of the problem became apparent only with the release of the recent NALS report, that study was itself the product of concern that grew throughout the 1970s. That concern manifested itself in several national land use policy and planning assistance bills which

8. Keene, *Agricultural Land Preservation: Legal and Constitutional Issues*, 15 GONZ. L. REV. 621 (1980). Prime farmland "has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses (the land could be cropland, pastureland, rangeland, forest land or other land, but not urban built-up land or water). It has the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops when treated and managed, including water management, according to acceptable farming methods." 7 C.F.R. § 657.5(a) (1980). Like the NALS study, this article will focus not only on prime farmland but on the broader land base.

9. Final Report, *supra* note 4, at 29. The figure includes 413 million acres of cropland, 414 million of rangeland, 133 million of pastureland, 376 million of forestland, 11 million of farmsteads, and 12 million of "other lands in farms." Also included are 127 million acres of high and medium potential cropland. *Id.* Not included are approximately 500 million acres of federally owned agricultural land, virtually all of which is grazing or forestland. *Id.* at 28-29.

10. See *infra* text accompanying notes 46-53.

11. Final Report, *supra* note 4, at 85. While perhaps the most comprehensive, the NALS Final Report is only one of a number of studies reaching essentially the same conclusion. Fletcher and Little, *The American Cropland Crisis* (1982); *Agricultural Land Availability: Papers on the Supply and Demand for Agricultural Lands in the United States*, Senate Committee on Agriculture, Nutrition and Forestry, 97th Cong., 1st Sess. (Comm. Print 1981); *Preserving America's Farmland—A Goal The Federal Government Should Support* (Report to the Congress by the Comptroller General) (1979); Didericksen, *Potential Cropland Study*, U.S. Dept. of Agriculture Soil Conservation Service, Statistical Bull No. 578 (1977) (cited in Fletcher and Little, *supra* note 11, at 5).

12. Although land use planning is often thought of as distinct from land use control, I mean to encompass both with the term "planning" in the title. See *infra* text accompanying note 75.

were introduced in Congress, but never enacted.¹³ While leaving primary land use policy with the states, those acts nonetheless recognized the need to establish a national policy that "land use planning, management and development [should be] in accord with sound environmental, economic and social values which encourage the wise and balanced use of the Nation's land resources."¹⁴ Federal funds would have been made available to state governments¹⁵ for the development of a variety of land use schemes, including programs to evaluate and plan for agricultural needs.¹⁶

Agricultural land planning *per se* was first addressed by the 95th Congress which considered a proposed National Agricultural Land Policy Act.¹⁷ The act would have provided federal funds to state programs for the demonstration or testing of preservation methods.¹⁸ Similar but stronger legislation was defeated by the 96th Congress.¹⁹ That legislation would have required that impact upon agricultural land be taken into account in federal agency decision-making, and that federal agency programs and actions be administered in a manner consistent with state or local land retention programs.²⁰

The executive branch of the federal government began to act on the problem at about the same time as Congress. Despite the fact that as late as 1974 the United States Department of Agriculture sought to minimize the dangers of farmland conversion,²¹ other agencies began to make policy changes. In 1976²² and 1980²³ memoranda to agency heads, the President's Council on Environmental Quality (CEQ) urged that, in preparation

13. *E.g.*, S. 268, 93d Cong., 1st Sess. (1973); S. 632, 92d Cong., 2d Sess. (1972) (passed by the Senate, 118 Cong. Rec. 31217 (1972)); S. 3354, 91st Cong., 2d Sess. (1970); H.R. 16028, 93d Cong., 2d Sess. (1974); H.R. 10294, 93d Cong., 2d Sess. (1974); H.R. 4862, 93d Cong., 1st Sess. (1973).

14. *Id.* S. 268 § 102(b)(1) (1973).

15. *Id.* Title III.

16. *Id.* § 302(a).

17. Dunford, *The Evolution of Federal Farmland Protection Policy*, 37 J. SOIL & WATER CONSERVATION 133, 134-35 (May-June 1982).

18. H.R. 5882, 95th Cong., 1st Sess. (1977). See *Hearings on H.R. 5882 Before the Subcomm. on Family Farms, Rural Development and Special Studies of the House Comm. on Agriculture*, 95th Cong., 1st Sess. (1977).

19. Dunford, *supra* note 17, at 135.

20. H.R. 2551, 96th Cong., 1st Sess. (1979). See *Hearing on H.R. 2551 Before the Subcomm. on Family Farms, Rural Development and Special Studies of the House Comm. on Agriculture*, 96th Cong., 1st Sess. (1979); S. 795, 96th Cong., 1st Sess. (1979). See *Hearing on S. 795 Before the Subcomm. on Environment, Soil Conservation, and Forestry of the Senate Comm. on Agriculture, Nutrition and Forestry*, 96th Cong., 1st Sess. (1979).

21. U.S. Department of Agriculture, Economic Research Service, Misc. Pub. No. 1290 (1974) (quoted in Juergensmeyer, *Farmland Preservation: A Vital Agricultural Law Issue for the 1980's*, 21 WASHBURN L. J. 443, 448 (1982)).

22. Council on Environmental Quality, 1976 Memorandum for Heads of Agencies (August 30, 1976) (noted in Dunford, *supra* note 17, at 134).

23. 45 Fed. Reg. 59189 (1980).

of environmental impact statements required by the National Environmental Policy Act (NEPA),²⁴ agencies analyze the effect their actions would have on farmland.²⁵ However, only two agencies, the Environmental Protection Agency (EPA)²⁶ and the Department of Agriculture (USDA),²⁷ which changed its position,²⁸ developed explicit policies to ensure such considerations.²⁹

Most significantly, in June, 1979, USDA and CEQ agreed to oversee an eighteen month interagency study of all aspects of the problem.³⁰ The resulting National Agricultural Lands Study (NALS) *Final Report*,³¹ issued in January, 1981, documents the problem's complex and critical nature.

The NALS Report

In order to put its statistics on farmland conversion into a meaningful context, the study projects three major agricultural demands to the year 2000. First, it is estimated that domestic demand for food and fiber will

24. 42 U.S.C. § 4321 *et seq.* (1976).

25. The National Agricultural Land Policy Act of 1977 § 101(b)(4) sought to require such an analysis. H.R. 5882, *supra* note 18.

26. 40 C.F.R. § 6.302(c) (1981). EPA's policy statement also provided that new sewage facilities within its control were not to be located on agricultural land except in limited circumstances. All levels of government were encouraged to cooperate to preserve farmland. Dunford, *supra* note 17, at 134.

27. In 1976, Secretary of Agriculture Butz issued a policy statement providing that "USDA will urge all agencies to adopt the policy that federal activities that take prime agricultural land should be initiated only when there are no suitable alternative sites and when the action is in response to an overriding public need." U.S. Dept. of Agriculture, Secretary's Memorandum No. 1827, Supp. 1 (June 21, 1976) (*quoted in* Dunford, *supra* note 17, at 134).

In 1978, Secretary of Agriculture Bergland issued a revised policy statement establishing USDA as an advocate of farmland preservation: "whenever proposed conversions are: (1) caused or encouraged by actions or programs of a federal agency; (2) licensed by or require approval by a federal agency; or (3) inconsistent with local or state government plans." In addition, agencies within USDA were asked to review regulations that encouraged farmland conversion and to promulgate new policies consistent with state and local preservation programs. Finally, the statement mandated USDA's participation in decision-making by other federal agencies whenever farmland might be affected. U.S. Dept. of Agriculture, Secretary's Memorandum No. 1827 (revised Oct. 30, 1978) (*quoted in* Dunford, *supra* note 17 at 134).

28. Not long after the 1974 report, USDA's Soil Conservation Service (SCS) completed a survey which revealed that only about one-half of the 266 million acres assumed to be reserve or potential cropland could in fact be realistically counted as such. Dideriksen, *supra* note 11. *See also* Fletcher and Little, *supra* note 11, at 5-6.

29. The Farmland Protection Policy Act, 7 U.S.C. §§ 4201-09 (1981), discussed in text accompanying *infra* notes 62-71, provides that USDA shall "develop criteria for identifying the effects of Federal programs on the conversion of farmland to nonagricultural uses." Federal agencies are instructed to use those criteria "to identify and take into account the adverse effects of Federal programs on the preservation of farmland" and to consider less destructive alternatives. 7 U.S.C. § 4202.

30. *Final Report*, *supra* note 4.

31. NALS was charged with looking at the nature, rate, extent, and causes of conversion; evaluating the economic, environmental, and social consequences of that conversion and methods used to restrict it; and recommending governmental actions to restrict potential future losses. *Id.* at 4.

increase by volume approximately one percent per year in the 1980s and decrease only marginally to 0.9 percent during the 1990s.³² Only about one-third of the increase will be attributable to rising income and higher per capita consumption, with the other two-thirds attributable to population growth.³³ Similarly, domestic demand for forest products is expected to increase 60 percent by the year 2030.³⁴

Second, although acknowledging that it is an "unconventional" demand,³⁵ NALS estimates the acreage that will be required to support gasohol production. The report concludes that in order to meet USDA production capacity projections of 4.2 billion gallons by 1990 and 5.7 billion by 2000, a net of seven to eleven million acres of new row crops will be needed.³⁶

Finally, the report analyzes export demand. Agricultural commodities account for nearly 20 percent of all U.S. exports, or \$40.5 billion in 1979.³⁷ Currently the United States exports the production from approximately one out of three acres.³⁸ American exports account for 72 percent of the world-wide feedgrain trade, up from 42 percent a decade ago.³⁹ The U.S. share of the wheat trade alone rose from 36 to 45 percent in the period from 1970 to 1980 and is projected to climb to 57 percent by 2000.⁴⁰ Total export demand is expected to triple in the next 20 years.⁴¹

Moreover, it is the export demand which best illustrates the complexity of the situation. Assuming that American agriculture can adequately provide for domestic consumption,⁴² the United States cannot simply cut its volume of exports as a solution to the land conversion problem. Leaving aside the moral question involved in choosing not to supply less developed countries with food,⁴³ such a move would have serious economic reper-

32. *Id.* at 53. The estimate assumes a constant real price.

33. *Id.* NALS estimates that by the year 2000, U.S. population will have reached 253,000,000.

Id.

34. *Id.*

35. *Id.*

36. *Id.* at 54. See also Fletcher & Little, *supra* note 11, at 123-36.

37. Final Report, *supra* note 4, at 55.

38. *Id.*

39. *Id.*

40. *Id.*

41. *Id.* at 55. Constant real prices are again assumed.

42. See Final Report, *supra* note 4, at 61.

43. "You can probably convince yourself that losing a million acres of cropland out of a 540 million-acre base is indeed a very small percentage in any given year, perhaps hard to get excited about. But over four years, if you lose 4 million acres, if it happens to be land of moderate productivity, that land would produce about the same amount of grain that is committed each year to foreign-assistance programs by all donor nations in the world. From the viewpoint of the world's needy people, setting aside 4 million acres in Iowa for use later in the century would indeed be viewed as significant." *The National Agricultural Lands Study: An Interview with Robert J. Gray*, 36 J. SOIL & WATER CONSERVATION, 62, 63 (March-April 1981) (hereinafter Interview).

Another commentary declares that "[t]o view the matter in narrowly economic terms . . . is to risk missing the point: for economics can neither define, measure or assign responsibility in a matter

cussions. Doubtlessly domestic prices would be affected and, perhaps more importantly, such a policy would adversely affect U.S. balance of payments. Simply put, receipts from the foreign sale of U.S. agricultural commodities are critical in offsetting expenditures for the purchase of foreign oil; for economic reasons alone agricultural production must be protected.⁴⁴

Taking all factors into account, NALS estimates that over the next twenty years the demand for U.S. agricultural products will increase 60 to 85 percent above the 1980 level.⁴⁵ The crucial question then is whether American agriculture will be able to meet that total demand.

An answer to the question depends in part on an understanding of the interrelationship between increases in acreage and advances in farming technology. During the 1960s, the annual 1.4 percent increase in overall agricultural output came solely from increased yields, as opposed to increases in planted acreage, which declined slightly.⁴⁶ During the 1970s, however, approximately three-fourths of the annual 3.1 percent increase in production came about because of expanded cultivation.⁴⁷ Looking to the future, some scientists believe that technological advances will permit still further production increases;⁴⁸ others believe yield increase to be tapering off.⁴⁹ But accepting even the most optimistic scenario, other factors such as the cost of energy to irrigate land, declining water supplies,⁵⁰ and air pollution⁵¹ will adversely affect production. Taking all

that is ultimately a questions of ethics. Inevitably, a country that has a land base capable of supplying 10 or 15 percent of the world's food supply must come to grips with the issue of whether it also has an obligation to protect and maintain that resource as best it can." Fletcher & Little, *supra* note 11, at 91.

44. Raup, *Urban Threats to Rural Lands: Background and Beginnings*, 41 J. AM INST. PLANNERS 371, 376 (1975).

45. Final Report, *supra* note 4, at 55. Since the high and low figures reflect more extreme conditions, the midrange 72.7% figure is considered "most probable." *Id.*

46. *Id.* at 56.

47. *Id.*

48. Heady, *Technical Change and the Demand for Land*, paper prepared for a Resources for the Future Conference on the Adequacy of Agricultural Land, (February 13, 1980) (noted *id.* at 58, n. 24). See also, *Preserving America's Farmland*, *supra* note 11, at 14.

49. Jensen, *Limits to Growth in World Food Production*, 201 SCIENCE (July 28, 1978); Evans, *The Natural History of Crop Yields*, 68 AM SCIENTIST (July-Aug 1980) (both noted in Final Report, *supra* note 4 at 58, n. 25).

50. Anthan, *Land, People Trends Hint At Food 'Disaster'*, Des Moines Register, July 9, 1977. The article is one of a series of seven collectively entitled "Vanishing Acres."

51. *Id.* The author notes that researchers in Southern California have discovered that under polluted conditions alfalfa production declined 38%, peas 32%, lettuce 42%, and sweet corn 72% from clean-air yields.

Those findings are reinforced by a recent analysis by the Congressional Office of Technology Assessment which concluded that ozone pollution alone is causing losses of \$2 billion to \$4.5 billion per year in corn, wheat, soybeans and peanuts. The loss represents as much as five percent of the nation's annual farm production. Kansas City Times, Feb. 18, 1982, at A1. Thus, "even as the country destroys more and more prime and unique land, it is increasing its need for that land by damaging the food production potential of its remaining cropland through air pollution." Anthan, *supra* note 50.

factors into account, NALS concludes that “[u]nlike the decades of the 1960s and 1970s which are often associated with the emergence of scientific agriculture, it appears that the future may be much more dependent on full and efficient utilization of the agricultural land resources base.”⁵² Accordingly, the study estimates that between 77 and 113 million additional acres will need to be planted in principal crops to meet the projected demand.⁵³

The increased acreage could come from two sources: lands now used for pasture and hay production,⁵⁴ and “potential croplands.”⁵⁵ Unfortunately, either option, or more probably a combination of the two, would involve significant costs. For example, withdrawing land from pasture and hay production would mean greater reliance on feed grain for meat production,⁵⁶ thereby further increasing the strain on cropland. The costs associated with a large scale shift to “potential cropland” would be even more significant. Only slightly over ten percent⁵⁷ of potential cropland is high quality, i.e., possessing favorable physical characteristics and requiring minimal land preparation to support high yield production.⁵⁸ Consequently,

[O]nce the supply of land most easily shifted is brought into crop use, further expansion in planted acreage will entail relatively steep conversion and management costs. Higher real costs of production are probable since cropland now coming into cultivation is more costly to till, is subject to more crop failures and yield variability, and produces poorer crops on average than land already in cultivation.⁵⁹

In short, shifts from one agricultural use to another cannot be expected to compensate for the loss of a million acres of prime farmland per year.⁶⁰

52. Final Report, *supra* note 4, at 60. *See generally*, Fletcher & Little, *supra* note 11, at 92-122.

53. *Id.* at 59. The mid-range figure is 95 million. The high and low estimates assume, respectively, 0.75% and 1.5% annual gains in crop yield while the mid-range estimate assumes a 1.25% gain. Again constant real prices are assumed.

54. NALS indicates that 60 million acres were so used in 1977. *Id.*

55. The 1.36 billion acre agricultural land base (*see supra* text accompanying note 8) contains 36 million acres of high potential cropland, 91 million acres medium potential, and 270 million low potential cropland. *Id.* at 30.

56. *Id.* at 60-61. Cf. Interview, *supra* note 43.

57. *Supra* note 55.

58. High potential cropland has favorable physical characteristics, requiring minimal land preparation to support high yield production. *Id.* at 30, 59. Medium potential cropland also possesses favorable characteristics, but in general, conversion costs and erosion potential are higher than for high potential lands. Final Report, *supra* note 4 at 30.

By contrast, low potential croplands are unlikely to be shifted to crop production because of “serious obstacles” both in the initial conversion and in post-conversion crop management. *Id.* Such lands may, however, be made more productive for range and forestry purposes. *Id.* at 31.

59. *Id.* at 61.

60. *See supra* text accompanying notes 7-8.

To the contrary, projected farmland requirements can be met only if the rate of conversion to nonagricultural uses diminishes. Growth need not stop, but it must be "channel[ed] . . . onto less productive agricultural land."⁶¹

The Farmland Protection Policy Act

Largely in response to then Secretary of Agriculture Bergland's endorsement of the NALS findings, farmland protection legislation was once again introduced in the 97th Congress.⁶² The resulting Farmland Protection Policy Act of 1981⁶³ was enacted as part of the Agriculture and Food Act of 1981.⁶⁴ The act contains three major elements similar to those contained in earlier proposed legislation.⁶⁵ First, the act declares as one of its purposes that

the Department of Agriculture and other Federal agencies should take steps to assure that the actions of the Federal Government do not cause United States farmland to be irreversibly converted to nonagricultural uses in cases in which other national interests do not override the importance of the protection of farmland nor otherwise outweigh the benefits of maintaining farmland resources.⁶⁶

Accordingly, the act provides that

The Department of Agriculture, in cooperation with other departments, agencies, independent commissions, and other units of the Federal Government, shall develop criteria for identifying the effects of Federal programs on the conversion of farmland to nonagricultural uses.

Departments, agencies, independent commissions, and other units of the Federal Government shall use the criteria established under . . . this section, to identify and take into account the adverse effects of Federal programs on the preservation of farmland; consider alternative actions, as appropriate, that could lessen such adverse effects; . . .⁶⁷

Each department, agency, independent commission, or other unit of the Federal Government, with the assistance of the Department of Agriculture, shall review current provisions of the law, administrative rules and regulations, and policies and procedures applicable to it to determine whether any provision thereof will prevent such unit of the Federal Government from taking appropriate action to comply fully with the provisions of this subtitle.

61. Final Report, *supra* note 4, at 18.

62. Dunford, *supra* note 17, at 135.

63. 7 U.S.C. § 4201 *et seq.*

64. Pub. L. No. 97-98, 95 Stat. 1343 (1981).

65. See *supra* text accompanying notes 13-20.

66. 7 U.S.C. § 4201(a)(7).

67. *Id.*, § 4202.

Each department, agency, independent commission, or other unit of the Federal Government, with the assistance of the Department of Agriculture, shall, as appropriate, develop proposals for action to bring its programs, authorities, and administrative activities into conformity with the purpose and policy of this subtitle.⁶⁸

The act also establishes USDA as an information center, using it 1) to design and implement educational programs aimed at emphasizing the importance of productive farmland, 2) to designate "farmland information centers" to serve as central depositories for data on farmland issues, and 3) to make farmland preservation information available to state and local governments.⁶⁹

Finally, although the act sets an explicit federal policy against unnecessary farmland conversion,⁷⁰ it is clear that state and local governments are primarily responsible for establishing preservation programs.

The purpose of this subtitle is to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to assure that Federal programs are administered in a manner that, to the extent practicable, will be compatible with State, unit of local government, and private programs and policies to protect farmland.⁷¹

Thus, even though USDA is encouraged to provide technical assistance to state and local governmental units or private groups⁷² wishing to establish preservation programs,⁷³ the act "does not authorize the Federal Government in any way to regulate the use of private or non-Federal land, or in any way affect the property rights of owners of such land."⁷⁴ State and local governments are thus faced with the task of responding to a pressing and complex problem.

68. *Id.*, § 4203. In § 160(a)(4) of the Omnibus Budget Reconciliation Act of 1981, Pub. L. No. 97-35, 95 Stat. 377, Congress enacted a requirement that state or local projects which receive Farmers' Home Administration (FmHA) loans are to be located, whenever practicable, on non-prime farmland. The same section provides that private parties who utilize FmHA loans for projects involving prime farmland will be assessed a two percent annual interest penalty.

69. *Id.*, § 4202(c), § 4205.

70. See *supra* text accompanying notes 66-68.

71. 7 U.S.C. § 4201(b).

72. This article will not consider the growing number of private farmland trusts. See generally, Fenner, *Land Trusts: An Alternative Method for Preserving Open Space*, 33 VAND. L. REV. 1039 (1980); Juergensmeyer, *supra* note 21, at 463-64; Roe, *Innovative Techniques to Preserve Rural Land Resources*, 5 ENVTL. AFF. 419, 433 (1976).

73. 7 U.S.C. § 4204. Earlier proposals which would have provided federal grants for the establishment of such programs (see *supra* text accompanying note 18), were omitted from the Farmland Protection Policy Act. However, other provisions of the omnibus act authorize grants in aid, for noncapital expenditures, to state and local governments with farmland preservation programs. 16 U.S.C. § 3431-36.

74. 7 U.S.C. § 4208.

It is apparent that just as land use planning and control techniques have been necessary to manage growth while maintaining the integrity of our urban environments, the conservation of productive agricultural land likewise demands innovative land use policies. Moreover, at the urban fringe, the two sets of problems, and hence their solution, converge. Because unplanned development is often scattered, it unnecessarily converts farmland; it is also costly to local governments which must supply necessary services. Thus, while it is self-evident that rural communities must consider the effect of growth on their land bases, it is also true that urban planners have an economic interest in directing growth into patterns which will coincidentally protect farmland.

While a considerable number of preservation programs have been developed, they have not always been effective, largely because of a lack of broad-based planning. Adopting Professor Norman Williams' definition of planning as "the process of consciously exercising rational control over the development of the physical environment, and of certain aspects of social environment, in the light of a common scheme of values, goals and assumptions,"⁷⁵ I believe agricultural land preservation programs have been less than successful because they have been implemented without fully taking into account the small farmer's "values, goals and assumptions." Farmland preservation programs will begin to be effective when land use decision-makers come to understand that the needs of the small farmer are distinct from those of both large farmers and urban dwellers.

In order to appreciate how the perspective of the small farmer differs from that of the large, it is first necessary to understand something of the structure of American agriculture. Roughly 80 percent of farms in the United States are considered to be noncommercial or small farms, generating less than \$40,000 in annual sales of agricultural products.⁷⁶ Yet, in 1978, those farms accounted for only 18 percent of annual sales;⁷⁷ farms with annual sales of under \$5,000, about 44 percent of all farms, generated only two percent of all sales.⁷⁸ By contrast, farms with annual sales of \$100,000 or more, roughly seven to nine percent of all farms,⁷⁹ account for over half of annual sales, while farms with \$200,000 or more, roughly two percent of all farms, account for roughly 40 percent of annual

75. Williams, *Planning Law and Democratic Living*, 20 *LAW & CONTEMP. PROBS.* 317 (1955).

76. Carr, *A Profile of The Commercial Agricultural Sector*, printed in *FARM STRUCTURE: A HISTORICAL PERSPECTIVE ON CHANGES IN THE NUMBER AND SIZE OF FARMS*, Senate Committee on Agriculture, Nutrition, and Forestry, 96th Cong., 2d Sess. (Comm. Print 1980) at 24, 26 (1974 figures); *A TIME TO CHOOSE: SUMMARY REPORT ON THE STRUCTURE OF AGRICULTURE* (USDA 1981) at 43 (1978 figures) (hereinafter cited as *TIME TO CHOOSE*).

77. *A TIME TO CHOOSE*, *supra* note 76, at 42.

78. *Id.*

79. *Id.*; Carr, *supra* note 76.

sales.⁸⁰ Strikingly, farms with \$1,000,000 or more in annual sales, about one quarter of one percent of all farms, account for roughly 20 percent of annual sales.⁸¹ In short, agricultural production is controlled by large-scale operators.

Thus, it is not surprising that in any one year, about 40 percent of all farm operations show a loss⁸² and that many farm families look to off-farm income for a significant portion of total income. In fact, in only eight percent of all farm families is farming the sole source of income. Off-farm income exceeds farm income on those operations generating less than \$20,000 in gross sales⁸³—roughly 70 percent of the nation's farms.⁸⁴

It follows that because the small farm is in the most financially precarious position, it is most vulnerable to the pressures which lead to farmland conversion.⁸⁵ By contrast, agricultural preservation programs are irrelevant to the viability of large, financially sound operations which generate income sufficient to make continued farming worthwhile.⁸⁶

The small farmer's priorities also differ from those of the urban dweller. The latter tends to favor farmland preservation programs when they protect open spaces, recreation sites, and cheap food supplies but oppose such programs when they begin to affect housing costs adversely or hinder economic growth.⁸⁷ In other words, urban interests want to be able to make the small farmer's land use choices for him.⁸⁸

Predictably, small farmers oppose or fail to respond to programs which

80. *Id.*

81. A TIME TO CHOOSE, *supra* note 76, at 42.

82. Carr, *supra* note 76, at 29.

83. *Id.* at 30; A TIME TO CHOOSE, *supra* note 76, at 44.

84. A TIME TO CHOOSE, *supra* note 76, at 43.

85. See *infra* text accompanying notes 102–32.

86. USDA had noted that it is only when a farm generates gross sales of around \$40,000 that farm income, by itself, begins to approach an amount considered adequate for an acceptable standard of living. A TIME TO CHOOSE, *supra* note 76, at 44. Given that they account for only 20% of all farms (see *supra* text accompanying note 76) the fact that large operations may take advantage of preservation programs is not an argument against their implementation as to the other 80 percent of farmers to whom they can possibly make a difference. Instead, questions raised by the facts that 20 percent of farmers control nearly 80 percent of production (see *supra* text accompanying note 76) and that 30 percent of privately owned farm and ranch land is owned by 1 percent of landowners (U.S. Dept. of Agriculture, Economics, Statistics and Cooperative Service, *Who Owns the Land?* (1979) at 1) go to the very heart of the structure of American agriculture and should be addressed on that basis. See generally, Wadley, *Small Farms: The USDA Rural Communities and Urban Pressures*, 21 WASHBURN L.J. 478 (1982); *Farm Structure*, *supra* note 76; A TIME TO CHOOSE, *supra* note 76.

It should be noted that land farmed by agricultural tenants, but owned by investors anticipating irresistible offers (see *infra* notes 159, 457, and text accompanying notes 241–44 *infra*), cannot realistically be described as “preservable” in the absence of strict land use controls prohibiting development.

87. Wadley, *supra* note 86, at 492–93.

88. *Id.*; Nellis, *Planning With Rural Values*, 35 J. SOIL & WATER CONSERV. 67 (1980).

limit their choices, particularly those which threaten their ability to dispose of land.

All too often a farmer's land is his or her hospitalization plan, insurance plan, child's tuition, or personal retirement fund. Consequently . . . farmers are clearly concerned about the issue of compensation when land use controls are established that they perceive as limiting their options.⁸⁹

Programs which fail to take that concern into account will simply be ineffective. Expressed another way, protection of agricultural land will be most effectively achieved through a system of broad-based land use planning that responds to the special problems of small farmers.

Using that standard as a guide, this article will examine the effectiveness of the present patchwork of farmland preservation programs. However, it is first essential to attain some understanding of the character of land development in the United States, the topic to which we now turn.

LAND DEVELOPMENT IN THE UNITED STATES

Several factors account for the increasing development of agricultural land.

Demographic Shifts

U.S. population is undergoing a major shift from the Frost Belt to the Sun Belt. During the 1970s the South and West acquired 90 percent of U.S. population growth and now possess more than half the nation's population.⁹⁰ As would be expected, rural land development has followed the demographic shift. Out of the 23.2 million acres converted from 1967-75,⁹¹ more than half, 12 million acres, were in the South.⁹²

In addition to the regional shift, population data revealed that for the first time since 1920, small towns and rural areas are growing at a faster rate than metropolitan areas.⁹³ During the 1970s, as the nation's population grew by 10.5 percent, non-metropolitan areas grew by 15.4 percent;

89. Lapping, *Agricultural Land Retention Strategies: Some Underpinnings*, 34 J. SOIL & WATER CONSERV. 124, 125 (1979). See also, Nellis *supra* note 88, Wadley, *supra* note 86, at 492-93.

90. Final Report, *supra* note 4, at 27. The Final Report by the President's Commission for the National Agenda for the 1980's recently recommended that the federal government assist this movement rather than try to stem the decline of older cities in the North and Midwest. *New York Times*, Dec. 27, 1980, at A1, col 1.

91. See *supra* text accompanying note 4.

92. NALS defines the South as the states of West Virginia, Virginia, North Carolina, South Carolina, Kentucky, Tennessee, Georgia, Florida, Alabama, Mississippi, Arkansas, Louisiana, Texas, and Oklahoma. NALS, *supra* note 4, at 8. The Western states accounted for three million acres, the North Central states for 5.2 million, and the Northeastern states for three million. *Id.* at 36.

93. Herbers, *Rural Areas End Trend, Surpass Cities in Growth*, *New York Times*, March 3, 1981, at A14, col. 1. The figures are taken from the USDA analysis based on 1980 census data.

metropolitan areas grew by only 9.1 percent.⁹⁴ From 1970–78, population in the top one hundred agriculturally productive counties grew by 13.5 percent, almost double the national rate.⁹⁵

During the period from 1970–1980, 44 percent of new home construction occurred in rural areas,⁹⁶ and housing in rural areas increased by 52 percent.⁹⁷ More than one-third of all homes in rural America were built from 1970–1980.⁹⁸ At the same time, however, the population of those living on farms decreased from twenty-three million in 1950 to a mere eight million.⁹⁹ Clearly, population shifts are playing a major role in the conversion of farmland.

Land Speculation and Governmental Policies

It is beyond the scope of this study to examine the extent to which regional demographic shifts are responses to economic conditions or reflect a generalized desire of people to live in warmer climates. On the other hand, the urban to rural shift may be in large part a result of land speculation and governmental policies which have failed to take into account effects on agriculture. In enacting the Farmland Protection Policy Act,¹⁰⁰ Congress recognized that federal policies have often resulted in the unnecessary conversion of agricultural land¹⁰¹ and that successful farmland preservation can occur only if the effects of those policies are understood and the policies themselves adjusted. While the same is true of the actions of private speculators and developers, it is impossible, and probably unfair, to separate out their role; it will be considered along with that of the government.

As a community begins to grow, surrounding land comes within the area of potential expansion, and there is profit to be made from purchase and resale or development of that land.¹⁰² Agricultural lands are especially vulnerable to the land development process for two reasons. First, land with ideal farming topography is also physically easiest to develop.¹⁰³ More critically, while land nearest built-up areas will already have in-

94. *Id.*

95. Final Report, *supra* note 4, at 43. Thirty-three of the top 100 agricultural counties are metropolitan, including Los Angeles and Maricopa (Phoenix). *Id.*

96. *Id.* at 25.

97. *Housing Boom Hits Rural Areas*, Kansas City Times, Aug. 29, 1983, at A2, col. 4.

98. *Id.*

99. Final Report, *supra* note 4, at 47.

100. *Supra* note 63.

101. 7 U.S.C. § 4201(a)(5).

102. See Elias and Gillies, *Some Observations On the Role of Speculators and Speculation in Land Development*, 12 U.C.L.A. L. REV. 789 (1965).

103. Regional Science Research Institute, *Urbanization of Prime Agricultural Lands in the United States* (1977) cited in PRESERVING AMERICA'S FARMLAND, *supra* note 11, at 11. Cf. Final Report, *supra* note 4, at 39.

creased in value, more distant farmland can be purchased less expensively. Thus, in order to reduce costs, both speculators who purchase land for resale and developers who improve the land for resale often leapfrog the more expensive tracts in favor of the cheaper rural land.¹⁰⁴ At the same time, the economics of land development—the need to recoup investments and minimize holding costs such as interest and property taxes—encourage rapid development.¹⁰⁵ Using a residential subdivision as an example, the speculator sells to the developer as soon as a reasonable profit can be made, and the developer builds and sells houses as expeditiously as possible. Each newly developed area, in turn, produces additional leapfrogging, destroying more farmland.

Because those involved in such transactions are by definition concerned with development, not farmland preservation, they do not consider society's need for agricultural land. That does not mean that speculation and development are sinister activities, but it does mean that in the end they bring about the direct loss of large areas of prime farmland.

No less significant to the conversion process are the indirect effects such efforts can have on surrounding land. When land comes within the suburban influence zone in which later development is possible or probable, property values and property taxes, which are based on those values, rise.¹⁰⁶ Thus, not only must the farmer pay more for farmland that he might wish to purchase,¹⁰⁷ but his overhead expenses, in the form of taxes, increase.

Agricultural land is converted to nonagricultural uses when farmers succumb to the pressure and sell to those offering fair market value. This chain of events would occur naturally on land nearest the city, but to the extent that buyers purchase the cheapest land available, thus scattering development throughout the rural-urban fringe,¹⁰⁸ urban sprawl occurs. This phenomenon pushes up the market value of other nearby agricultural

104. Raup, *supra* note 44, at 374.

105. See generally, Baker, *Controlling Land Uses and Prices By Using Special Gains Taxation to Intervene in the Land Market: The Vermont Experiment*, 4 ENVTL AFF. 427 (1975); Note, *State Taxation—Use of Taxing Power to Achieve Environmental Goals: Vermont Taxes Gains Realized From the Sale or Exchange of Land Held Less Than Six Years*, 49 WASH. L. REV. 1159 (1974).

106. Clawson, *Urban Sprawl and Speculation in Suburban Land*, 38 LAND ECON. 99, 107 (1962). In the absence of legislation to the contrary, property tax is based on a parcel's fair market value. At the urban fringe, that figure contains a development value component since buyers, anticipating development or resale, will pay more than the land is worth for agricultural purposes. REGIONAL SCIENCE INSTITUTE, *UNTAXING OPEN SPACE* at 25–26. (Prepared for CEQ 1976). See generally *infra* text accompanying notes 139–43.

107. In 1975, the average agricultural value of Suffolk County, New York farmland was \$1500 per acre while its average per acre selling price was \$7500. Newton & Boast, *Preservation By Contract: Public Purchase of Development Rights in Farmland*, 4 COLUM. J. ENVTL L. 189, 211 (1978).

108. See *supra* text accompanying notes 102–106.

land, putting pressure on its owners, eventually generating more urban sprawl. "Urban sprawl, then, tends to produce more sprawl."¹⁰⁹

The problem is magnified when public services are extended to the developing or developable areas; the probability of development (or greater development) significantly increases, land becomes even more valuable, and taxes rise even higher.¹¹⁰ A new sewer, for example, will attract development that might otherwise have occurred on available urban sites.¹¹¹ Since governmental units are normally responsible for the extension of services, it is in this sphere that official policies often compound the action of speculators and developers.

For example, EPA administers a multi-billion dollar grant program for sewage treatment plant construction as part of its mandate to promote clean water.¹¹² However, the new sewers also serve as "magnets for growth"¹¹³ which might not have occurred prior to the program, when local governments were responsible for building such facilities.¹¹⁴ "Thus, in fighting pollution the government unfortunately has subsidized sprawl."¹¹⁵ Moreover, government programs compound each other.

EPA inadvertently encourages rural subdivisions by limiting the amount of additional sewers and sewage treatment facilities in built-up areas. Then Farmers Home Administration provides money for the rural

109. Dunford, *A Survey of Property Tax Relief Programs for the Retention of Agricultural and Open Space Lands*, 15 GONZ. L. REV. 675, 683 (1980).

110. Clawson, *supra* note 106.

111. Anthan, *How U.S. Policies Help Gobble Up The Farmland*, Des Moines Register, July 12, 1979.

112. 33 U.S.C. § 1281-92.

113. Anthan, *supra* note 111 (quoting J. Gustafson, an EPA official).

114. *Id.*

115. *Id.* Other governmental programs bring about similar results. In Lincoln County, South Dakota, near Sioux Falls, the Farmers Home Administration (FmHA) helped finance a rural water system to provide water for area farmers. But in the three years following its installation, nonfarm housing starts increased 300%. (*Id.*) (from an interview with T. Jacobson, senior planner from Sioux Falls.) Another FmHA program recently accounted for the loss of 150 acres in Lewis and Clark County, Montana. The development occurred seven miles from Helena, on land not likely to have been developed without an FmHA loan, qualification for which required a location at least five miles from the City. Final Report, *supra* note 4, at 49-50.

(As previously stated, federal law now provides that state or local government projects receiving FmHA loans be located, whenever possible, on non-prime farmland. Private parties using FmHA loans for projects involving prime farmland will be assessed a two percent annual interest penalty.) *Supra* note 68.

Similarly, Harris County, Texas, surrounding Houston, contains approximately 500,000 acres of agricultural land. NALS estimates that Housing and Urban Development (HUD) programs contributed to the conversion of 13,000 acres of mostly prime land in 1978, about 11,300 acres in 1979, and about 4,700 acres in 1980. *Id.* at 32. "While Harris County housing may have increased without HUD-administered loan guarantees, NALS research suggests that HUD programs played an important role in facilitating that growth." *Id.* at 49. *See also*, *Preserving America's Farmland*, *supra* note 11, at 35-40.

sewer and water facilities. Then come housing subsidies, followed by more roads to serve the increased population, and then subsidies that bring industries and businesses along the roads.¹¹⁶

The point is not that such programs constitute bad social policy, but that they have unwittingly destroyed agricultural land. It is hoped that the Farmland Protection Policy Act, which now directs federal agencies to evaluate the impact of their activities upon agricultural land,¹¹⁷ will greatly reduce federally encouraged conversion of farmland. However, as previously noted, the act clearly leaves it to state and local governments to develop preservation programs.¹¹⁸ While the federal government's willingness to cooperate should be a catalyst, the farmland conversion problem will be solved only through state and local planning.

Problems of Farm Management

The conversion of agricultural land in an area may, in turn, affect the farmer's ability or desire to continue farming.

At the urban/rural fringe, where development potential has increased the value of the land, the farmer never knows when he will be offered an irresistible price for his land.¹¹⁹ A sort of "Impermanence Syndrome"¹²⁰ is created; farmers are reluctant to make necessary investments or repairs,¹²¹ and they may decide against purchasing land with which to expand their operations. In turn, the level of farm service businesses, such as equipment dealerships, may decline as they become less profitable,¹²² thus further weakening the farming environment.

In addition, as agricultural areas become residential, tensions develop between farmers and suburbanites. Suits seeking to declare feedlots to

116. Anthan, *supra* note 111 (quoting G. Fisher, a supervisor in Albemarle County, Virginia).

Another commentator suggests that government subsidizes urban sprawl in the following ways: 1) the financing of highways in part with a gasoline tax based on distance travelled; 2) FHA and VA loan programs which encourage new housing starts over the use of apartments; 3) income tax deductions for home interest payments; 4) the use of tax exempt municipal bonds to extend government services; and 5) average cost pricing of public services (as opposed to marginal cost pricing), whereby the center city is forced to pay for suburban development. Raup, *supra* note 44, at 372-374.

NALS notes that 15% of the federal programs having moderate to substantial effects on agriculture have budgets greater than one billion dollars, and 65% have budgets in excess of \$100 million. Final Report, *supra* note 4, at 48.

117. See *supra* text accompanying notes 66-68.

118. See *supra* text accompanying notes 70-71, 73-74.

119. Clawson, *supra* note 106.

120. Final Report, *supra* note 4, at 50.

121. *Id.* Clawson, *supra* note 106, compares these farmers to sharecroppers in the South who were afraid to invest in an enterprise they might soon lose.

122. Clawson, *supra* note 106; Final Report, *supra* note 4, at 44; Anthan, *Farmers, City Dwellers Sometimes Tense Neighbors*, Des Moines Register, July 11, 1979.

be nuisances have been common for years,¹²³ but farmers today increasingly are confronted with homeowners' complaints about slow-moving vehicles, with environmental restrictions such as bans on burning, or with pets that disturb livestock.¹²⁴ Conversely, nonfarm residents are exposed to the effects of chemical pesticides and to unpleasant barnyard odors.¹²⁵

A substantial number of states have responded with Right-to-Farm laws¹²⁶ which seek to limit actions against normal agricultural activities.¹²⁷ Such statutes may, in some instances, only codify common law nuisance doctrine,¹²⁸ but they do clearly express a policy of protecting agriculture. They have not, however, put an end to nuisance actions,¹²⁹ which have been estimated to cost a farmer between \$15,000 and \$20,000 to defend.¹³⁰ As a result of these sociological factors, some farmers may decide to cease their operations.¹³¹ Worse still, frustration may run so deeply that some will "mine" the soil with high intensity crops before leaving.¹³²

NALS predicts that "socio-demographic factors and federal program activities will continue to bring farm and nonfarm uses of agricultural

123. *E.g.*, *Spur Indus., Inc. v. Del E. Webb Dev. Co.*, 108 Ariz. 178, 494 P.2d 700 (1972); *Dill v. Excel Packing Co.*, 183 Kan. 513, 331 P.2d 539 (1958). *See also* O'Malley, *Good Right-to-Farm Laws Make Good Neighbors*, RURAL ELECTRIFICATION 18-22 (January 1982).

124. Anthon, *supra* note 122.

125. *Id.*

126. Thompson, *Defining and Protecting the Right to Farm*, 5 ZONING AND PLANNING L. REP. 57-63, 65-70 (Sept.-Oct. 1982). *See also* NALS, *THE PROTECTION OF FARMLAND, A REFERENCE GUIDEBOOK FOR STATE AND LOCAL GOVERNMENTS*, 98-103 (1981) (hereinafter *Guidebook*).

127. The Kansas Statute, enacted in 1982, reads as follows:

Section 1. It is the declared policy of this state to conserve and protect and encourage the development and improvement of farmland for the production of food and other agricultural products. The legislature finds that agricultural activities conducted on farmland in areas in which nonagricultural uses have moved into agricultural areas are often subjected to nuisance lawsuits, and that such suits encourage and even force the premature removal of the lands from agricultural uses. It is therefore the purpose of this act to provide agricultural activities conducted on farmland protection from nuisance lawsuits.

Sec. 2. Agricultural activities conducted on farmland, if consistent with good agricultural practices and established prior to surrounding nonagricultural activities, are presumed to be reasonable and do not constitute a nuisance, public or private, unless the activity has a substantial adverse effect on the public health and safety.

If such agricultural activity is undertaken in conformity with federal, state, and local laws and regulations, it is presumed to be good agricultural practice and not adversely affecting the public health and safety.

1982 Kan. Sess. Laws Ch. 3.

128. Thompson, *supra* note 126, at 59.

129. *See e.g.*, *Herrin v. Opatut*, 248 Ga. 140, 281 S.E.2d 575 (1981).

130. *The Drovers' Journal* (Sept. 13, 1979) as noted in Hearings on S. 485 before the Kansas House Committee on Agriculture and Livestock (March 18, 1982) (Statement of Brad Avery, Admin. Asst. to Sen. Talkington).

131. For the story of one farmer who, because of a nuisance action, was forced to sell out, *see* O'Malley, *supra* note 123.

132. Final Report, *supra* note 4, at 44.

land into competition throughout this century."¹³³ While that prediction was issued prior to passage of the Farmland Protection Policy Act, that act represents only a starting point for agricultural land use planning. There appears to be no reason to question NALS's conclusion that while the pressures may not be as great over the next twenty years as they have over the past twenty, "the process of economic growth and development in rural areas is not expected to change significantly in the near future."¹³⁴

The programs that have been devised to counter farmland conversion have responded to one or more of these specific problems discussed above.¹³⁵ As previously stated, this article's purpose is to evaluate those programs and to suggest that their effectiveness would be enhanced through the use of broad-based land use planning. The types of programs surveyed are: 1) preferential taxation, 2) agricultural districting, 3) agricultural zoning, 4) purchase of development rights (PDR), and 5) transfer of development rights (TDR). It will be seen that these programs utilize increasing degrees of planning and achieve increasing levels of success. Moreover, even within each type of program, effectiveness depends on the level of planning.

PREFERENTIAL TAXATION

Beginning with Maryland in 1956, 48 states¹³⁶ have granted tax relief to farmers, primarily through the use of preferential *ad valorem* tax assessment for agricultural land. Since most state constitutions mandate uniform taxation, amendments permitting preferential treatment have been required.¹³⁷ Although such measures are exceedingly popular as a means of tax reduction,¹³⁸ they have been particularly ineffective as a means of conserving agricultural land.

133. *Id.* at 51.

134. *Id.*

135. Other concerns, while important, are beyond the principal scope of this article. For example, the development of open lands may have negative repercussions for water quality. "Open lands protect the hydrologic integrity of watersheds by controlling storm water runoff and sediment drainage, and they protect aquifer recharge areas and serve as buffers for water supply. . . ." CEQ 9th Annual Report 270 (1978).

Aquifers are further endangered by the construction of subdivisions relying on septic tanks for waste disposal. A survey in one Oregon county in the early 1970's showed that 562 out of 1,005 developer-platted lots were unsuitable for planned septic tanks because of size, topography, soil quality, high water table or adverse slope. *Hearings on S. 268 Before the Senate Comm. on Interior and Insular Affairs*, 93rd Cong., 1st Sess. Part II 9 (1973) (statement of Hon. Tom. McCall, Gov. of Oregon).

136. Georgia and Kansas are the only states which have not enacted such a program. Kansas has amended its constitution to permit such legislation, however. Kans. Const. art. 11, § 12.

137. Keene, *supra* note 8, at 658.

138. Tax reduction is concededly a primary goal of such systems. "In many states, this appears to have been the only, or at least, the overriding goal." UNTAXING OPEN SPACE, *supra* note 106, at 22.

The Problem

Farmland in a rural area has a value based upon its capitalized agricultural earning power. In determining that value, factors such as soil quality, topography, and commodity prices are taken into account.¹³⁹ Since farming is that land's highest and best use, property taxes will be assessed on that agricultural value.¹⁴⁰ By contrast, farmland within a suburban influence zone is vulnerable to conversion and consequently possesses an additional development value, equalling the difference between its fair market value for development purposes and its agricultural use value.¹⁴¹ For example, in 1975, land in Suffolk County, New York was worth \$1,500 per acre for agricultural purposes but, because of its proximity to New York City, had an average selling price of \$7,500 per acre.¹⁴² Thus, its development value was \$6,000 per acre. Since the land's highest and best use was for development, property taxes would have been assessed on the sum of the two values,¹⁴³ \$7,500 in the above example.

In addition, the tax rate on developable land often will be effectively higher than on purely agricultural land because of the need to pay for government services which have been extended.¹⁴⁴

The combined result of these factors is that farmers at the urban fringe pay a larger portion of the same income in property taxes than do farmers in rural areas.¹⁴⁵ This differential is in addition to the larger percentage of their income that farmers in general pay, compared to city dwellers, because of the land intensive nature of their operations.¹⁴⁶

As previously discussed, agricultural land is converted to nonagricultural use when farmers, no longer able or willing to withstand the pressure,

139. Keene, *Differential Assessment and The Preservation of Open Space*, 14 URB. L. ANN. 11, 15 (1977). The article is an adaptation and updating of UNTAXING OPEN SPACE, *supra* note 106.

140. Keene, *supra* note 139, at 14.

141. *Id.* at 25.

142. *Supra* note 107.

143. Keene, *supra* note 139, at 25-26.

144. *Id.* at 14; GLOUDEMANS, USE VALUE FARMLAND ASSESSMENTS: THEORY, PRACTICE AND IMPACT 11 (1974).

145. Compare two such farmers, both with net incomes of \$7,500. The rural farmer, whose land has an agricultural use value of \$30,000 and an effective tax rate of one percent, pays \$300, or four percent of his income, in tax. The urban fringe farmer, whose land also has an agricultural use of \$30,000 but a fair market value of \$100,000, and an effective tax rate of two percent, pays \$2,000, or 28% of his income in tax. Gloudemans, *supra* note 144, at 10-11.

146. In 1971, farmers paid 7.6% of their income in real property taxes, up from 5.7% in 1961. The nation as a whole paid 4.4% in 1971, up from 4.3% in 1961. Hady & Sibold, *State Programs for the Differential Assessment of Farm and Open Space Land*, U.S. Dep't of Agriculture, Econ. Research Service, Ag. Econ. Rep. 256 at 7 (1974).

In some states the percentage is well above average. *E.g.*, in 1972 farmers in New York paid 31% of their income in taxes; in Pennsylvania, 21.6%; in Illinois, 14.2%. Gloudemans, *supra* note 144, at 10. In New Jersey farmers paid 55.9% of their income in property taxes in 1972, up from 5.9% in 1950. KOLESAR & SCHOLL, SAVING FARMLAND 3 (1975).

sell to those offering amounts in excess of use value.¹⁴⁷ Tax relief programs, which reduce overhead costs, are an attempt to give the farmer an incentive—increased profits—to resist development pressure.

*General Provisions of Tax Relief Programs*¹⁴⁸

The various programs define agricultural lands to cover a full range of generally understood agricultural uses.¹⁴⁹ A number of states provide relief for forest or timber land,¹⁵⁰ although some require that such lands be used for growing and harvesting wood products.¹⁵¹ Other programs extend benefits to open land,¹⁵² recreational lands,¹⁵³ and wild lands.¹⁵⁴ To avoid needless complexity, future references to agricultural uses will include all eligible uses.

In addition, some states require a minimum number of acres,¹⁵⁵ a minimum agricultural income,¹⁵⁶ a minimum history of agricultural use,¹⁵⁷ or a conservation management program.¹⁵⁸ Finally, to ensure that non-farmer speculators are unable to take advantage of the relief, at least one state, Texas, provides that the owner must be a natural person whose primary occupation and source of income is agriculture.¹⁵⁹

147. See *supra* text accompanying notes 106–109. See generally UNTAXING OPEN SPACE, *supra* note 106.

148. For a state by state listing of features see Keene, *supra* note 139, at 17–23; see generally UNTAXING OPEN SPACE, *supra* note 106 at 14–19.

149. *E.g.*, the most recently enacted statute, that of Mississippi, defines agricultural land as “devoted to the commercial production of crops and other commercial products of the soil, including but not limited to the production of fruits and timber or the raising of livestock and poultry.” MISS. CODE ANN. § 27-35-50 (Supp. 1981).

150. *E.g.*, CONN. GEN. STAT. ANN. § 12-107(b) (West Supp. 1972–1981); LA. REV. STAT. ANN. § 47:2307(c) (West Supp. 1982).

151. *E.g.*, N.C. GEN. STAT. § 105-277.2(2) (1979); WASH. REV. CODE ANN. § 84:34.020(3) (Supp. 1982). Some states have separate forest taxation laws, *e.g.*, Western Oregon Small Tract Optional Tax, OR. REV. STAT. §§ 321.705–.765 (1981).

152. *E.g.*, CONN. GEN. STAT. ANN. § 12-107(b)(c) (West Supp. 1972–81); N.H. REV. STAT. ANN. § 79-A:2 (VII) (Supp. 1981).

153. *E.g.*, MINN. STAT. ANN. § 273.112 (West Supp. 1982); N.H. REV. STAT. ANN. § 79-A:2(X) (Supp. 1981).

154. *E.g.*, N.H. REV. STAT. ANN. § 79-A:2 (XIII) (Supp. 1981).

155. *E.g.*, WIS. STAT. ANN. § 71.09(11) (West Supp. 1981) 35 or more acres; WASH. REV. CODE ANN. § 84.34.020(2) (Supp. 1982) 20 acres or more. Parcels of less than 20 acres have an additional past agricultural income requirement. *Id.*

States which provide for the formation of agricultural districts by definition have acreage requirements. See *e.g.*, N.Y. AGRIC. & MKTS. LAW § 303 (McKinney Supp. 1981) (500 acres).

156. *E.g.*, MO. ANN. STAT. § 137.017 (Vernon Supp. 1982), \$2,500 per year for the preceding five years; S.D. COMPILED LAWS ANN. § 10-6-31.3(1) (Supp. 1981), one-third of the total family gross income or \$2,500 in three of the preceding five years.

157. *Id.*

158. *E.g.*, WIS. STAT. ANN. § 91.35 (Supp. 1981), district conservation plan required; N.C. GEN. STAT. § 105-277.2 (1979), “sound management program” required.

159. Tex. Const. art. 8, § 1-d(a) (Vernon Supp. 1981). Such abuses have occurred in New Jersey where developers have purchased land and leased it back to farmers, thereby reducing their holding costs until they are ready to develop. See Kolesar & Scholl, *Misplaced Hopes, Misspent Millions: A Report on Farmland Assessment in New Jersey*. PRINCETON: CENTER FOR ANALYSIS OF PUBLIC ISSUES (1972).

Determination of Relief

Use Value. The vast majority of tax relief programs assess eligible farmland at its current or agricultural use value, instead of at its fair market value, and are thus known as differential assessment systems. Use value is determined by one of two methods: reference to soil productivity or capitalization of income.¹⁶⁰

States utilizing productivity-based assessment establish values for various categories of land quality. For example, under the Indiana program, land capable of producing over 75 bushels of corn and over 35 bushels of wheat per acre receives the highest rating. Land capable of producing 60–75 bushels of corn and 30–35 bushels of wheat receives a lower rating.¹⁶¹ To calculate use value, assessors determine the productivity of a given tract and then multiply the specified value by the number of acres. While the method has the advantage of simplicity, it is subject to criticism for failure to take into account other facts, “such as location, accessibility, and differential suitability for different kinds of crops.”¹⁶²

Capitalization of income is by far the most popular method of differential assessment.¹⁶³ Under such a system, the land’s income producing potential, usually measured by its net rental value for agricultural purposes,¹⁶⁴ is capitalized to obtain its use value.¹⁶⁵ While capitalization perhaps provides a more accurate value than productivity rating, it is administratively more burdensome due to the volume of data required.¹⁶⁶ Moreover, the choice of capitalization rate will greatly affect the value obtained.¹⁶⁷

160. A third method, comparison to sales of comparable land, is seldom used since such purchase prices often contain development value components. UNTAXING OPEN SPACE *supra* note 106, at 34.

161. See *e.g.*, STATE BD. OF TAX COMM’RS., INDIANA REAL ESTATE PROPERTY APPRAISAL MANUAL, Regulation 17 (1968)(reprinted in UNTAXING OPEN SPACE, *supra* note 106, at 37).

162. UNTAXING OPEN SPACE *supra* note 106, at 36.

163. *Id.* at 35–36.

164. *E.g.*, “. . . fair rent which can be imputed to the land being valued based upon rent actually received for the land by the owner and upon typical rentals received in the area for similar land in similar use, with the owner paying the property tax.” Cal. Rev. & Tax Code § 423(a)(1)(West Supp. 1981). Rental values may be inappropriate in areas where developers have bought up land and leased it back to farmers at less than the market rental value. While such transactions show little profit, they reduce holding costs since the land qualifies for differential assessment. UNTAXING OPEN SPACE, *supra* note 106, at 35. See generally, Kolesar & Scholl, *supra* note 159.

165. The net rental value is divided by the sum of the effective property tax rate and a capitalization rate. Dunford, *supra* note 109, at 683. See generally, UNTAXING OPEN SPACE, *supra* note 106, at 57.

The effective property tax rate is the “percentage which the tax is of fair market value.” Keene, *supra* note 139, at 32. “Capitalization rates vary considerably from state to state, and from year to year, because they are often set administratively in accordance with legislative criteria.” *Id. E.g.*, the Oregon capitalization rate is the average effective rate of interest charged in Oregon by the Federal Land Bank for farm properties over the past five years, plus the component for the local tax rate. OR. REV. STAT. § 308.345(3) (1979).

166. See Dunford, *supra* note 109, at 683.

167. A capitalization rate of 10% will yield a use value of half that obtained from a five percent rate. UNTAXING OPEN SPACE, *supra* note 106, at 39.

Classified Property Ratios. A number of states use classified property tax systems which establish assessment ratios for various categories of property. For example, Tennessee farm property is assessed at 25 percent of its value,¹⁶⁸ Arizona farm property at 16 percent.¹⁶⁹ These states generally assign to agricultural land rates lower than those for commercial land,¹⁷⁰ but agricultural landowners are generally treated no differently than residential landowners.¹⁷¹ More importantly, since the ratios are tied to fair market value, they are of comparatively little benefit to vulnerable urban fringe farmers; their taxes increase with the development value of the land.¹⁷² "In general, the primary intent of a classified system appears to be the granting of a differentially low assessment to homeowners in general, whereas use-value farmland assessments are intended more as tax relief measures for farmers in particular."¹⁷³

Circuit Breakers. Two states, Michigan and Wisconsin, have adopted tax preference systems that do not directly reduce *ad valorem* taxes. Instead, farmers receive income tax credits for property taxes which amount to more than a specified percentage of household income.¹⁷⁴ In Michigan, eligibility is based on the execution of an agreement restricting the property to agricultural use,¹⁷⁵ in Wisconsin, the amount of the credit varies with the degree of zoning and planning adopted by the local governing unit.¹⁷⁶ "[B]ecause they are based on the farmer's net income rather than just one element (property tax) which affects his net income," the programs are more directly aimed at the farmers' financial plight than the other tax relief schemes.¹⁷⁷

Types of Programs

Within the general categories there exist four basic types of tax relief programs: pure differential assessment, deferred taxation, those requiring restrictive agreements, and those mandating zoning or planning.¹⁷⁸ From

168. TENN. CODE ANN. § 67-611 (1976).

169. ARIZ. REV. STAT. ANN. § 42-136, -227 (1980).

170. *E.g.*, in Arizona agricultural land is assessed at 16%, commercial land at 25%. *Id.*

171. *E.g.*, TENN. CODE ANN. § 67-611 (1976); W. VA. CODE § 11-8-5 (1974).

172. Gloudemans, *supra* note 144, at 23.

173. *Id.* at 24.

174. MICH. COMP. LAWS § 26.1287(10) (Supp. 1982); WIS. STAT. ANN. § 71.09(11) (West Supp. 1981). Both statutes also provide credits to partnership and corporate owners who can demonstrate a history of agricultural use.

175. MICH. COMP. LAWS, § 26.1287(10) (Supp. 1982).

176. *See infra*, text accompanying notes 205-21.

177. *Guidebook*, *supra* note 126, at 19.

178. Dunford, *supra* note 109, at 685 is unique in discussing the fourth category, based primarily on the new Wisconsin statute. Earlier works discuss only the first three. *See generally*, UNTAXING OPEN SPACE *supra* note 106.

the farmer's perspective, the systems progressively restrict the benefits he receives; from the planner's perspective, they progressively encourage farmland preservation.

Pure Differential Assessment

Seventeen states have pure differential assessment programs which simply assess land at use value.¹⁷⁹ Tax relief follows automatically from ownership of eligible land, and no portion of the tax savings is required to be repaid if the land is converted to a non-eligible use. Under such a system, pure tax reduction is the landowner's only incentive to resist development pressure.

Deferred Taxation

Twenty-eight states utilize a system of tax deferral for eligible land.¹⁸⁰ As with pure differential assessment, relief follows automatically from ownership and, so long as it remains eligible, land is taxed only on its use value. However, upon its conversion, some of the tax savings must be repaid in the form of rollback taxes. Rollback periods are set by statute and vary from two¹⁸¹ to ten years.¹⁸² Most such statutes provide that two sets of data be kept on eligible land: information to permit collection of the tax owing at use value assessment as well as the tax that would be owing at fair market value assessment. The rollback tax is simply the difference between the two amounts for the years the land received the tax benefit, subject to the statutory maximum.¹⁸³ A sizeable number of states charge interest on the amount of the rollback¹⁸⁴ and, in some, an additional penalty may be assessed for failure to comply with procedural requirements.¹⁸⁵ In order to avoid the cumbersome record keeping described above, some states simply levy a conveyance tax when land is converted from an eligible to non-eligible use.¹⁸⁶

179. *Guidebook*, *supra* note 126, at 57.

180. *Id.* See e.g., N.J. STAT. ANN. § 54:4-23.8 (Supp. 1981); OR. REV. STAT. § 308.395 (1979).

181. E.g., KY. REV. STAT. ANN. § 132.450, 454 (Baldwin 1982).

182. E.g., HAW. REV. STAT. § 246-10(f)(3) (Supp. 1981); OR. REV. STAT. § 308.395(1) (1981).

183. E.g., OR. REV. STAT. § 308.395(1) (1981).

184. Six percent is the typical rate (UNTAXING OPEN SPACE, *supra* note 106, at 69) although in some states the rate is as high as ten percent. HAW. REV. STAT. § 246-10(f)(3) (Supp. 1981).

185. E.g., OR. REV. STAT. § 308.395(2) (1981). In Washington, the penalty amounts to 20% of the rollback tax. WASH. REV. CODE ANN. § 84.34.080 (Supp. 1982).

186. E.g., in New Hampshire the tax amounts to 10% of the fair market value of the property. N.H. REV. STAT. ANN. § 79-A: 7 (Supp. 1979). In Maine the amount varies with the length of time the land has received tax benefits. ME. REV. STAT. TIT. 36, § 1112 (1964).

Restrictive Agreements

Another small group of states require that, in order to qualify for differential assessment, farmers enter into agreements restricting the use of their land to eligible purposes.¹⁸⁷

California's Land Conservation Act, the Williamson Act,¹⁸⁸ probably the most widely known of all land preservation plans, illustrates the operation of such a system. Owners of agricultural land, located in a designated agricultural preserve, may contract with the city or county to restrict the land to agricultural use.¹⁸⁹ Such contracts may be enforced by either party by any action, including one for specific performance,¹⁹⁰ and are binding on successors in interest.¹⁹¹

The contracts have minimum ten year terms and are automatically renewed each year unless notice of nonrenewal is given by either party.¹⁹² A nonrenewed contract remains in force for the nine year remainder of the term,¹⁹³ but the assessed valuation is recomputed each year until it reaches fair market value in the last year.¹⁹⁴

A landowner may petition for cancellation of the contract¹⁹⁵ but must show that cancellation is "consistent with the act" or "is in the public interest."¹⁹⁶ The "uneconomic character" of the existing agricultural use

187. UNTAXING OPEN SPACE, *supra* note 106, at 19.

188. CAL. GOV'T CODE § 51200-51295 (West Supp. 1982).

189. *Id.* § 51201(b), (d), § 51230, § 51240. The Act also covers recreational land, scenic highway corridors, wildlife habitats, saltponds, managed wetlands and submerged areas. *Id.* § 51205.

The establishment of agricultural preserves is but one feature of a broad-based land planning system. Counties are required to develop general use plans which include provisions for the preservation of open space, which includes agricultural land. Cal. Govt. Code § 65302, § 65560 *et seq.* (West Supp. 1966-80). Any action regulating or restricting open space land must be consistent with the open space plan, and proposals for preserves must be initially submitted to the county planning department. *Id.* § 65556, § 51234. Finally, within two years of the designation of a preserve, all noncontracted land must be zoned for agriculture. *Id.* § 51230.

190. *Id.* § 51251.

191. *Id.* § 51243.

192. *Id.* § 51244.

193. *Id.* § 51246.

194. CAL. REV. & TAX CODE § 426 (West Supp. 1982).

195. CAL. GOV'T CODE § 51280 (West Supp. 1982).

196. *Id.* § 51282. The California Supreme Court construed the Williamson Act for the first time in *Sierra Club v. City of Haywood*, 28 Cal.3d 840, 171 Cal. Rptr. 619, 623 P.2d 180 (1981). The court held that nonrenewal is the ordinary method of terminating contracts and that cancellation is appropriate only in the "most extraordinary circumstances." 171 Cal. Rptr. at 625. The "public interest" refers not just to the interests of a particular community but to the interest of the public as a whole in the value of land for agriculture and open space. *Id.* at 627. That public interest must be "substantially outweighed" by other public concerns for cancellation to be appropriate. *Id.* at 688.

In response to that decision, the California legislature enacted amendments to the Williamson Act. 1981 Cal. Legis. Serv. Ch. 1095 (West). The amendments provide a one-time opportunity for landowners to cancel contracts on grounds different than those generally applicable. CAL. GOV'T CODE § 51282.1 (West Supp. 1982). See FARMLAND, Newsletter of the American Farmland Trust, March, 1982 at 1.

will not, by itself, constitute sufficient reason for cancellation and may be considered only if there is no other reasonable or comparable agricultural use to which the property can be put.¹⁹⁷ Potential alternate uses will be considered only if there is no nearby noncontracted land available and suitable for the proposed use, or if development of the contracted land would provide more continuous patterns of development than the development of nearby noncontracted land.¹⁹⁸ Deferred taxes are assessed based on a statutory formula,¹⁹⁹ and a cancellation fee amounting to 12.5 percent of the land's fair market value is charged,²⁰⁰ although both may be waived under certain conditions.²⁰¹

Mandatory Zoning and Planning

In three states tax relief is dependent upon prior zoning and/or planning. Since the Hawaii²⁰² and Oregon²⁰³ measures are components of more comprehensive statewide land use programs meriting separate discussion, this article will focus on the Wisconsin scheme.

The Wisconsin Farmland Preservation Law²⁰⁴ is divided into two stages. Under phase I, 1977-82, farmers meeting the acreage, income, and conservation eligibility requirements received an income tax credit by signing an agreement containing a covenant not to develop the land.²⁰⁵ All such agreements expired at the end of phase one, September 30, 1982. Under phase two, tax credits depend upon the degree of local government planning and land use control. Counties and towns are not required to act, but no credits are available unless they do so.²⁰⁶

In urban counties, land must be zoned exclusively for agriculture in order to be eligible for credits; subject to exceptions for parents and children of the farm operator, residences must be restricted to those earning a substantial portion of their livelihood from the parcel.²⁰⁷ The

197. CAL. GOV'T CODE § 51282(d) (West Supp. 1982).

198. *Id.* § 51282(b), (c).

199. *Id.* § 51283.1.

200. *Id.* § 51283(a)(b). Mix, *Restricted Use Assessment in California: Can It Fulfill Its Objectives?*, 11 SANTA CLARA LAW. 259, 264 (1971).

201. CAL. GOV'T CODE § 51283(c), § 51283.1(e) (West Supp. 1982).

202. HAW. REV. STAT. § 246-12 (1976 and Supp. 1981).

203. OR. REV. STAT. § 308.370 (1981).

204. WIS. STAT. ANN. § 91.01 *et seq.* (West Supp. 1981).

205. *Id.* § 91.13, § 91.31, § 71.01(11). Under a phase one agreement the land received 50% of the maximum tax credit. *Id.* § 71.09(11).

206. Wisconsin's Farmland Preservation Program. Extension Bull. G2890 at 2. Madison: Univ. of Wisconsin-Extension (1979). In addition, farmers with land in those counties and towns would be required to pay back the last two years' credits received under Stage I. WIS. STAT. ANN. § 91.37 (West Supp. 1981). If the land is eligible for credits under a phase II restrictive agreement but the farmer chooses not to participate, all past credits must be repaid, with interest from 1982. *Id.*

207. WIS. STAT. ANN. § 91.11(b)(3), § 91.75 (West Supp. 1981).

tract then receives 70 percent of the maximum credit.²⁰⁸ If the county has also developed an agricultural preservation plan, land is eligible for the maximum credit.²⁰⁹ Briefly, such plans will contain statements of policy regarding "preservation of agricultural lands, urban growth, the provision of public facilities and the protection of significant natural resources, open space, scenic, historic or architectural areas;"²¹⁰ and a general description of the land use controls and programs needed to implement those policies.²¹¹ They will be based in part on maps, proposed by the state department of agriculture, which locate lands which, because of their agricultural significance, should be considered for preservation.²¹²

Rural counties must adopt either a preservation plan or agricultural zoning in order for farmers to receive tax credits.²¹³ Farmers with land in an exclusive agricultural zone automatically receive a 70 percent credit;²¹⁴ if the county also develops a preservation plan, they become eligible for a one hundred percent credit.²¹⁵ If the county has only a preservation plan, execution of an agreement not to develop will entitle the farmer to a 70 percent credit.²¹⁶ Any land, urban or rural, which is covered by zoning or restrictive agreement is exempt from special assessment for governmental services.²¹⁷

Tax credits are available only as long as the land remains in agricultural use. Wisconsin farmers who seek "relinquishment" of an agreement not to develop must show economic hardship which prevents necessary improvement to the land, significant and generally irreversible physical changes in the land, or that surrounding conditions prohibit agricultural use. The possibility that an alternative use would provide a greater return is not a sufficient reason to cancel.²¹⁸ If an agreement is relinquished prior to its termination date, or is not renewed, credits received over the previous ten years must be repaid.²¹⁹

Similarly, agricultural land which is rezoned at the owner's request is liable for repayment.²²⁰ Inexplicably, given the act's otherwise strong agricultural bent, the factors to be considered prior to rezoning are re-

208. *Id.* § 71.09(11).

209. *Id.* § 71.09(11)(b)3a.; Wisconsin's Farmland Preservation Program, *supra* note 206.

210. *Id.* § 91.55.

211. *Id.* § 91.57.

212. WIS. STAT. ANN. § 91.05, 91.55 (West Supp. 1981).

213. Wisconsin's Farmland Preservation Program, *supra* note 206.

214. *Id.*; WIS. STAT. ANN. § 91.71-79, § 71.09(11)(b)3e.

215. *Id.* § 71.09(11)(b)3a.

216. *Id.* § 91.11(b)(2), § 71.09(11). Wisconsin's Farmland Preservation Program, *supra* note 206.

217. *Id.* § 91.15.

218. WIS. STAT. ANN. § 91.19 (West Supp. 1981).

219. *Id.* § 91.19.

220. *Id.* § 91.77(2).

flective of urban planning concerns, i.e., whether public facilities will adequately accommodate development.²²¹

*General Observations on Effectiveness*²²²

As a general proposition tax relief programs have failed to preserve farmland. While escalating property tax may be a factor in a farmer's decision to convert his land to a nonagricultural use, it is unlikely to be the sole factor. The economics of farming are dependent not only on operational costs, of which property tax is only one, but also upon such factors as commodity prices. Moreover, tax relief provides too little incentive for farmers who own vulnerable lands near the urban fringe to resist development pressure. In those areas, the difference between use value and market value is the greatest; the possible gains from conversion simply outweigh the possible tax savings. For example, in Contra Costa County, California, bordering San Francisco Bay on the northeast, the 1971 average cash rent for farmland in the agriculturally rich eastern sections of the county was \$60 to \$120 per acre, whereas the average sale price was \$3,000 per acre.²²³ With such profit to be made, farmers in that area have been unwilling to sign agreements restricting their ability to sell land for nonagricultural purposes, even though that refusal means foregoing tax relief.²²⁴

Demographic and sociological factors also play an important role in a decision to convert; a farmer who wants to retire at a time when an agricultural buyer is not available is likely to sell his land to the highest bidder.²²⁵ Confrontations with nonfarmer residents or a decline in the level of farm support services²²⁶ may also influence a decision to sell out.

221. Rezoning may occur only after findings based on the following considerations are made:

- (a) Adequate public facilities to accommodate development either exist or will be provided within a reasonable time;
- (b) Provisions of public facilities to accommodate development will not place an unreasonable burden on the ability of affected local units of government to provide them;
- (c) The land proposed for rezoning is suitable for development and development will not result in undue water or air pollution, cause unreasonable soil erosion or have an adverse effect on rare or irreplaceable natural areas.

Id. § 91.77(1).

222. This article will not address the "tax shift" which may accompany use value assessment. If the level of governmental services is to remain constant as the assessment base is decreased, tax rates must increase. Hence tax burdens are often "shifted" to nonfarm properties. In a primarily rural area, however, even the farmer may pay higher taxes. See generally, Gloude-mans, *supra* note 144, ch. 3; UNTAXING OPEN SPACE, *supra* note 106, at 80-99.

223. Comment, *The California Land Conservation Act of 1965 And The Fight To Save California's Prime Agricultural Lands*, 30 HASTINGS L. J. 1859, 1877, n. 90 (1979).

224. *Id.* at 1875.

225. UNTAXING OPEN SPACE, *supra* note 106, at 49.

226. See *supra*, text accompanying notes 118-32.

Thus, in general, "except for interdependencies among the reasons for selling, reduction of agricultural property tax will have little or no impact on [the other factors] in the decision to sell."²²⁷ Tax relief programs are thus effective "only in terms of the small number of farmers who are contemplating sale in a given year and who are potentially susceptible to being influenced by a reduction of their property taxes."²²⁸

Finally, and perhaps most importantly, tax relief programs have been ineffective because public input into land use decision-making is totally absent. Because decisions are left completely to the private sector, the public's interest in preserving farmland necessarily yields to the financial concerns of both investors, whose livelihood depends on development, and farmers, whose economic well-being is dependent on being able to sell their land.

Analysis

The following sections will examine the above conclusions in depth and consider whether, given their limited potential, one taxation system preserves more agricultural land than another.

Pure Differential Assessment.

Little amplification of the above comments is necessary in evaluating pure differential assessment systems. Although the benefits may financially assist some owners who want to continue farming, the absence of a rollback tax or penalty upon conversion simply allows farmers "to postpone sale until a time which fits more appropriately into their own life plans"²²⁹ or until the irresistible offer comes along. In short, to owners amenable to conversion, the possible gains far outweigh tax savings. Perhaps the strongest commentary on pure differential assessment comes from the Florida experience. While this system was used for agricultural land,²³⁰ when the state later decided to protect outdoor recreation and park lands, restrictive agreements were required.²³¹

Deferred Taxation.

Although the presence of a rollback tax, or a penalty, may cause an owner to pause and reflect before converting his land, deferred taxation systems are not significantly more effective at preserving farmland than pure differential assessment systems. States that impose no interest charge

227. UNTAXING OPEN SPACE, *supra* note 106, at 52.

228. *Id.* at 65-66.

229. *Id.* at 66.

230. FLA. STAT. ANN. § 193.461 (1980).

231. *Id.* § 193.501.

simply make the farmer an interest free loan, and the rollback period often does not even cover the full benefit period.²³² Significantly, deferred taxation is least likely to inhibit development at the vulnerable urban fringe where possible profits far outweigh back taxes. Since "[t]he size of the penalty depends on the divergence of market value from use value, the larger the potential rollback tax penalty, the larger [also] the potential capital gains associated with sale or land use conversion."²³³ In addition, appreciation in fair market value at the urban fringe will more than offset rollback taxes. Even in states which charge interest, the total penalty is likely to be no more than 10 to 12 percent of the market value, not enough to serve as a significant obstacle to conversion.²³⁴ Since that percentage drops as the rate of appreciation increases,²³⁵ the most rapidly appreciating lands, those under the most development pressure, will be subject to the smallest rollbacks and therefore more vulnerable to conversion.

Finally, deferred taxation fails because the threat of rollback charges probably makes high quality farmland more susceptible to conversion than low or medium quality land. As the quality of land and its use value assessment increase, the difference between use value and market value decreases, making it subject to a smaller rollback and thus more vulnerable.²³⁶

New Jersey. A brief examination of the New Jersey Farmland Assessment Act, which imposes a two year rollback without interest,²³⁷ confirms the above conclusions. A study of the early effects of the New Jersey act conducted among several hundred farmers revealed the following:

43 percent of program participants who had sold land had done so to obtain capital gain; only 27 percent had done so because farming was not profitable.

Of those who had declined offers to sell, 57 percent had done so because of a desire to continue farming; 43 percent would have sold "with or without the Farmland Assessment Act if the price had been 'right.'"

When asked if program participation had influenced their land use decision, 60 percent said "no;" when asked if it would affect future such decisions, 78 percent said "no."²³⁸

232. See *supra*, text accompanying notes 181-82.

233. Gloude-mans, *supra* note 144, at 41.

234. UNTAXING OPEN SPACE, *supra* note 106, at 73. The percentage is similar in states that charge a flat rate conversion tax. See *supra* note 145.

235. *Id.* at 74.

236. Lapping, Differential Assessment and Other Techniques to Preserve Missouri's Farmlands, 42 MO. L. REV. 369, 384 (1977).

237. N.J. REV. STAT. ANN. § 54:4-23.8 (Supp. 1981).

238. Koch, *Implementation and Early Effects of the New Jersey Farmland Assessment Act* 10, 13, NEW BRUNSWICK: DEP'T OF AG. ECON. & MKTING, RUTGERS UNIV. (1968).

While more recent surveys reveal that the rate of conversion has declined considerably since passage of the act, they also show that deferred taxation has actually encouraged land speculation. Average losses have dropped from 40,000 acres per year in the 1954-64 pre-act period to 19,500 acres per year during the 1965-75 period, and finally to 2,500 acres per year in the 1975-79 period.²³⁹ On the other hand, since farmland assessment is granted on the basis of the land's actual use rather than the intent of its owner,²⁴⁰ speculators and developers have purchased land and leased it back to farmers, thereby reducing their holding costs until they are ready to develop.²⁴¹

It has been estimated that from 10²⁴² to 53²⁴³ percent of the land in the program is held for investment; rollback taxes will simply be added to the sales price at the time of development.²⁴⁴ Studies of farmland sales during 1978 and 1979 disclose that 25 percent of the acreage sold was purchased for investment and 13 percent for development.²⁴⁵ Similar data for 1977 and 1978 show that 23 percent of farmland changing hands was purchased for investment, 19 percent for development.²⁴⁶

In short, deferred taxation has been ineffective as a farmland preservation tool primarily because it provides little incentive for the farmer to resist development pressure and leaves land use decision-making chiefly in the hands of farmers and investors. No overall planning occurs and, in its absence, society's interest in preserving agricultural land remains subordinate to private economic interests.

Restrictive Agreements.

Unlike deferred taxation systems which fail for lack of overall planning, California's Williamson Act²⁴⁷ is an integral part of the state's highly structured planning system. In exchange for use value assessment, landowners are required to sign agreements restricting the rights to develop their land, but only land within a designated agricultural preserve is eligible for enrollment.²⁴⁸ Moreover, the establishment of preserves is only one feature of a system which requires counties to develop general land use plans which include provisions for the preservation of agricultural

239. Comment, *The Future of Farmland And Preservation: Will New Jersey Remain The Garden State?*, 12 RUTGERS L. J. 713, 719-20 (1981).

240. N.J. Const. art. VIII, §1, para. 1; N.J. STAT. ANN. § 54:4-23.2 (West Supp. 1981).

241. Kolesar & Scholl, *supra* note 159, at 31.

242. *Id.*

243. Comment, *supra* note 239, at 722.

244. Kolesar & Scholl, *supra* note 159.

245. Comment, *supra* note 239, at 723.

246. *Id.*

247. CAL. GOV'T CODE, § 51200-51295 (West Supp. 1982). See *supra*, text accompanying notes 188-201.

248. *Supra* note 189.

land.²⁴⁹ It might be expected that such a plan would effectively protect farmland, yet studies unanimously judge the system to be a failure primarily because the tax savings resulting from use value assessment do not offset the possible gains to be had by a farmer who keeps his options open by declining to participate.²⁵⁰

A 1978 study of the success of the act in three counties in the San Francisco Bay area revealed that, in Contra Costa county, agreements restricted 88 million acres, but of 48 thousand acres of prime land in the county, only nine thousand were enrolled. Instead, grazing land accounted for most of the enrolled acreage. More than one-half the contracted land was over three miles from an incorporated city, and in the most productive areas of the county, where the difference between use value and fair market value was greatest, very few contracts had been signed.²⁵¹ In Alameda County, where contracts protected two-thirds of the county's agricultural land and open space land, the agreements covered less than one-half of the prime land. Again, grazing land contracts predominated, and most enrolled land was located in areas beyond the range of predictable growth.²⁵²

It is apparent that the Williamson Act is failing not because farmers in general are declining to participate, but rather because those who own land most vulnerable to conversion are refusing to sign contracts. The latter are simply unwilling to restrict their land, particularly in light of a tax benefit amounting only to approximately five percent of fair market value.²⁵³

249. *Id.*

250. The studies conclude that farmers are simply not signing agreements on the most vulnerable land but generally do not consider the county's responsibility for first establishing agricultural preserves. It may well be that local governments are failing to designate these areas as appropriate for restrictive agreements. While more information is needed, one commentator suggests that counties are generally abdicating their planning responsibility to landowners who apply for the creation of preserves.

Landowner initiation of the contract process (the second method) is the most widely used procedure throughout the state. Though local governments have the authority to take the initiative and assure that appropriate land is eligible to come under contract, this authority has not been exercised by most counties. When landowners initiated the contract process, the resulting spatial pattern of land under use restriction is likely to be a random one.

Gustafson & Wallace, *Differential Assessment as Land Use Policy: The California Code*, 41 J. AM INST. PLANNERS 379, 385 (1975).

Other studies suggest that the result is no different when the county initiates the designation. Even though all of Santa Clara County was declared to be a preserve no prime land was enrolled for three years. See *infra* text accompanying note 261.

251. Comment, *supra* note 223, at 1875-1877.

252. *Id.* at 1877-81. On the location of land under contract, see also, Hansen & Schwartz, *Landowner Behavior at the Rural Urban Fringe in Response to Preferential Property Taxation*, 51 LAND ECON. 340 (1975).

253. The present value of reduced property taxes on land under contract for ten years is approximately five percent of the initial market value. Gustafson, *supra* note 250, at 384. See also, Hansen & Schwartz, *Landowner Benefits from Use Value Assessment Under the California Land Conservation Act*, 58 AM. J. AG. ECON. 170 (1976).

Predictably, a survey conducted among farmers in Sacramento County reflected no enrollment among those who expected development within ten years. Only 19 percent of farmers expecting development within 10 to 20 years had enrolled; the percentage increased to only 30 among farmers not expecting development for over 20 years.²⁵⁴ Similarly, in Yolo County, farmers owning 46.3 percent of the land in the county would not have accepted a 20 year contract, even though more than one-half did not expect development for over 25 years.²⁵⁵ The pollsters concluded that "[t]hese individuals did not appear willing to risk having a 'contract restrict their ability to sell their land for development.'"²⁵⁶

The California experience clearly demonstrates that, even as the primary component of a highly structured planning system, use value assessment is not an effective technique for the preservation of agricultural land.²⁵⁷ So long as the landowner remains totally free to sell his land to the highest bidder, he is understandably unwilling to restrict that right, especially in exchange for a minimal tax benefit.

In order to be effective, farmland preservation techniques must respond to that fundamental economic reality; they must account for the farmer's "values, goals and assumptions."²⁵⁸ Use control programs which place limitations on land development, thereby partially constraining private economic forces, provide one possible response. Programs which afford benefits, economic or otherwise, substantial enough to offset the farmer's urge to maximize profits by selling land for development, provide another.

At a minimum, use control programs create a temporary moratorium, at least delaying conversion while providing time for more extensive study. Nonetheless, such programs (e.g. zoning) tend to be unpopular with farmers²⁵⁹ and are often implemented primarily to accomplish urban planning goals.²⁶⁰ Thus, while an ideal program of broad-based planning for farmland should probably incorporate both use controls and benefits, I submit that no program can begin to "exercise rational control" over the private land development cycle without to some extent implementing at least one of the approaches.

The striking difference in result which can occur when one of the above alternatives is put into practice is apparent when events in Santa Clara County, one of California's most urbanized counties, are compared with those in the state as a whole. While much of that county's prime land

254. Hansen, *supra* note 252, at 348.

255. *Id.*

256. *Id.*

257. See also, Hansen, *supra* note 252; Final Report *supra* note 4, at 69; UNTAXING OPEN SPACE, *supra* note 106, at 66-79.

258. See *supra* text accompanying notes 75, 88, 89.

259. *Id.*

260. See *infra* text accompanying notes 260-68.

has already been developed, more than one-half the county remains in agricultural use. In 1967, the entire county was designated an agricultural preserve, enabling owners to sign contracts, yet no prime land was enrolled prior to 1970. It was only with the 1973 enactment of the county's Urban Development Plan that significant acreage was enrolled.²⁶¹

That plan establishes "urban services areas" of sufficient size to accommodate predicted growth around each of the 15 incorporated communities in the county. One who wishes to develop land beyond such a boundary must apply to the nearest city for annexation. If the application is granted, the plan suggests that infrastructure costs be borne by the new residents. If the request for annexation is denied, development may not occur.²⁶²

The plan has channeled development away from rural areas and caused developers to "fill-in" leapfrogged land within the urban service areas.²⁶³ As previously noted, it has additionally been a catalyst for enrollment under the Williamson Act. By 1978, nearly 47 percent of the county's agricultural land, of which six percent was prime, had been protected by contracts.²⁶⁴

It appears that as long as farmers had some hope that they could sell their property in the near future at development prices, they were not interested in restricting the property's use and value by enrolling in the Williamson Act program. The Urban Development Plan changed the landowner's expectations as to the prospects for development of his land. The plan provided owners of agricultural and other open-space lands on the county's rural-urban fringe with an objective means of evaluating and predicting the development potential of their property.²⁶⁵

In establishing its urban development plan, Santa Clara County recognized that in developing areas, farmland preservation and orderly urban growth are facets of the same problem, "that any long-term plan for open-space preservation must of necessity include a plan for urban development."²⁶⁶ By "exercising rational control"²⁶⁷ over urban growth, Santa Clara County has been able to constrain economic forces and to remove at least the broad outline of land use decision-making from the private to the public sector.

To be sure, the Santa Clara program is directed more at urban growth control than at farmland preservation. "Standing alone, the concept of

261. Comment, *supra* note 223, at 1884-85.

262. *Id.* at 1882-83.

263. *Id.* at 1883.

264. *Id.* at 1885.

265. *Id.* at 1885-86.

266. Comment, *supra* note 223, at 1884.

267. See *supra* text accompanying note 75.

staged growth relied upon in the Urban Development Plan merely serves to postpone urbanization and exerts but an indirect and temporary impact on the preservation of California's agricultural lands."²⁶⁸ Nevertheless, compared to the general failure of the Williamson Act, the plan is a step in the right direction, providing at least time to consider alternative solutions.²⁶⁹

Mandatory Zoning and Planning

The success of the Santa Clara system appears to be due to the adoption of a use control scheme aimed solely at urban growth management. By contrast, the Wisconsin Farmland Preservation Act,²⁷⁰ which links tax benefits to zoning and planning, constitutes a broad-based system of planning for the preservation of agricultural land.

By December, 1981, as phase I of the program wound toward a close, initial agreements covering 546,000 acres had been signed or were being processed, thereby providing tax credits to 2100 farms.²⁷¹ At the same time, in preparation for phase II, in which credits depend on the degree of zoning and planning, all or part of 20 counties had been zoned exclusively for agriculture.²⁷² Owners of approximately 2.66 million acres, or about 18.1 percent²⁷³ of the state's farmland, are thus automatically eligible for tax credits. By July, 1982, the preservation plans of 65 counties, containing well over ninety percent of the state's farmland,²⁷⁴ either had been or were soon to be certified.²⁷⁵ Wisconsin officials believe the overwhelming response is the product of the agricultural community's generalized support for preservation as well as its desire for tax credits,²⁷⁶ which averaged over \$1,600 in 1981.²⁷⁷

While it is not yet possible to make a complete assessment of the Wisconsin program, data from two counties which have used agricultural

268. Comment, *supra* note 223, at 1886.

269. *Id.* at 1887-91.

270. See *supra* text accompanying notes 204-21.

271. Trade and Consumer Protection Div. Wisconsin Dep't. of Ag., *Technical Report #9*, Participation in the Wisconsin Farmland Preservation Program (1981).

272. *Id.*

273. *Id.* The percentage is derived from an earlier report which revealed that 2.51 million acres or 13.8% of the State's total had been zoned exclusively for agriculture. Trade and Consumer Protection Div., Wisconsin Dep't. of Ag., *Report And Recommendations on the Effects of the Wisconsin Farmland Preservation Law 5* (1981)(hereinafter Report on Wisconsin Farmland).

274. *Id.* at 6. The Report states that the counties then having or developing plans contained about 92% of the State's farmland.

275. Conversation with James Johnson of the Trade and Consumer Protection Div. Wisconsin Dep't. of Ag., July 8, 1982.

276. Report on Wisconsin Farmland, *supra* note 273, at 8-9. Opponents of the program often express a distrust of government programs in general as well as a particularized fear that the system is the first step toward state imposed land use controls. *Id.* at 5, 8, 9.

277. Technical Report #9, *supra* note 271.

zoning for at least five years suggest that it will be effective in non-metropolitan areas. Compared to similar counties without zoning, both of the counties experienced less conversion to nonfarm uses.²⁷⁸ Perhaps more importantly, development that did take place tended to occur on poorer quality soil, and in one county took a more compact form than in the control counties.²⁷⁹ Success is also predictable in urban counties where preliminary reports indicate that the program is preserving farmland, as well as facilitating growth management, in high development areas surrounding Madison and Milwaukee.²⁸⁰

It thus appears that the Wisconsin Farmland Preservation Act will succeed where California's Williamson Act has failed. The difference is due primarily to the fact that Wisconsin, unlike California, places constraints on private economic forces.

Wisconsin farmers are no different from California farmers; it is in their economic best interest to keep their options open. Not surprisingly, a survey profiling signers and nonsigners of phase I initial agreements revealed that a larger percentage of signers were more "future oriented," e.g., intending to make major investments, or expecting their children eventually to take over their operations. Conversely, a larger percentage of nonsigners expected to retire within ten years. Significantly, nonsigners were almost twice as likely (15 percent versus 8 percent) to believe they could sell their land for development within the next ten years.²⁸¹

The Wisconsin Farmland Preservation Act responds to that basic economic reality by strongly encouraging local governments to enact land use controls. Counties and towns have been induced to implement zoning and planning by the desire of local landowners to obtain the substantial tax benefits which accompany such programs.²⁸² Farmers' traditional opposition to zoning²⁸³ has been overcome by the promise of tax credits which, because they are based on farmers' net incomes rather than only on their property tax bills,²⁸⁴ are roughly three times greater than *ad valorem* tax relief which would accrue under use value assessment.²⁸⁵ Moreover, those credits primarily benefit those most needing financial relief in order to continue farming. The maximum possible credit is

278. Report on Wisconsin Farmland, *supra* note 273, at 12, 14-15. In Columbia County a followup of those denied rezonings revealed that in all cases the individuals bought or built in an incorporated area or bought or refurbished an existing rural home. "Clearly the zoning did save farmland in these cases." *Id.* at 12.

279. *Id.* at 12, 14-15.

280. *Supra* note 275.

281. Report on Wisconsin Farmland, *supra* note 273, at 11.

282. *See supra*, text accompanying notes 211-17.

283. *See supra*, text accompanying notes 75-89 and note 434 *infra*.

284. *See supra*, text accompanying note 177.

285. Report on Wisconsin Farmland, *supra* 273, at 18.

\$4,200, which is available to a farmer with a net household income of zero to \$5,000 and a property tax bill of \$6,000 or more.²⁸⁶

It follows that the increased profits generated by the tax credits will serve to offset the farmer's urge to succumb to development pressure. In that way the Wisconsin Farmland Preservation Act "exercises rational control"²⁸⁷ over the private land development cycle. It will be successful because it incorporates land use controls and benefits addressed to the "values, goals and assumptions"²⁸⁸ of the farmer into a system of broad-based planning for the preservation of agricultural land.

AGRICULTURAL DISTRICTING

The agricultural districting legislation enacted by six states²⁸⁹ seeks to implement an incentive approach to farmland preservation. Instead of utilizing use controls, such programs provide benefits which encourage the farmer to resist development pressure. Although the scope varies from a modest plan in Illinois to one integrated with a comprehensive planning and control system in Minnesota,²⁹⁰ the acts possess a common format: in exchange for enrolling land in a district, farmers receive protection from intrusive governmental action, such as a regulation prohibiting roadside fruit stands.²⁹¹ The New York Agricultural Districting Law, enacted in 1971, is the most firmly established program and will serve as the principal discussion model.

The New York Agricultural Districting Law

Under the New York system, the owner or owners²⁹² of at least 500 acres may petition the county legislative body for the creation of an

286. Guidebook, *supra* note 126, at 214. At the opposite end of the spectrum, a farmer with an income of \$40,000 or more receives no credit, regardless of the amount of property tax he pays. *Id.* at 215. In 1978, credits averaged \$1,193 per household. Households with incomes less than \$5,000 received the equivalent of a 63% reduction in property taxes. Households with \$25,000-\$30,000 and \$30,000-\$35,000 received respectively the equivalents of only 26% and 4% reductions. Thus, "[i]n general, tax credits went to households with moderate or low incomes, and the percent reduction in net taxes declined as income increased." Report on Wisconsin Farmland, *supra* note 273, at 16.

287. See *supra* text accompanying notes 75, 87-89.

288. *Id.*

289. CAL. GOV'T CODE § 51230-51239 (West Supp. 1982), the portions of the Williamson Act that provide for the creation of agricultural preserves; ILL. ANN. STAT. ch. 5, § 1001-1020 (Smith-Hurd Supp. 1981-82); MD. AGRIC. CODE ANN. § 2-501 to 2-515 (Supp. 1981); MINN. STAT. ANN. § 473 H.01-.17 (West Supp. 1982); N.Y. AGRIC. & MKTS. LAW § 300-309 (McKinney Supp. 1981); VA. CODE § 15.1-1506 to 1513 (Supp. 1981).

290. See *infra* text accompanying notes 339-62.

291. Guidebook, *supra* note 126, at 80.

292. Land may be included in a proposed district without the owner's consent, although he may request exclusion before designation is final, provided he owns at least ten percent of the proposed district. N.Y. AGRIC. & MKTS. LAW § 303 (McKinney Supp. 1981). Exclusion is not automatic, however. In Monroe County, only about 60% of land in districts is owned by original petitioners. Guidebook, *supra* note 126, at 84.

agricultural district.²⁹³ While not all land within a district is required to be engaged in active farming, the area restriction insures that districts are agriculturally viable even if they are surrounded by nonagricultural development.²⁹⁴

Prior to holding a public hearing to consider the petition, the legislature is required to seek the advice of both the county planning board and the agricultural districting committee,²⁹⁵ the latter consisting of four active farmers, four agribusinessmen, and a chairperson who is a member of the county legislature.²⁹⁶ Factors the legislature must consider in deciding whether to grant the petition include the viability of active farming in the proposed district and adjacent areas, the presence of viable farmland within the proposed district which is not then in agricultural use, the nature and extent of nonfarm uses within the proposed district, and the county's development patterns and needs.²⁹⁷ Following adoption at the county level, a petition must also be approved at the state level where it will be examined for consistency with state environmental policies and comprehensive plans.²⁹⁸ Districts are reviewed every eight years from the date of creation, but a decision to terminate or modify rests solely with the county, not the landowner.²⁹⁹ Again, any such action is subject to review for consistency with state policy.³⁰⁰

While district land is eligible for use value assessment, subject to a five year rollback tax if it is converted to nonfarm use,³⁰¹ the essence of agricultural district legislation lies in its other profarm benefits. First, paralleling the language of the federal Farmland Protection Policy Act,³⁰² the New York act directs all state agencies to develop or modify policies so as to "encourage the maintenance of viable farming" within districts.³⁰³

In keeping with that general policy, the legislation makes it clear that farming will take precedence over the concerns of nonfarm residents.³⁰⁴

293. N.Y. AGRIC. & MKTS. LAW § 303.1 (McKinney Supp. 1981).

294. Guidebook, *supra* note 126, at 83.

295. N.Y. AGRIC & MKTS. LAW § 303.2.

296. *Id.* § 302.1.

297. *Id.* § 303.3.

298. *Id.* § 303.5. The state commissioner of agriculture and markets may also create districts of no less than 2000 acres of "unique and irreplaceable" agricultural land. Such a district must also be consistent with state environmental policies and comprehensive plans. *Id.* § 304. As of May, 1980, no such districts had been formed. Conklin & Gardner, AGRICULTURAL DISTRICT LEGISLATION IN NEW YORK, (Ithaca: Dep't of Agric. Econ., Cornell Univ. 1980).

299. Bryant, FARMLAND PRESERVATION ALTERNATIVES IN SEMI-SUBURBAN AREAS 13 (Ithaca: Dep't of Agric. Econ., Cornell Univ. 1975).

300. N.Y. AGRIC. & MKTS. LAW § 303.8 (McKinney Supp. 1981).

301. *Id.* § 304-a, 305.1. Individual farmers, not within a district, are also eligible for differential assessment upon the execution of an eight year restrictive covenant which must be renewed annually. Breach of the covenant triggers a substantial penalty. *Id.* § 306.

302. *See supra*, text accompanying note 68.

303. *Id.* § 305.3.

304. *See generally, supra* text accompanying notes 123-26.

Local governments are prohibited from enacting laws or ordinances which would "unreasonably restrict or regulate farm structures or farming practices . . . unless such restrictions . . . bear a direct relationship to the public health or safety."³⁰⁵ Thus, a local governing body cannot, in response to complaints about farm noise, enact an ordinance limiting the hours during which a farmer can operate his machinery.³⁰⁶

More fundamentally, the act seeks, in three ways, to restrict the development which eventually leads to those tensions.

First, severe limitations are imposed on the power of local governmental units to make special assessments against district lands. Except for a one-half acre lot surrounding a dwelling or nonfarming structure, no benefit assessments or special *ad valorem* levies for sewer, water, lighting, non-farm drainage, solid waste disposal or other landfill operations are to be imposed on farmland within a district.³⁰⁷

Second, any governmental agency or public benefit corporation which proposes to advance money, for instance through a grant or loan, for nonfarm construction within a district must file a notice of intent with state agricultural authorities. The report must include a justification of the project as well as an "evaluation of alternatives" which do not involve the use of district land. If, after consultation with environmental experts, agriculture officials conclude the project will have an "unreasonably adverse effect" upon the act's goals, a 60 day delay will be ordered. In such a case, a public hearing must precede the issuance of a final report.³⁰⁸ The act does not, however, provide a means to halt such a project.

Finally, the act substantially restricts the use of the eminent domain power within the district. Proposed condemnations of more than ten acres from any one district farm or a total of more than one hundred acres from any district are subject to the same rules which govern public loans and grants.³⁰⁹

The Act's Effectiveness

As will be discussed later, the New York system possesses the same fundamental flaw as California's Williamson Act, namely its inability to protect the most vulnerable lands.³¹⁰ Nevertheless, as of May, 1982, 449

305. N.Y. AGRIC & MKTS. LAW § 305.2 (McKinney Supp. 1981).

306. One New York farmer supported formation of a district so as to exclude himself from such an ordinance. Guidebook, *supra* note 126, at 80.

307. N.Y. AGRIC. & MKTS. LAW § 305.5 (McKinney Supp. 1981).

308. *Id.* § 305.4

309. *Id.*

310. See *infra*, text accompanying notes 329-33.

districts, containing 7,115,830 acres,³¹¹ or 71 percent of the state's farmland,³¹² had been established. In 30 counties,³¹³ including the two surrounding Buffalo³¹⁴ and one in the New York City area,³¹⁵ over 100,000 acres had been enrolled. A 1977 survey of farmers in 17 counties revealed that a desire to reduce taxes was the most significant reason for enrolling (33.3 percent) but that preventing conversion of the land to nonfarm uses was only slightly less important (30.8 percent).³¹⁶ Complete statistics are unavailable, but apparently relatively little acreage has been withdrawn from districts for conversion to nonfarm use.³¹⁷

In addition to providing profarm benefits to most of the state's farmers, the plan has fostered a more reasoned land use decision-making process. By coordinating decisions concerning agricultural land with broader environmental policy, New York has made a major policy statement, namely that protecting farmland is important not only in and of itself but also as part of a broad policy of wise land use. As the act's preamble declares, its purpose is "to provide a means by which agricultural land may be protected and enhanced as a viable segment of the state's economy and as an economic and environmental resource of major importance."³¹⁸

The very existence of that policy doubtless serves as an incentive to New York farmers; over 35 percent of those responding to the 1977 survey indicated that being in a district helped farmers to decide to stay in farming by providing "an atmosphere of confidence."³¹⁹ Moreover, the act forces the recognition of land use conflicts. Consequently, in several instances the review process had made it readily apparent that an inappropriate land use decision had been made or that more study was needed. For example, even though the New York act does not provide for the cancellation of

311. Department of Agric. & Mkts., State of New York, SUMMARY OF AGRICULTURAL DISTRICT STATUS (May 15, 1982)(unpublished).

312. The percentage is derived using the Guidebook's statement that the nearly 6 million acres then in districts amounted to 60.0% of the State's farmland.

313. Summary, *supra* note 311.

314. In Erie County, 238,169 acres are in districts; Niagara County contains 139,875 districted acres. *Id.*

315. In Orange County, 157,967 acres are in district. *Id.*

316. White & Gardner, NEW YORK'S AGRICULTURAL DISTRICTS PROGRAM: AN ANALYSIS OF FARMERS PERCEPTIONS IN 17 COUNTIES 17. (Ithaca: Dep't of Agric. Econ., Cornell Univ. 1978). Over forty-two percent of those responding felt the program's strongest feature was its protection of farmland for farm use. *Id.* at 23.

317. Telephone conversation with Henry H. Stebbins, New York Dep't of Agric. & Mkts., July 8, 1982.

In Erie County from 1972-77, 247 acres of district land, contrasted to 773 acres of nondistrict land, were converted to nonfarm use. Most of the converted district land, 210 acres, shifted to residential use, while most of the nondistrict land, 734 acres, shifted to urban and residential strip development. Guidebook, *supra* note 126, at 92.

318. N.Y. AGRIC. & MKTS. LAW § 300 (McKinney Supp. 1981).

319. White & Gardner, *supra* note 316, at 21. See also *supra*, Guidebook, note 126, at 93.

proposed condemnations which have an "unnecessary adverse effect" upon its goals,³²⁰ a hearing on the appropriateness of a power facility proposed for district land near Albany provided the impetus for further study.³²¹

Similarly, the provision permitting local governments to enact regulations "bearing a direct relationship to the public health or safety"³²² is seemingly as broad as the police power itself.³²³ The potential effectiveness of the provision restricting the use of police powers³²⁴ is therefore limited, since an ordinance banning aerial crop dusting would arguably bear directly on the public's health. Nonetheless, the act forces local officials to evaluate the effects of proposed legislation on agriculture. In short, by simply requiring local governing bodies to think about the effects of their actions, the legislation has had, and should continue to have, some success in directing growth away from agricultural areas.³²⁵

Notwithstanding those successes, the system suffers from its case by case approach. Although county governing bodies receive the advice of both farmers and planners in initially deciding whether a district should be formed,³²⁶ petitions are nonetheless handled on an individual basis. Thus, even though the legislature must consider the effects of other actions upon agriculture,³²⁷ the system does not provide for an overall plan which would conserve agricultural land while directing growth to appropriate areas.³²⁸

More critically, however, the system suffers from the same inadequacy as the various use value assessment programs: on vulnerable urban-fringe lands, the benefits may not outweigh the advantage of owning unrestricted land when the irresistible offer comes along.

Despite the fact that district land could be converted to nonfarm use without a waiting period, upon the payment of a five year rollback tax,³²⁹ the program's other restrictions would remain in effect. Thus, limitations

320. N.Y. AGRIC. & MKTS. LAW §305.4 (McKinney Supp. 1981). Contrast the Minnesota eminent domain provision, discussed *infra* in text accompanying notes 357-62. Similarly, in California, condemnation of preserve land may not occur simply because agricultural land is less expensive to acquire, nor may it occur if location of the project on other land is reasonably feasible. Cal. Gov't Code §51291 (West Supp. 1982). However the board administering the preserve can defeat those protective features by agreeing to the condemnation. *Id.* § 51293.

321. *See supra*, note 317.

322. *See supra*, text accompanying note 305. Myers, *The Legal Aspects of Agricultural Districting*, 55 INDIANA L.J. 1, 35 (1979).

323. *See supra*, text accompanying note 305.

324. *Id.*

325. Myers, *supra* note 322, at 29.

326. *See supra*, text accompanying notes 296-97.

327. *See supra*, text accompanying notes 305-07, 309.

328. County planning is optional in New York. N.Y. GEN. MUN. LAW § 239-b (McKinney 1976).

329. *See supra*, text accompanying note 302.

on the extension of government services³³⁰ would force infrastructure costs upon the developer. Hence, even if a sale were negotiated, the buyer would be willing to pay considerably less than for unrestricted land.³³¹ In short, "the district concept does not provide the owners of farmland in semi-suburban areas, whose opportunity for capital gains is high, with adequate compensation or incentives to cover the loss in control and any losses in land value that result from placing land in a district."³³²

It is thus not surprising that the recent NALS survey reveals that in 1977, only 23.7 percent of New York land within 25 miles of urban centers with populations of 50,000 or more was within a district and that only 3.6 percent of the land within ten miles was enrolled. Likewise, although 95.1 percent of land within 25 miles of urban centers with populations of 2,500 or more was in districts, over 65 percent of all enrolled land was located beyond the ten mile mark.³³³

New York officials are not unaware of the act's shortcomings. One officer of the State Department of Agriculture and Marketing has commented, "we're not stopping a farmer from selling to a developer. But we are making farming more viable and are encouraging farmers to invest."³³⁴ As the remark suggests, the New York agricultural districting law encourages continued farming because it identifies and responds to the "values, goals and assumptions"³³⁵ of the agricultural community. The incentives which it provides, in combination with the fact that the act is the catalyst for both evaluating the effects of local policy upon agriculture and approaching agricultural issues in a broader environmental context, account for the fact that 71 percent of the state's farmland has been enrolled in districts.³³⁶

Incentives alone will not, however, protect the most vulnerable land. Consequently, the act's effectiveness is inhibited by the absence of long-range planning and use control. The inadequacy is likely to be most apparent at the urban fringe where farmers maintain control over development patterns by retaining the freedom not to form a district. Thus, it is the same voluntariness of the system which accounts for its popularity with farmers³³⁷ that may also be its greatest deficiency and account for it not being as successful as it might be.

It was suggested earlier in this article that the most effective farmland preservation programs would be those in which incentives directed toward

330. *See supra*, text accompanying note 307.

331. Bryant, *supra* note 299.

332. *Id.*

333. Guidebook, *supra* note 126, at 88.

334. *Id.* at 92.

335. *See supra*, text accompanying notes 75-89.

336. *Supra* note 312.

337. *Supra* note 322.

agriculture operated in conjunction with land use controls.³³⁸ Therefore, a program which combined the successful aspects of the New York act with a system of development control would encourage continued farming as well as protect vulnerable urban fringe land by directing growth away from agricultural areas. The program adopted in the Minneapolis-St. Paul metropolitan area, discussed below, attempts to accomplish those dual goals.

The Minnesota Program

In contrast to the New York Agricultural Districting Act which requires neither overall planning nor use control, the Metropolitan Agricultural Preserves Act,³³⁹ governing seven counties in the Twin Cities area,³⁴⁰ limits agricultural preserves, or districts, to only those areas which have been designated agricultural by a local or county comprehensive plan and which have been zoned accordingly.³⁴¹ The act is part of a much larger comprehensive land use planning program.³⁴²

Subject to some minor exceptions, farming units of at least 40 acres³⁴³ must first be set aside and zoned so as to permit no more than one residential unit per 40 acres.³⁴⁴ A preserve may then be created in exchange for the owner's execution of a covenant restricting the land to agricultural use.³⁴⁵ Such covenants run with the land³⁴⁶ and while landowners may terminate agreements without governmental consent, they will not expire until eight years after notice of intent to terminate has been filed.³⁴⁷

As is true under the New York program, Minnesota state agencies are instructed to encourage the maintenance of viable farming within the preserve.³⁴⁸ Specifically, regulations which "favor nonagricultural development and adversely affect the long term nature of farming in an agricultural preserve" are to be modified.³⁴⁹ Land enrolled in the Minnesota program receives the benefit of use value assessment,³⁵⁰ it is also

338. *See supra*, text accompanying note 257.

339. MINN. STAT. ANN. § 473 H.01-.17 (West Supp. 1982).

340. *Id.* § 473 H.02(8); § 473.121(2).

341. *Id.* § 473 H.02(7); § 473 H.04.

342. *Id.* § 473.851-872 (West Supp. 1982).

343. *Id.* § 473 H.03.

344. *Id.* § 473 H.07.

345. *Id.* § 473 H.05.

346. *Id.*

347. *Id.* § 473 H.08 subd. 2. A governing authority may terminate an agreement by serving notice upon the landowner after first amending the comprehensive plan and zoning ordinance so that the land is no longer planned for agriculture. As with landowner initiated terminations, expiration does not actually occur for eight years. *Id.* subd. 3.

Early termination can occur only in the event of a public emergency and pursuant to an executive order by the governor. *Id.* § 473 H.09.

348. *Id.* § 473 H.13.

349. *Id.*

350. *Id.* § 473 H.10.

protected from municipal annexation³⁵¹ and from regulations or ordinances which would unreasonably restrict rural farm structures or practices.³⁵²

The Minnesota act restricts the extension of infrastructure into agricultural preserves more severely than does the New York act.³⁵³ Construction of public sewer or water systems on preserve land is prohibited.³⁵⁴ New connections between lands or buildings in agricultural preserves and public sewer or water systems are likewise prohibited.³⁵⁵ Moreover, preserve lands are not subject to special benefit assessment for any such projects built in the vicinity since they are "deemed of no benefit to the land and buildings in agricultural preserves."³⁵⁶

In addition, any governmental agency which proposes to advance funds for the construction of dwellings, commercial or industrial facilities, or water or sewer facilities which would be used to serve nonfarm structures within a preserve must file notice of intent with the state environmental quality board.³⁵⁷ The agency making the proposal is required to justify it and to provide an "evaluation of alternatives which would not require acquisition within agricultural preserves."³⁵⁸ The environmental quality board, which examines the proposal's impact upon agriculture and its relationship to local and regional comprehensive plans, is empowered to issue a 60 day cease and desist order if it finds the project might have an "unreasonable effect" on a preserve.³⁵⁹ In such a case, a public hearing must precede a final decision.³⁶⁰

The same provisions apply to eminent domain proceedings involving over ten acres of preserve land.³⁶¹ However, unlike the New York act which does not provide a means to halt such projects, the Minnesota environmental act empowers the board to suspend eminent domain actions for up to one year when it determines that there are "feasible and prudent alternatives which have less negative impact" on agricultural preserves.³⁶²

While it is too early to judge completely the effectiveness of the Minnesota program, initial response has been positive and enrollment more rapid than expected.³⁶³ Of the 1.91 million acres in the seven metropolitan counties 1.041 million acres, approximately 55 percent, are considered farmland. As of August, 1982, 46 percent of that farmland, 484,000

351. *Id.* § 473 H.14.

352. *Id.* § 473 H.12.

353. *See supra*, text accompanying note 307.

354. *Id.* § 473 H.11.

355. *Id.*

356. *Id.*

357. *Id.* § 473 H.15 subd. 1, 2.

358. *Id.* § 473 H.15 subd. 2.

359. *Id.* § 473 H.15 subd. 4.

360. *Id.* § 473 H.15 subd. 5.

361. *Id.* § 473 H.15 subd. 1.

362. *Id.* § 437 H.15 subd. 9.

363. Telephone conversation with James Schoettler, Metropolitan Council, August 3, 1982.

acres, had been certified as potential preserve land.³⁶⁴ Although no concentrated preserve area yet existed, some 13 percent of the certified land, 62,000 acres, had been set aside into 500–600 separate preserves.³⁶⁵

Eventually, I believe, we can expect substantially greater participation in the Minnesota program than may be occurring at the urban fringe under the New York act.³⁶⁶ Since the land is already zoned for agriculture, a landowner who does not participate foregoes the act's benefits, including tax relief, on the gamble that he may obtain a variance when needed for his property. Variances may not be readily available because, under the Minnesota zoning statute, applicants for a variance which may have a "material adverse effect" upon the environment may be required to "demonstrate the nature and extent of the effect."³⁶⁷ Consequently, the farmer has little to gain from withholding his land from the program.

By utilizing comprehensive planning and land use control, the Metropolitan Agricultural Preserves Act has, or should, accomplish what the New York Agricultural Districting Act has been unable to accomplish—the preservation of urban fringe farmland. The act combines those elements with profarm benefits which offset the farmer's urge to succumb to development pressure. Thus, like the Wisconsin Farmland Preservation Act,³⁶⁸ it encourages continued use of the land for farming. Under the Minnesota plan, the farmer's "values, goals, and assumptions"³⁶⁹ and the public interest in farmland preservation are "mutually supportive."³⁷⁰

That relationship is demonstrated by the fact that it was the existence of the agricultural preserves act which led a number of local governing bodies to adopt agricultural zoning.³⁷¹ Zoning has traditionally been unpopular with farmers,³⁷² but in this instance they were apparently willing to exchange diminished control over their land for the act's profarm provisions. An official of the metropolitan council summed up the situation by stating that "without knowledge of the incentives, agricultural zoning would not have occurred."³⁷³

In summary, the results of the Minnesota plan have already shown, and should continue to show, that the most effective preservation of agricultural land occurs when farming incentives are an integral part of a system of broad-based planning.

364. *Id.*

365. *Id.*

366. *See supra*, text accompanying note 329.

367. MINN. STAT. ANN. § 394.362 (19).

368. *See supra*, text accompanying notes 205–21, 281–88.

369. *See supra*, text accompanying notes 75, 88–89.

370. *Supra* note 363.

371. *Id.*

372. *See supra*, text accompanying notes 75–89 and note 434, *infra*.

373. *Supra* note 363.

AGRICULTURAL ZONING

Unlike prototype differential assessment and agricultural districting programs, which leave the farmer in control of his land but offer him incentives to resist development pressure, the techniques discussed in the remaining three sections divest the farmer of varying degrees of control, either by regulating development or actually severing the right to develop from his property. This section will discuss agricultural zoning, and the next two sections will respectively discuss purchase of development rights and transfer of development rights.

Zoning has been used extensively as an urban land use control device since its approval by the United States Supreme Court in *Village of Euclid v. Ambler Realty Co.*³⁷⁴ More recently, as land use problems have emerged in rural areas, officials naturally turned to zoning as the means to regulate growth. Early large-lot zoning programs were upheld on a variety of grounds, including the desire to preserve open space and/or peace and quiet, and the need to avoid strain on sewer and water systems.³⁷⁵ More recently, however, such ordinances have been invalidated as "exclusionary" means of restricting growth.³⁷⁶

Notwithstanding the fact that agricultural zoning utilizes minimum areas much larger than large-lot zoning, it has become a common method for the preservation of farmland. Nationwide, at least 270 counties and municipalities have adopted agricultural zoning ordinances.³⁷⁷ These ordinances have generally been upheld,³⁷⁸ although the challenges have been made primarily by those who alleged the regulation constituted a taking. However, in a case brought to enforce the landmark exclusionary zoning decision in *Southern Burlington County NAACP v. Township of Mt. Laurel*,³⁷⁹ a New Jersey court seemed to imply that such programs

374. 272 U.S. 365 (1926).

375. See generally, 2 WILLIAMS, AMERICAN LAND PLANNING LAW, ch. 30 (1974).

376. E.g., *Kavenewsky v. Zoning Bd. of Appeals of Town of Warren*, 160 Conn. 397, 279 A.2d 567 (1971); *Appeal of Kit-Mar Builders, Inc.*, 439 Pa. 466, 268 A.2d 765 (1970); *National Land and Investment Co. v. Kohn*, 419 Pa. 504, 215 A.2d 597 (1965); *Contra*, *Steel Hill Development, Inc. v. Town of Sanborton*, 469 F.2d 956 (1st Cir. 1972).

377. Guidebook, *supra* note 126, at 104.

As part of an all encompassing land planning program, Oregon requires local agricultural zoning. OR. REV. STAT. § 215.03 *et seq.* See generally, S. WILLIAMS, AMERICAN LAND PLANNING LAW, § 160.15a-6 (Supp. 1981). In Hawaii zoning is adopted by a state level commission. HAW. REV. STAT., ch. 205. See generally, BOSSELMAN & CALLIES, THE QUIET REVOLUTION IN LAND USE CONTROL, 5-53 (1971)(prepared for CEQ).

378. E.g., *Helix Land Co., Inc. v. City of San Diego*, 82 Cal. App. 3d 932, 147 Cal. Rptr. 683 (1978); *Sierra Terreno v. Tahoe Regional Planning Agency*, 79 Cal. App. 3d 439, 144 Cal. Rptr. 776 (1978); *Gisler v. County of Modena*, 38 Cal. App. 3d 303, 112 Cal. Rptr. 919 (1974); *Joyce v. City of Portland*, 24 Or. App. 689, 546 P.2d 1100 (1976); *Contra*, *Smeja v. County of Boone*, 34 Ill. App. 3d 628, 339 N.E.2d 452 (1975).

379. 67 N.J. 151, 336 A.2d 713 (1975).

do not constitute exclusionary zoning. The court noted that the local policy of preserving agricultural land conformed to statewide policy.³⁸⁰

Surprisingly little has been written on the subject of agricultural zoning. The NALS *Guidebook*³⁸¹ will thus serve as the primary source for this discussion. As that study points out, agricultural zoning ordinances are divided into two basic types. Nonexclusive measures permit nonagricultural development subject to restrictions which vary from program to program; exclusive agricultural zoning bars most nonagricultural uses.³⁸² Most ordinances deal only with residential development, and both types permit nonfarm uses that either do not interfere with agriculture (e.g. cemeteries) or serve farm communities (e.g. schools, churches).³⁸³

Nonexclusive Agricultural Zoning

Nonexclusive ordinances are the most numerous³⁸⁴ and are of four basic types:

- 1) large minimum lot size;
- 2) fixed area combined with a small building lot size;
- 3) sliding scale area combined with a small building lot size; and
- 4) conditional use approval.³⁸⁵

Large lot ordinances, the most popular nonexclusive type,³⁸⁶ permit nonfarm development as a matter of right on minimum lot sizes ranging from ten to 640 acres. The area requirement usually corresponds to the typical size of farms in the area.³⁸⁷

Under a fixed area-based system, landowners are entitled to develop one lot for each land unit of a specified area.³⁸⁸ Thus, under what have been called "quarter/quarter" zoning ordinances, a landowner can develop one lot per quarter of a quarter section;³⁸⁹ a 40 acre tract yields one lot, a quarter section, four lots. In contrast to large lot zoning, under which the entire 40 acres constitutes the lot, area based systems superimpose a small lot requirement upon the already divided property. Thus, under the "quarter/quarter system," if the lot size were one acre, an owner of 160 acres could develop only four total acres. Unlike large lot zoning, which has a tendency to chop up farmland into parcels of the

380. Southern Burlington Co. NAACP v. Township of Mt. Laurel, 161 N.J. Super., 317, 338, 391 A.2d 935, 946 (1978).

381. *Supra* note 126.

382. *Guidebook*, *supra* note 126, at 110.

383. *Id.*

384. *Id.* at 111, 122.

385. *Id.* at 110.

386. *Id.* at 112.

387. *Id.*

388. Toner, *Zoning to Protect Farming: A Citizen's Guidebook* 26. NALS (1981).

389. *Id.*

minimum permissible size, area-based systems encourage the clustering of development on small sites, thereby preserving large contiguous tracts of farmland.³⁹⁰ Some of these ordinances further protect the best agricultural land by requiring development to take place on the least productive soil.³⁹¹

By reducing the number of lots which may be developed as the size of the tract increases, sliding scale area-based systems achieve results similar to those achieved by fixed area zoning. For example, in Shrewsbury Township, York County, Pennsylvania, a less than five acre tract yields one developable lot, a five to 15 acre tract yields two lots, but a 30 to 60 acre tract permits development of only four lots.³⁹² Such systems also establish small lot sizes and often require construction to be on the least productive soil.³⁹³

Finally, in contrast to the other nonexclusive categories which permit limited development as a matter of right, conditional zoning systems permit only those nonfarm uses satisfying designated criteria. For example, the Deschutes County, Oregon ordinance provides that the construction of a dwelling will be approved only when it is 1) compatible with farm uses, the intent of the Exclusive Farm Use Zone established under Oregon law, and the comprehensive plan; 2) does not seriously interfere with accepted farm practices on adjacent lands; 3) will not materially alter the stability of the overall land use pattern in the area; and 4) is situated on land generally unsuitable for crop production or the raising of livestock.³⁹⁴ Obviously, under such a system, a separate eligibility determination must be made in each case.

Exclusive Agricultural Zoning

Although clearly possessing the potential for effective farmland preservation, exclusive agriculture zoning, which strictly prohibits nonfarm development, is unpopular with farmers. Consequently, very few of these ordinances have been enacted; of the 94 communities surveyed by NALS, only seven had adopted exclusive agricultural zoning.³⁹⁵ Where such systems exist, the construction of a nonfarm dwelling requires a change in zoning.³⁹⁶

390. *Id.*

391. *E.g.*, the Rice County Minnesota ordinance prohibits nonfarm dwellings on land which has been tilled in the last five years and has Class I, II, or III soil. Guidebook, *supra* note 126, at 116. Soil classifications are established by the Soil Conservation Service, USDA.

392. *Id.* at 119.

393. *Id.*

394. *Id.* at 120. The ordinance also spells out additional considerations to be used in evaluating proposed nonfarm structures. *Id.* at 121.

395. *Id.*

396. *Id.* at 122.

Effectiveness of Agricultural Zoning

As previously noted, the effectiveness of agricultural zoning has not been extensively evaluated. The recent ten case study conducted by NALS³⁹⁷ will thus serve as an overview. Zoning ordinances in the ten communities³⁹⁸ cover 4,997,766 acres, ranging from 21 to 90 percent of the jurisdictions involved.³⁹⁹ Seven of the ten ordinances require large lots, ranging from a low of five acres to a high of 160 acres.⁴⁰⁰ One ordinance, of the fixed area variety, permits the development of one acre for every 25 owned.⁴⁰¹ The remaining two programs treat nonfarm development as a conditional use.⁴⁰²

In evaluating those programs, NALS focused primarily upon what is perhaps the most crucial measure of zoning's effectiveness—its ability to withstand pressure for rezoning.⁴⁰³ Despite urban zoning's history of vulnerability to political and economic pressure,⁴⁰⁴ the NALS study concludes that officials generally have made rural rezoning decisions on the basis of the comprehensive plan and/or planning criteria which were anchored in the purpose of the district.⁴⁰⁵ Generally, those criteria include the farmability of the parcel, its proximity to farm population, the compatibility of surrounding uses, the availability of infrastructure, and the environmental impact of the project.⁴⁰⁶

The record of Black Hawk County, Iowa, which surrounds Waterloo, is illustrative. The county's agricultural zoning is based on Corn Suitability Ratings (CSR) which measure soil productivity. Based on analyses of weather conditions, yield potential, history of erosion, and physical and chemical properties, soils of the poorest quality rate five; the best

397. *Id.*

398. Weld, Tulane, Stanislaus Cos., Calif.; Dekalb Co., Ill.; Walworth Co., Wis.; Marion Co., Oreg.; Black Hawk Co., Iowa; West Hempfield, Lancaster Co., Pa.; Brooklyn Park, Hennepin Co., Minn.; Sioux Falls, Minnehaha Co., S.D. *Id.* at 127.

399. *Id.* at 131.

400. *Id.* Prior to the adoption of zoning, lots in the 10 communities ranged in size from 13,500 square feet to 5 acres. *Id.* at 130.

401. *Id.*

402. *Id.*

403. Under nonexclusive programs, requests are made for changes in minimum lot size (bulk restriction) while under exclusive zoning schemes, use amendments are sought.

404. BABCOCK, *THE ZONING GAME* (1966). Governor Tom McCall of Oregon once noted, I don't think the seeds of its [zoning] not working are within the process itself. They are within the weaknesses of the human beings who are trying to do the zoning. It is this loss of backbone and this granting of waivers and changing from a conservative use or a residential use to a commercial use, absolutely unjustified by the merits of the case but caused by the pressures that I think have given zoning whatever bad aspects it possesses.

Hearings on S. 268, *supra* note 135, at 50.

405. Guidebook, *supra*, note 126, at 133.

406. *Id.* at 135-36.

corn land rates 100.⁴⁰⁷ During the period from 1976–1979, when soils with CSR of 70 or above were zoned agricultural,⁴⁰⁸ officials received 106 rezoning requests, 45 of which involved prime land. Although 17 of the 45 were granted, ten of those cases involved land that, despite its CSR, was “not suitable for economic farming.”⁴⁰⁹ NALS thus concluded that county officials “followed the purpose and intent of the agricultural district, denying almost all those rezonings which would take good land out of production, and approving most of those which were poorly suited to agriculture and well suited to non-agricultural use.”⁴¹⁰ It thus appears that existing agricultural zoning systems are performing their intended function of greatly reducing the conversion of agricultural land.⁴¹¹

That conclusion is reinforced by the fact that, in the communities surveyed by NALS, area-wide land speculation has been redirected into designated development areas.⁴¹² Surprisingly, developers support the programs since they now enjoy certainty as to the location of development. They can confine their activities to those designated areas which, when properly planned, provide sufficient room for anticipated growth.⁴¹³

Finally, farmers in the surveyed communities give zoning, which significantly limits their economic options, at least “grudging acceptance.”⁴¹⁴

407. “Corn Suitability Ratings (CSR) is a system of rating soils, on a scale of 5 (for soils of the lowest productivity) to which 100 is reserved for those soils: (A) Located in areas of most favorable weather conditions for Iowa, (B) That have high yield potential, and (C) That can be continuously used for row crop production with little soil erosion. This soil rating reflects the physical and chemical properties of the soil in terms of soil productivity for the growth of corn. An individual CSR is assigned to each mapping unit at an average management level and reflects the integrated effect of numerous factors that influence the potential yields and frequency that the soil can be used for row-crop (corn) production. Ratings are prepared on an individual county basis as part of the soil survey program by soil scientists of the Iowa State Agriculture and Home Economics Experiment Station in Ames and by the Soil Conservation Service.”

THE BLACK HAWK COUNTY, IOWA EXPERIENCE IN PRESERVING THE FARMLAND AND THE FARMER 2 (Unpublished pamphlet).

408. The 35 acre, large lot ordinance has since been strengthened by reducing the agricultural CSR to 60. Guidebook, *supra* note 126, at 132. The amendment illustrates NALS’s conclusion that in addition to withstanding rezoning pressure, the ten communities often acted to tighten restrictions. *Id.* at 132.

409. *Id.* at 133–34. Analogizing from the discussion of other programs, the unsuitability may have been due to the size of the parcel or its proximity to an already developed area. *Id.*

410. *Id.* at 134.

411. NALS did, however, discover that, at least in the California counties, parcel splitting, (*e.g.*, dividing land among family members) was not as well controlled as rezoning, due primarily to lack of consensus on criteria. *Id.* at 136–38.

412. *Id.* at 142.

413. *Id.* at 140.

414. *Id.*

Because of the possibility of limited building, farmers recognized that the agricultural zoning does not curtail all development, but rather restricts it to those lands best suited to non-agricultural use. Thus, on the one hand, the farmer's investment in agriculture is protected from major non-agricultural adjoining uses, and on the other hand, the farmer is able to realize some development value in the land.⁴¹⁵

Despite these apparent successes, I submit that zoning by itself will not adequately ensure the preservation of agricultural land. While some degree of planning is inherent in any such scheme, zoning, like the other programs reviewed in this article, will prove most effective as an element of a system of broad-based land use planning.

First, the very nature of most agricultural zoning programs points up the necessity of careful long-range planning. By far the greatest number of communities currently using zoning rely upon large lot nonexclusive schemes. Since these ordinances permit nonfarm uses as a matter of right, the systems

can result in the chopping up of good agricultural land into minimum sized lots. Given sufficient volume, such practices are likely to generate the same frictions and nuisance suits that the large minimum lot sizes are designed to curtail. Further, as non-farm dwellings begin to dot the agricultural area, local officials will come under increasing pressure to lower the minimum lot size and thereby accelerate the disintegration of the agricultural sector.

Thus, large-lot and fixed and sliding scale area-based allocation ordinances may temporarily deter non-agricultural development in agricultural areas, but in the long run, the validity of these techniques, unless permitted densities are significantly lowered, is questionable.⁴¹⁶

Second, the coordination of zoning with a well developed plan is necessary to provide ongoing guidance for land use decisions. Although the NALS survey found that rezoning decisions were generally consistent with local plans, the experience of Sacramento County, California, an expanding urban area, has been markedly different.

In 1973, Sacramento County adopted a growth plan establishing, among other things, permanent agriculture zones to accommodate long term agricultural uses; and agriculture-urban reserves, designed for agricultural use at least until 1990, but with conversion to urban use possible before that date.⁴¹⁷ Despite the caveat that rural residential subdivisions com-

415. *Id.*

416. *Id.* at 145.

417. Johnston, *Successful Plan Implementation: The Growth Phasing Program of Sacramento County*, 44 J. AM INST. PLANNERS 412, 414 (1978).

posed of parcels of less than two acres were to be "discouraged" in the reserve areas, the county board of supervisors approved a substantial number of such developments.⁴¹⁸ In order to preserve these areas as locations for orderly future growth, the board was compelled to redefine the reserve area so as to exclude rural residential development.

Under the county's general plan, the reserve areas then became ineligible for county funded urban services, and urban land uses or divisions of land into parcels of less than ten acres were prohibited altogether.⁴¹⁹ More importantly, the amendment had the effect of elevating the barrier against rural residential development from approval of a subdivision to the requirement of a general plan amendment.⁴²⁰ The change was especially important because California both accords the general plan the force of law by requiring all zoning to be in conformity therewith,⁴²¹ and prohibits its amendment more than three times per year.⁴²² The new scheme has been significantly more effective in excluding development from urban reserve areas.⁴²³

Apart from its effectiveness in the Sacramento case, California's planning scheme provides the framework necessary for orderly growth which in turn facilitates the preservation of agricultural land. First, unlike many states which make planning permissive,⁴²⁴ California mandates the preparation of county general plans. Officials must give serious thought to the demands inherent in future growth. Second, assuming the plan attempts to strike an appropriate balance between orderly growth and farmland preservation, requiring consistency between the plan and zoning precludes sporadic rezonings which can destroy farmland by generating pockets of development demanding governmental services, which in turn pave the way for further development. Instead, development which does occur will be within the net of the community's planned-for growth. Finally, by permitting only three amendments per year, proposals are consolidated so as to encourage officials to consider their cumulative effects,⁴²⁵ again contributing to orderly growth. The California program demonstrates that the preservation of farmland can be best accomplished through a system based on broad-based land use planning.

In addition, a system which links zoning with broad-based planning should be insulated from constitutional attack. State court decisions upholding open space and agricultural zoning against "taking" allegations⁴²⁶

418. *Id.* at 420.

419. *Id.* at 416, 420.

420. *Id.* at 420.

421. CAL. GOV'T CODE § 65860(a) (West Supp. 1966-80).

422. *Id.* § 65361.

423. Johnston, *supra* note 417, at 421.

424. *E.g.*, New York. *See supra*, note 266.

425. Johnston, *supra* note 417, at 420.

426. *See supra*, note 378.

have noted their state's preservation policies.⁴²⁷ Similarly, at least one court, though not confronted with direct challenge to agricultural zoning, has noted the state's policy of farmland protection in an exclusionary zoning case.⁴²⁸

Most importantly, in the case of *Agins v. City of Tiburon*,⁴²⁹ the United States Supreme Court took special note of the planning aspects of the scheme in question. Upholding a California Supreme Court decision that property had not been "taken" by an ordinance limiting development to one acre lots, the Court noted:

In this case, the zoning ordinances substantially advance legitimate governmental goals. The State of California has determined that the development of local open-space plans will discourage the "premature and unnecessary conversion of open-space land to urban uses." . . . The specific zoning regulations at issue are exercises of the city's police power to protect the residents of Tiburon from the ill-effects of urbanization. Such governmental purposes long have been recognized as legitimate. See *Penn Central Transp. Co. v. New York City*. . . .⁴³⁰

Taken together with its decision in *Penn Central Transportation Co. v. New York City*⁴³¹ (to be discussed later)⁴³² which upheld the designation of Grand Central Station as a landmark subject to development restrictions, the Supreme Court's decision in *Agins* leaves little doubt that well planned agricultural zoning programs are valid.⁴³³

Finally, and perhaps most important, zoning, by itself, is likely to be ineffective because it is not popular with farmers and will be difficult to enact. Unlike the city dweller who probably owns only the lot on which his home stands, the farmer has a substantial investment in land, and will be far more profoundly affected by a zoning ordinance.⁴³⁴ Agricultural zoning, even in combination with a California type planning scheme, severely limits a farmer's ability to capitalize on his primary asset without providing offsetting benefits. Notwithstanding the "grudging" support found by NALS in already zoned communities, it will inevitably be less acceptable than programs which, in some manner, compensate the farmer for that loss of control.

Such broader programs as the Wisconsin Farmland Preservation Law, which links zoning and planning to tax relief,⁴³⁵ and the Minnesota Met-

427. *E.g.*, *Gisler v. County of Modena*, *supra* note 378.

428. *Southern Burlington County NAACP v. Township of Mt. Laurel*, *supra* note 380.

429. 447 U.S. 255 (1980).

430. *Id.* at 261.

431. 438 U.S. 104 (1978).

432. See *infra*, text accompanying notes 579-87.

433. *Accord Keene*, *supra* note 8, at 635-47.

434. See *supra*, text accompanying notes 88-89.

435. See *supra*, text accompanying notes 270-88.

ropolitan Agricultural Preserves Act, which combines zoning with protection from government action that would interfere with farming,⁴³⁶ take into account the special "goals, values and assumptions" of the farmer.⁴³⁷ They should, therefore, possess far greater potential for preserving farmland than does agricultural zoning.

Similarly, Purchase of Development Rights (PDR) and Transfer of Development Rights (TDR) programs, discussed in the next sections, which compensate landowners for the surrender of their development rights, preserve farmland because they address the unique concerns of the farmer.

PURCHASE OF DEVELOPMENT RIGHTS

Unlike zoning, which preserves farmland by regulating development but fails to account for the special needs of the farmer, the programs discussed in the remaining two sections protect agricultural lands by providing farmers with financial benefits which offset the urge to succumb to development pressure.

Conceptually, development rights programs simply treat the right to develop land as an incident of ownership, one of the "bundle of rights" which a fee simple landowner possesses. However, in contrast to differential assessment systems which simply ignore that value for tax purposes, PDR and TDR programs compensate the farmer for legally severing the rights. The effect of this less-than-fee-purchase is roughly equivalent to the granting of a negative easement by the landowner; he agrees not to use the land in a certain way, in this case, not to develop beyond current use.⁴³⁸ Under the Connecticut PDR statute, for example, the owner gives up the power to ". . . develop, construct on, sell, lease, or otherwise improve the agricultural land for uses that result in rendering such land no longer agricultural land. . . ."⁴³⁹ This section will discuss Purchase of Development Rights programs under which the rights are purchased by a governmental unit, and the next section will discuss Transfer of Development Rights systems under which the rights are sold on the open market.

While PDR schemes are relatively new,⁴⁴⁰ they are the direct descendants of programs for the collection of scenic or conservation easements

436. See *supra*, text accompanying notes 339-73.

437. See *supra*, text accompanying notes 75, 88-89.

438. The owner of a negative easement has "the power to prevent the servient owner [the farmer] from doing on his premises acts which, but for the easement, the servient owner would be privileged to do." 3 POWELL ON REAL PROPERTY, ¶ 405.

439. CONN. GEN. STAT. ANN. § 22-26bb(d) (West Supp. 1982).

440. The concept was first popularized by the writings of William H. Whyte. THE LAST LANDSCAPE (1968); OPEN SPACE ACTION, THE OUTDOOR RECREATION RESOURCES REV. COMM. REP. NO. 15, (1962); SECURING OPEN SPACE FOR URBAN AMERICA: CONSERVATION EASEMENTS, URB. L. INST., TECH. BULL. NO. 36 (1959).

used by the National Park Service and a number of states to protect particularly sensitive landscapes.⁴⁴¹ As early as the 1930s, scenic easements were purchased along the Blue Ridge Parkway in Virginia and the Natchez Trace Parkway in Mississippi, Alabama and Tennessee. Although some of the programs were abandoned in the early 1950s,⁴⁴² the federal government still maintains the authority to purchase easements in various locations.⁴⁴³ Wisconsin employed one of the first state PDR programs to preserve scenery along the Great River Road paralleling the Mississippi, and to acquire lands for public hunting, fishing, and trapping.⁴⁴⁴ More recently, a number of states have authorized the acquisition of conservation or open space easements by purchase⁴⁴⁵ or donation.⁴⁴⁶

A small number of states and counties have developed PDR schemes for the preservation of farmland;⁴⁴⁷ nationwide, 10,300 acres of agricultural land have been preserved by this method.⁴⁴⁸ The first such program was enacted by Suffolk County, New York in 1974.⁴⁴⁹ It will serve as the principal model for this discussion.

441. See generally, Cunningham, *Scenic Easements In The Highway Beautification Program*, 45 DEN. L.J. 168, 181-88 (1968); Evelth, *An Appraisal of Techniques to Preserve Open Space*, 9 VILL. L. REV. 559, 565-68 (1964); Roe, *supra* note 72, at 429-31.

In addition, the Housing Act of 1961 provided grants to state and local governments "to encourage more economic and desirable urban development, to assist in preserving areas and properties of historic or architectural value, and to help provide necessary recreational, conservation, and scenic areas." 42 U.S.C.A. § 1500(d)(1976).

The act as originally introduced encompassed agricultural land "in or adjacent to an urban area" having "economic or social value as a means of shaping the character, direction and timing of community development." S. 1922, 87th Cong., 1st Sess., § 606a (1961). Senator Williams of New Jersey, one of the bill's chief sponsors, had hoped it would be used to control urban sprawl, channel development, and implement greenbelt areas, but in enacting the bill as amended, most members of Congress felt they were authorizing funds for park and recreational lands. Krasnowiecki & Paul, *The Preservation of Open Space in Metropolitan Areas*, 110 U. PA. L. REV. 179, 213-15 (1961). The grant authority was terminated in 1975. 42 U.S.C. § 5316(a)(1976).

442. Cunningham, *supra* note 441, at 182-83.

443. *E.g.*, Cuyahoga Valley Nat'l Recreation Area, 16 U.S.C. § 460ff-1(c) (1976); Wild Rivers Act, 16 U.S.C. § 1277(b)(1976); Roe, *supra* note 72.

444. Jordahl, *Conservation and Scenic Easements: An Experience Resume*, 39 LAND ECON. 343 (1963); Note, *Progress and Problems in Wisconsin's Scenic and Conservation Easement Program*, 1965 WIS. L. REV. 352.

445. *E.g.*, CAL. GOV'T CODE § 6950-54 (West 1980); N.J. STAT. ANN. § 13:8A-1 to 8A-55, 13:8B-1 to 8B-9 (1979 and Supp. 1980-81).

446. *E.g.*, CAL. GOV'T CODE § 51050-51097 (West Supp. 1981).

447. *E.g.*, CONN. GEN. STAT. ANN. § 22-26aa-26hh (1982); MD. AGRIC. CODE § 2-505-515 (Supp. 1981), see generally, Neilsen, *Preservation of Maryland Farmland: A Current Assessment*, 8 U. BALT. L. REV. 429 (1979); King County, Wash. Ord. 4341 (June 27, 1979), see generally, Comment, *Agricultural Land Preservation: Washington's Approach*, 15 GONZ. L. REV. 765, 786-91 (1980); Suffolk County, New York Local Law No. 16-1981 (signed by County Exec. April 6, 1981).

448. Guidebook, *supra* note 126, at 156.

449. Local Law Relating to the Acquisition of Development Rights in Agricultural Land, Suffolk County, N.Y. Local Law No. 19-1974 (1974), reprinted in Newton and Boast, *supra* note 107, at 190, n. 4. The law has been superseded by Local Law No. 16-1981, *supra* note 447.

Both laws were passed under a New York enabling statute which provides that the acquisition of

The Suffolk County Program

Although Suffolk County is New York's most productive agricultural county,⁴⁵⁰ its location on the eastern end of Long Island makes it especially vulnerable to the urban sprawl emanating from New York City. Nearly 70,000 acres of farmland were converted to nonagricultural uses between 1950 and 1972,⁴⁵¹ and in 1975, agricultural use value of land averaged \$1500 per acre, while market value averaged \$7500 per acre.⁴⁵² Some market values were as high as \$20,000 per acre.⁴⁵³

The Suffolk County PDR program emerged from a two year study which rejected other alternatives.⁴⁵⁴ In particular, the agricultural districting program, already operative in New York State, was rejected primarily because its restrictions on governmental action⁴⁵⁵ limited control over "comprehensive resources planning"⁴⁵⁶ and because the county would have been unable to prevent conversion prompted by irresistible offers.⁴⁵⁷

Under the plan,⁴⁵⁸ landowners who wish to sell their development rights⁴⁵⁹ submit asking prices to the County Executive. The county farmland committee, composed in part of 19 members from all towns within the county, then evaluates the offers. Top priority is given to land currently under cultivation which is under imminent threat of development. Prime lands⁴⁶⁰ are preferred, and while no minimum number of acres is required, tracts of 200 acres or more are given preference. Unreasonably high offers are summarily rejected. Following private firm appraisals of acceptable parcels, contracts are negotiated and, if approved by the county legislature, are executed and recorded.⁴⁶¹ As a part of the contract of sale, the landowner covenants to use the underlying fee only for agricultural pur-

interest or rights in real property for the preservation of open spaces or areas (including agricultural lands) constitutes a public purpose for which county or local government funds may be expended. N.Y. GEN. MUN. LAW § 247 (McKinney 1976).

450. Newton & Boast, *supra* note 107, at 193.

451. *Id.*

452. *Id.* at 211, n. 112.

453. Peterson & McCarthy, *Farmland Preservation by Purchase of Development Rights: The Long Island Experience*, 26 DE PAUL L. REV. 447, 458, n. 35 (1977).

454. Newton & Boast, *supra* note 107, at 198-206.

455. *See supra*, text accompanying notes 305-09.

456. Newton & Boast, *supra* note 107, at 201.

457. *Id.* at 202. Sixty percent of the county's farmland was owned by nonfarmers who were assumed to be holding the land pending further increases in value. Peterson & McCarthy, *supra* note 453, at 454, n. 22.

458. *See generally*, Cooperative Extension of Suffolk County, Suffolk County's Farmland Preservation Program 8-9 (1979).

459. Development rights means "the permanent legal interest and right to permit, require or restrict the use of the premises exclusively for agricultural production [as defined by the Agricultural Districting Act] and the right to prohibit or restrict the use of the premises for any purposes other than agricultural production." LOCAL LAW NO. 16-1981 § 3(c).

460. *See supra*, note 8.

461. Farmland Preservation Program, *supra* note 458, at 7-10; Newton & Boast, *supra* note 107, at 208-09.

poses,⁴⁶² and the agreement runs with the land.⁴⁶³ Once acquired, development rights may not be sold by the county except by local law recommended by the farmland committee and approved by mandatory referendum.⁴⁶⁴

Effectiveness of the Plan

As originally envisioned, the Suffolk County program was to enable the county to purchase the development rights to 15,000 acres at a total cost of \$55 million.⁴⁶⁵ As of April, 1981, the county had expended \$12 million of an initial \$21 million bond issue⁴⁶⁶ for the acquisition of approximately 3,400⁴⁶⁷ acres at an average cost of \$3,120 per acre.⁴⁶⁸ A second submission of offers had been narrowed and appraisal ordered on over 3,000 acres bearing an asking cost of nearly \$18 million.⁴⁶⁹

In at least one critical respect the Suffolk County PDR plan, like zoning, is far superior to differential assessment and agricultural districting—it is able to protect the most vulnerable farmland. The system overcomes that major inadequacy in those other schemes by essentially making a doubly irresistible offer to the farmer whose land is threatened. He can collect the land's development potential and still continue farming.⁴⁷⁰ Moreover, unlike use restrictions under the systems reviewed thus far, restraints on development under a PDR program are permanent.⁴⁷¹

462. Newton & Boast, *supra* note 107, at 209.

463. N.Y. GEN. MUN. LAW § 247(4)(McKinney Supp. 1981). The provision was necessitated by the common law rule forbidding the burden of easements "in gross" from running with the land. See generally, Cunningham, *supra* note 441, at 256. Most other PDR statutes are not so explicit, but simply authorize the purchase of less-than-fee interests.

464. LOCAL LAW NO. 16-1981, § 5.

465. COHALAN, OPEN SPACE POLICY: REPORT TO THE SUFFOLK COUNTY LEGISLATURE (February, 1980).

466. *Id.*

467. *Id.* For a detailed statement of bids received and appraised, see Peterson & McCarthy *supra* note 453, at 458-59, n. 35-36.

468. Guidebook, *supra* note 126, at 163. The figure includes payments to landowners plus cost of appraisals, surveys, title searches, and other administrative costs. *Id.*

469. *Update on the County Farmland Program*, Suffolk County Agricultural News, August, 1980. In October, 1980, the county legislature added 35 parcels to the appraisal list. *County Farmland Program Update. Id.*, November, 1980; Conversation with David Newton, Land Use Specialist, Suffolk County, April 28, 1981.

470. As previously noted, participation by land owners is voluntary. Thus, it might be argued that landowners can defeat the plan by holding out for expected higher values in the future. As to a farmer, the argument is correct although he would continue to pay taxes based on the market value.

By contrast, the nonfarmer holdout's development rights may be subject to condemnation in the final phase of the program. At that time, the county may use its eminent domain power "to fill out the blank spaces" in and around already participating property. Land owned by active farmers will be exempt. Guidebook, *supra* note 126, at 158; Newton & Boast, *supra* note 107, at 210.

471. The restrictions must, however, be enforced. Disagreement over the meaning of "agricultural production" has prompted Suffolk County to require a permit for the erection of "structures" on participating land. *New Farmland Owners Experience Use Roadblocks*, Suffolk County Agricultural News, August, 1980; LOCAL LAW NO. 16-1981, § 6(e)(4).

In addition, the cash payments have encouraged farmers to expand their operations either by investing in new equipment or buying additional farmland which, now restricted to farming, can be purchased at use value prices. Thus after the first phase of purchases, Suffolk County farmers purchased 390 acres from nonfarmer landowners who had sold their development rights to the county.⁴⁷² The sale of development rights also eliminates the tax squeeze problem which initially gave rise to differential assessment programs. The landowner can be taxed only on what he owns, the right to use the land for agricultural purposes.⁴⁷³

PDR programs address the concerns of the agricultural community and they unquestionably preserve farmland. Nonetheless, their utility is severely limited. Largely because of their cost, such programs are inherently measures of last resort, born out of a sense of urgency.⁴⁷⁴ Obviously, regulating land use is less expensive and burdensome than purchasing property rights, but in areas where the development pressure on farmland is the greatest, expectation interests will have risen so substantially that zoning, for instance, will not be politically feasible.⁴⁷⁵ Yet it is in those urban fringe areas, where PDR programs are needed most, that development rights carry the highest purchase price. Moreover, the overall costs will be substantially greater than merely the purchase price of the rights. Interest payments on the bonds, which are the primary financing mechanism for PDR systems,⁴⁷⁶ must be included.⁴⁷⁷ Finally, while cash outlays will increase, tax revenues will decrease because of the reduction in the assessment base.⁴⁷⁸

Thus, even in areas where there exists a strong desire to protect farmland, PDR programs will be politically controversial. For example, in the late 1970s the State of New Jersey abandoned a two-year pilot program⁴⁷⁹

472. Guidebook, *supra* note 126, at 158.

473. N.Y. GEN. MUN. LAW § 247(3)(McKinney 1976) provides that after severance of development rights, the valuation "shall take into account and be limited by the limitation on the future use of the land."

474. Conversation with John Wickham, Suffolk County farmer, February 10, 1981; Guidebook, *supra* note 126, at 167.

475. *Id.* at 148.

476. *Id.* at 155. Wisconsin used a one cent per pack cigarette tax to finance its scenic easements program. Jordahl, *supra* note 444. The Maryland program receives two-thirds of any rollback penalty levied under the Farmland Assessment Act. Guidebook, *supra* note 126, at 155.

477. Suffolk County issued thirty-year bonds bearing a 5.9% interest rate. Newton and Boast, *supra* note 107, at 206.

478. See note 473 and accompanying text, *supra*. A tax "shift" (note 222 *supra*) thus occurs simultaneously with a cash outlay.

In some instances, a community could conclude that a PDR program is economically preferable to development, however. For example, housing in Suffolk County in the mid 1970s was less expensive than in other areas of the country. Planners concluded that conversion of farmland to low or moderate income housing would have cost the country more for governmental services than it would lose due to the PDR tax base reduction. Newton and Boast, *supra* note 107, at 207.

479. N.J. STAT. ANN. § 4:1B-1 (West Supp. 1982).

before any development rights could be purchased. Even though five million dollars had been appropriated originally, a proposal to purchase 1,666 acres in Burlington County at an average cost of \$2,340 was halted in part because of concern over the projected costs of expanding the program state-wide.⁴⁸⁰ In Suffolk County, the two-thirds vote of the county legislature required for approval of a bond issue took five months to secure.⁴⁸¹

Furthermore, cost will not be the only consideration. In developing urban fringe areas, where PDR programs are most likely to be needed, the priority for other public projects is also likely to be the greatest. PDR programs may be difficult to justify in the face of the need for a hospital or a sewer system.⁴⁸² Not surprisingly, the Suffolk County program created controversy because it was implemented simultaneously with the construction of a major sewer project.⁴⁸³

Taken together, the limitations inherent in effective PDR schemes clearly indicate that they cannot be effective as the sole approach to agricultural land preservation. A recent report by Peter Cohalan, the Suffolk County Executive, stated: "If past experience is any indication of future accomplishment, it is clear that linking the entire program to one means of acquisition will fall short of the objective, namely to protect a sufficient amount of Suffolk farms to insure the vitality of the agricultural industry itself."⁴⁸⁴ While recommending that the nine million dollars remaining under the initial bond issue be committed to the purchase of phase II properties,⁴⁸⁵ Mr. Cohalan's report strongly urged the use of agricultural districting⁴⁸⁶ and density modification, a form of clustering,⁴⁸⁷ to supplement the PDR program. Using all three devices, he predicted that up to 30,000 acres of farmland might be preserved, whereas PDR alone would preserve only about six thousand acres.⁴⁸⁸ A recent legislative evaluation of Connecticut's statewide PDR program⁴⁸⁹ reached a similar conclusion:

480. Guidebook, *supra* note 126, at 158.

481. Newton and Boast, *supra* note 107, at 213.

482. Comment, Easements to Preserve Open Space Land, 1 *Ecology L.Q.* 728, 744 (1971).

483. Newton, *Saving Prime Farmland: The Suffolk County Experience*. Cooperative Extension pamphlet 3-4 (1979).

484. Cohalan, *supra* note 465.

485. *Id.*

486. Two districts, containing 4,173 acres, already exist in the county. *Summary, supra* note 311.

487. Under such a scheme, the owner could convert only a certain percentage of his property; the remainder would be placed under a nondevelopment covenant. The Town of Southampton, in Suffolk County, has proposed a plan permitting development of 35% of a tract along existing roads. In addition to saving farmland, the more cohesive development will reduce the cost of governmental services. Cohalan predicts that a county wide plan could protect 15,000-20,000 acres of farmland. Cohalan, *supra* note 465.

488. *Id.*

489. CONN. GEN. STAT. ANN. § 22-26aa-26hh (West Supp. 1982).

absent "an immediately funded full scale purchase program, no one policy tool is capable of preserving farmland."⁴⁹⁰

It is not the purpose of this article to propose specific programs which might include a PDR component. However, as the discussion of other types of programs has made clear, the effectiveness of whatever program is chosen will be enhanced when it is integrated with a system of broad-based land use planning. Thus, to the extent that a PDR plan is viable, either on its own or in conjunction with other techniques, the large sums involved will be most productively spent when planning precedes purchase.

The criteria utilized by Suffolk County to select parcels for participation in the program⁴⁹¹ constitute a type of informal plan. By preferring tracts of at least 200 acres contiguous to other farmland, the plan attempts to ensure the protection of a certain critical mass of land needed for an efficient farming operation⁴⁹² as well as to provide opportunity for expansion. Selection of Class I and II soils conserves the best land for agricultural production, thereby directing development toward poorer quality soil. Finally, by seeking to purchase buffered zones bounded by roads or open space, the county is able to "separate farming operations from other noncompatible land uses."⁴⁹³ Given the relatively limited extent of the Suffolk County PDR program, and the fact that so far all purchases have been made simultaneously, such a planning scheme has probably been adequate. If, however, the use of density modification increases, as suggested by the County Executive,⁴⁹⁴ a more comprehensive plan would be advisable.⁴⁹⁵

In contrast to a local system, a statewide PDR program at best can be hit-or-miss without broad-based planning, a generalization understood by the architects of the Connecticut program. In addition to establishing the mechanism for purchasing development rights, the Connecticut PDR statute⁴⁹⁶ provides for the preparation of a series of maps inventorying active and inactive farmland, types of crops in current production, local zoning, existing and planned sewer and water lines, and forest or open

490. *Sunset Review: Agricultural Lands Preservation Pilot Program*. Hartford: Connecticut General Assembly, Legislative Program Review and Investigations Committee 30 (1980). The report recommends enabling legislation to permit agricultural districting and a TDR plan, as well as imposition of a conveyance tax on land removed from the differential assessment program.

491. See generally, Farmland Preservation Program, *supra* note 458, at 7.

492. Lapping, Bevins & Herbers, *Differential Assessment And Other Techniques to Preserve Missouri's Farmland*, 42 MO. L. REV. 369, 385-86 (1977).

493. Farmland Preservation, *supra* note 458, at 7.

494. See *supra*, text accompanying note 487.

495. Suffolk County is in fact covered by a comprehensive plan developed by the Long Island Regional Planning Board. Conversation with David Newton, Land Use Specialist, May 5, 1981.

496. CONN. GEN. STAT. ANN. § 22-26aa-26hh (West Supp. 1982).

land.⁴⁹⁷ The act also provides for the preparation of a food plan which 1) analyzes the demand for and supply availability of Connecticut grown food at 10 and 20 year intervals and 2) recommends priorities with respect to agricultural production and land requirements.⁴⁹⁸

Since the Connecticut program was enacted initially as a pilot program,⁴⁹⁹ the planning sections did not apply to the first phase of purchases. The 1980 *Sunset Review* recommending continuation of the program⁵⁰⁰ did urge, however, an amendment requiring coordination of the Food Plan and mapping data, along with information on land covered by differential assessment, as a means of assuring a "systematic [PDR] selection process."⁵⁰¹ The report further recommended that local zoning and planning commissions be consulted for suggestions on sites suitable for preservation and for comments on applications for purchases within their towns.⁵⁰²

The Connecticut legislature should seriously consider the enactment of the suggested amendments. The Food Plan which has been developed recommends increased agricultural production requiring, by the year 2000, permanent preservation of 83,500 acres of prime cropland.⁵⁰³ Over 80 percent of the land would be used for dairy farming, the rest for production of fruits and vegetables.⁵⁰⁴ The authors of the plan estimate that, including the "adjacent pastures, woods, natural drainage areas and open space areas"⁵⁰⁵ required to support that amount of cropland, a total of approximately 300,000 acres will need to be preserved.⁵⁰⁶ Even utilizing a "comprehensive farmland preservation" program, the "single most important aspect" of which is the PDR program,⁵⁰⁷ meeting such a goal will no doubt be difficult.⁵⁰⁸ Without broad-based planning, it will be impossible.

The same may be said of any PDR program. While the goals of most such systems will not be as ambitious as that of Connecticut, their ef-

497. *Id.* § 22-26dd.

498. *Id.* § 22-26ee.

499. *Id.* § 22-26cc (West Supp. 1979).

500. *Sunset Review*, *supra* note 490.

501. *Id.* at 34.

502. *Id.*

503. Fellows & Cody, A FOOD PRODUCTION PLAN FOR CONNECTICUT, 1980-2000. CONN. AGRIC. STATION, Bull. No. 454 (October, 1979)(cited in *Sunset Review*, *supra* note 490, at 10-11).

504. *Id.*

505. CONN. GEN. STAT. ANN. § 22-26aa (West Supp. 1982).

506. *Supra* note 503.

507. *Sunset Review*, *supra* note 490, at 33.

508. As of Autumn, 1980, Connecticut had acquired development rights in 2,585 acres at an average cost of \$1,600 per acre. Guidebook, *supra* note 126, at 157, 163. Over nine million dollars is currently appropriated for the project. CONN. GEN. STAT. ANN. § 22-26hh (1983 Conn. Acts June 83-33 (Spec. Sess.)).

fectiveness will nonetheless depend directly upon the degree of planning involved.

TRANSFER OF DEVELOPMENT RIGHTS

As previously noted, development rights also are severed from the land under a TDR system but, instead of being purchased by a governmental unit, the rights are transferred on the open market for use in designated receiving zones. Such a system offers benefits to both buyers and sellers. The purchaser may develop his land more intensely than would otherwise be permitted and, as with the PDR system, the seller who is compensated for the restrictions attached to his property can reinvest the proceeds in more land or equipment. In contrast, however, to expensive PDR systems, TDR programs require only start-up expenditures of public funds.⁵⁰⁹ They also facilitate, as PDR programs do not, needed or desired development; growth is thus shifted away from prime agricultural areas to more appropriate locales. Finally, while PDR programs essentially "lock up" development rights, thus removing them from the tax rolls, TDR programs, by using the rights in another location, avoid a reduction in the tax base.

Although initially developed as a technique to preserve urban landmarks by transferring air rights,⁵¹⁰ TDR schemes were soon proposed for the preservation of open space lands⁵¹¹ and environmentally sensitive areas.⁵¹² That agricultural TDR programs were first introduced on the township level⁵¹³ may account for the fact that, nationwide, very few transactions have occurred;⁵¹⁴ the areas involved were probably too small to provide a market for intensified development. By contrast, systems recently de-

509. At the outset of such programs, a development rights "bank" may be necessary to help create a private market for the rights. The Montgomery County, Maryland bank is publicly funded, *see infra*, text accompanying notes 528-33, but is required to sell off any rights it has purchased prior to its expiration of authority and is expected to recover the cost of initial funding. *Proposal For A Bank To Assist In Agricultural Preservation* (The Maryland-National Capital Park and Planning Commission/Montgomery County Planning Board, 1981); Bill No. 59-80, introduced in the Montgomery County Legislature on November 18, 1982. The bill was enacted without substantive changes. Conversation with Dale Price, Montgomery County Planning Board, August 20, 1982.

510. Costonis, *SPACE DRIFT* (1974); *The Chicago Plan: Incentive Zoning and The Preservation of Urban Landmarks*, 85 HARV. L. REV. 574 (1972). New York City has adopted such a system, NEW YORK CITY ADMINISTRATIVE CODE, ch. 8A, § 205-1.0 *et seq.* (1976) (described in *Penn Central v. City of New York*, 438 U.S. 104 (1978)).

511. Rose, *A Proposal for the Separation and Marketability of Development Rights as a Technique to Preserve Open Space*, 2 REAL EST. L.J. 635 (1974).

512. Costonis, *Development Rights Transfer: An Exploratory Essay*, 83 YALE L.J. 75 (1973).

513. *E.g.*, Buckingham Twp., Bucks Co., Pa.; Sunderland Twp., Franklin Co., Mass. A few towns and counties have also developed TDR plans. *E.g.*, Town of Southampton, Suffolk Co., N.Y.; Calvert Co., Md. For a complete listing, *see* Guidebook, *supra*, note 126, at 176.

514. At the time the *Guidebook* was published, only five transactions protecting 184 acres had occurred. *Id.* at 177.

veloped in Montgomery County, Maryland and the New Jersey Pinelands area, which serve as the models for this discussion, cover areas possessing both large amounts of farmland and centers of intensifying development.

The Montgomery County Plan

Montgomery County, Maryland, situated immediately to the northwest of Washington, D.C., has experienced development pressure since the mid-1950s. The market value of farmland has increased from about \$700 per acre in 1959 to approximately \$3,500 per acre in 1979. Over 80,000 acres of the 1950 agricultural base of 213,000 acres had been shifted to nonfarm ownership by 1979.⁵¹⁵ This large-scale conversion has occurred despite Maryland's differential assessment, agricultural districting and easement acts, and the county's five acre rural zoning ordinance.⁵¹⁶ Responding to this "threat," in 1980 the county adopted a Functional Master Plan for the Preservation of Agriculture and Rural Open Space.⁵¹⁷ In addition to recommending increased use of state farmland preservation techniques, the plan combines a TDR program covering 73,000 acres (agricultural reserve)⁵¹⁸ with a rural clustering component on 26,000 acres (rural open space areas) where development already has eroded portions of the critical mass of farmland.⁵¹⁹ This article will consider only the TDR component.

Under the plan, land within the agricultural reserve, the sending zone, will be assigned marketable development rights in a ratio of one residential unit⁵²⁰ per five acres. The landowner may then sell some or all of those units to a landowner in a designated receiving zone. Upon transfer, a restrictive easement, limiting future development to the number of rights retained, will be filed in the county records office and thus be binding on all future owners.⁵²¹ While the program is voluntary in that a farmer is not compelled to sell his development rights, severe restrictions on his own ability, or that of a successor in interest, to develop encourage him to do so. A farmer who does not sell his development rights may not build at the sending ratio of one residential unit per five acres but only at a base density of one dwelling unit per 25 acres.⁵²²

515. THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION, FUNCTIONAL MASTER PLAN FOR THE PRESERVATION OF AGRICULTURAL AND RURAL OPEN SPACE IN MONTGOMERY COUNTY 12, 14 (October, 1980) (hereinafter *Master Plan*).

516. *Id.* at 12.

517. *Id.*

518. *Id.* at 46.

519. *Id.* at 39-40. Rural clustering retains open space by concentrating a parcel's permissible development on a portion of the tract, leaving the remainder as open space.

520. All existing TDR programs, with the exception of Buckingham Twp., are directed only at residential development. *Supra* note 513.

521. *Master Plan*, *supra* note 515, at 42-44.

522. *Id.* at 43. Each building lot contains a minimum of 40,000 square feet, approximately one acre *Id.*

For example, the owner of 100 acres of agricultural reserve land would be assigned 20 rights which he would sell to a receiving zone owner. If, however, instead of selling those rights, the farmer chose to develop his land, he would be able to construct only four dwellings, one for each 25 acres. If our hypothetical landowner sold five rights, representing 25 acres, and retained 15, representing 75 acres, he could either sell the remaining rights at a later time or construct three dwellings, one for each 25 acres for which he has not sold the development rights.

Receiving zones are not designated by the master plan but will be the product of further study and revision of more localized master plans. While receiving zones are a "key element of the TDR concept,"⁵²³ their identification involves primarily urban concerns. The Master Plan thus provides that they be "consistent with environmental, transportation, housing and population guidelines" of the various community master plans.⁵²⁴ When established, the receiving zones, like the transfer zone, will be assigned two densities: the base density or maximum level to which a tract may be developed without the use of transferred development rights, and the higher optional density to which parcels utilizing the rights may be developed.⁵²⁵ Developers wishing to utilize transferred rights will submit a subdivision plan which will be reviewed for conformity with county and local general plans and subdivision regulations.⁵²⁶ Hypothetically, a base density might permit the developer to build one dwelling per two acres, whereas, using rights purchased from the agricultural reserve, he might be able to construct two dwellings per acre.⁵²⁷ The ability to develop to four times the normal density will serve as the incentive for the developer to participate in the program.

Finally, since there is unlikely to be a strong private market for the purchase and sale of development rights until a number of receiving zones have been designated, Montgomery County has established a Development Rights Fund, or "bank," to serve as an interim market substitute.⁵²⁸ Funded primarily from real estate transfer and development taxes already being collected by the county,⁵²⁹ the fund is empowered to guarantee commercial loans which are secured by development rights and to purchase and sell development rights.⁵³⁰ While the fund probably is crucial

523. *Id.* at 44.

524. *Id.*

525. *Id.* at 41.

526. Master Plan, *supra*, note 515, at 88.

527. The example is used by the Master Plan. *Id.* at 45.

528. Bill No. 59-80, *supra* note 509. The "bank" concept was first proposed as a part of the Chicago Plan for Landmark Preservation. Costonis, *supra* note 510.

529. MONTGOMERY CO. CODE, Art II, ch. 51-19 through 52-27; MD. ANN. CODE, Art 81, § 19 (1980). Conversation with Dale Price, *supra* note 509.

530. Bill No. 59-80, *supra* note 509.

to the economic and legal⁵³¹ viability of the Montgomery County Scheme, it operates only as a back-up mechanism. Before it can guarantee a loan for purchasing development rights, the fund requires evidence that the applicant has been unable either to sell the rights on the open market or to obtain a commercial loan using them as collateral.⁵³² In addition, before it can buy rights, the fund requires evidence that the Maryland State PDR program has declined to purchase the development rights.⁵³³

The New Jersey Pinelands Plan

While not differing substantially in form from the Montgomery County plan, the TDR program developed for the New Jersey Pinelands area is unique in that it is a component of one of the most comprehensive land use plans yet developed in the United States. The presence of an almost one million acre tract⁵³⁴ of largely undeveloped forest area near the center of the urbanized Northeast led Congress in 1978 to establish the Pinelands National Reserve. The legislation provided federal funds for planning and land acquisition and mandated that a comprehensive management plan be developed by the State of New Jersey and approved by the Secretary of the Interior.⁵³⁵ Subsequent action by New Jersey⁵³⁶ resulted in the establishment of the Pinelands Commission whose Comprehensive

531. *See infra*, text accompanying notes 590-93.

532. Bill No. 59-80, *supra* note 509.

533. *Id.*

534. The reserve encompasses part of seven southern New Jersey counties, and all or parts of 56 municipalities. NEW JERSEY PINELANDS COMMISSION, COMPREHENSIVE MANAGEMENT PLAN FOR THE PINELANDS NATIONAL RESERVE (xviii) (1980)(hereinafter *Comprehensive Plan*).

535. 16 U.S.C. § 471 (Supp. V 1976). The purposes of the act were:

- (1) to protect, preserve and enhance the significant values of the land and water resources of the Pinelands area;
- (2) to encourage and assist the State of New Jersey and its units of local government in the development of a comprehensive management plan for the Pinelands area in order to assure orderly public and private development in the area consistent with the findings of this section;
- (3) to provide, during the development of this comprehensive plan, Federal financial assistance for the acquisition of lands in the Pinelands area that have critical ecological values which are in immediate danger of being adversely affected or destroyed;
- (4) to encourage and assist the State and its units of local government in developing a governmental mechanism to implement this comprehensive plan, and to provide Federal financial assistance for the acquisition of lands consistent with the comprehensive plan;
- (5) to encourage adequate coordination of all government programs affecting the land and water resources of the Pinelands area.

Id. § 471(b).

536. New Jersey Pinelands Protection Act, N.J. STAT. ANN. § 13:18A-1 to 29 (West Supp. 1982).

Management Plan⁵³⁷ was approved by Secretary of Interior Andrus in January, 1981.⁵³⁸

This all-encompassing conservation plan provides *inter alia* for the protection of wetlands and forests, vegetation and wildlife, surface and ground water, air quality, and agriculture. It establishes additional programs addressing such problems as waste management, capital improvements, and housing. This article will discuss only the agricultural TDR program, known as the Pinelands Development Credit Program.⁵³⁹

In order to describe the program adequately, we must first set out some of the plan's land use categories. The Pinelands Protection Act⁵⁴⁰ itself establishes two areas within the reserve: The Preservation Area, the 368,000 acre semi-wilderness core determined to be especially vulnerable to environmental degradation;⁵⁴¹ and the 566,000 acre, more developed surrounding region known as the Protection Area.⁵⁴² Generally speaking, the plan permits greater development in the Protection Area than in the Preservation Area.

Superimposed upon the two statutorily created zones are a number of use areas designated by the Pinelands Commission following extensive study and mapping. This group includes Agricultural Production Areas primarily devoted to field agricultural uses;⁵⁴³ Special Agricultural Production Areas devoted to native horticultural uses, such as berry production,⁵⁴⁴ and Regional Growth Areas. The latter encompass areas which are "(1) in or adjacent to existing developed areas, (2) experiencing growth demands and pressure for development, and (3) capable of accommodating development without jeopardizing the most critical elements of the Pinelands environment."⁵⁴⁵ Over 97 percent of agricultural production acreage is found in the Protection Area;⁵⁴⁶ all Regional Growth Areas lie within the Protection Area.⁵⁴⁷

537. Comprehensive Plan, *supra* note 534.

538. New York Times, Jan. 17, 1981, at 26, col. 1.

539. Comprehensive Plan, *supra* note 534, at 210-12, 401-02.

540. *Supra* note 536.

541. "The Preservation Area District represents that area found by the New Jersey Legislature to be 'especially vulnerable to the environmental degradation of surface and ground waters which would be occasioned by the improper development or use thereof,' and 'which constitutes an extensive and contiguous area of land in its natural state.'" Comprehensive Plan, *supra* note 534, at 195.

542. *Id.* at xix.

543. *Id.* The Agricultural Production Areas, located in both the Preservation and Protection Areas, also include "adjoining lands with soil conditions suitable for those farming activities." *Id.*

544. Special Agricultural Protection Areas, occurring only in the Preservation Area, also include adjoining lands utilized for watershed protection. These areas are to be designated at the option of the municipality. *Id.*

545. *Id.* at 196.

546. *Id.*

547. *Id.*

The Pinelands Development Credit Program covers the two agricultural production areas as well as the whole of the Preservation Area. Section 5-401 of the *Comprehensive Management Plan* declares:

If land use and development of the Pinelands is concentrated in Regional Growth Areas, the Pinelands as a region can tolerate additional development without damaging the Pinelands environment. It is the purpose of this Part to facilitate such patterns of growth and development by providing landowners in the Preservation Area District, Special Agricultural Production Areas, and Agricultural Production Areas with an opportunity to secure an additional beneficial use of their land without the risk of damaging the essential ecological character of the Pinelands.⁵⁴⁸

Preservation Area landowners will receive one development credit for every 39 acres owned, while agricultural area owners will receive two credits for every 39 acres.⁵⁴⁹ The credits, each representing four bonus housing units,⁵⁵⁰ will be sold on the open market for use in receiving zones, located in Regional Growth Areas.⁵⁵¹ As under the Montgomery County program, each such area will have a base density and a higher bonus density which may be achieved only by using transferred credits.⁵⁵² While these densities are set by the Comprehensive Plan, local governmental units with land in these areas, as a part of their obligation to implement all aspects of the Comprehensive Plan,⁵⁵³ including the TDR scheme, are responsible for adopting land use regulations which utilize the bonus system.⁵⁵⁴

Hypothetically, in a regional growth area which the municipality has zoned for single family homes on one-half acre lots, a 12 acre tract would support 24 homes. However, when development credits are used, lot size decreases to one-third acre, and the same tract would support 36 homes. Since each credit equals four new homes, a developer would need to

548. *Id.* at 401.

549. *Id.* § 5-403 at 402. In each case wetlands owners will receive only 0.2 credits per 39 acres.

550. *Id.* § 5-405 at 402.

551. *Id.* § 5-402 at 401.

552. *Id.* at 210.

553. Comprehensive Plan, *supra*, note 534 at 353-60. Section 3-101 declares:

The Pinelands Protection Act is a legislative determination that management and protection of the essential character and ecological values of the Pinelands require a regional perspective in the formulation and implementation of land use policies and regulations. The Act also recognizes, as does this Plan, that local government participation in the management process is fundamental to achieving the goals and objectives of the Act. The Act and this Plan contemplate that local governments will be the principal management entities implementing the Plan, with the Pinelands Commission providing technical assistance to local authorities, monitoring development review and updating the Plan.

Id. at 353.

554. *Id.* § 5-402 at 401, 210-11.

purchase three credits to be entitled to construct the 12 bonus homes.⁵⁵⁵

Any transfer must include a deed restriction limiting in perpetuity the seller's land to designated agricultural uses.⁵⁵⁶ Although the program does not compel the farmer to sell his credits, opportunities for development by him or his successors in interest are even more restricted than in the Montgomery County program. Residential units will be permitted on 3.2 acre tracts, provided they will be the landowner's principal residence, that he has not developed a similar unit within the last five years, and meets certain other requirements.⁵⁵⁷ Residential units which are accessories to active agricultural operations may be built at a density of one per ten acres.⁵⁵⁸

Finally, the Pinelands Commission has recommended the establishment of a "bank" with authority similar to that possessed by the Montgomery County Development Fund.⁵⁵⁹ Legislation to implement that recommendation is pending before the New Jersey legislature.⁵⁶⁰ Meanwhile, the Burlington County Board of Freeholders has established a credit exchange board which will have funds available to purchase credits from landowners experiencing economic hardship.⁵⁶¹

Effectiveness of the Plans

While neither program had advanced beyond the initial stages of implementation, as of August, 1982, three receiving zones had been officially designated in Montgomery County.⁵⁶² No requests for financing

555. The example is one given in PINELANDS DEVELOPMENT CREDITS: A LANDOWNER'S GUIDE 4 (New Jersey Pinelands Commission, June, 1982).

556. Comprehensive Plan, *supra* note 534, at 402.

557. The owner must demonstrate a "cultural, social or economic link to the essential character of the Pinelands." *Id.* § 5-304 at 396. The requirement is met by establishing that the parcel in question was owned by him or a member of his family on Feb. 7, 1979, and either 1) he is a member of a two generation extended family that has resided in the Pinelands for at least 20 years, or 2) the primary source of his household income is employment in a Pinelands resource-related activity. *Id.* at 396-97.

The section covers only Agricultural Production Areas, although similar requirements apply to all Preservation lands. *Id.* § 5-302 at 393.

558. *Id.* § 5-304.

559. *Id.* at 212.

560. Assembly Bill 1259 by Rep. Lesniak. Conversation with Robert Bembridge, New Jersey Pinelands Commission, August 20, 1982.

561. PARKER, THE PINELANDS PLAN: A FIRST YEAR REVIEW 7 (New Jersey Pinelands Comm., Jan. 18, 1982). The legality of the exchange board was upheld in *Matlack v. Board of Chosen Freeholders of Burlington County*, L- 69372-81 (Super. Ct., Dec. 6, 1982) (noted in Bozung, *Transfer of Development Rights: Compensation for Owners of Restricted Property*, 6 ZONING & PLANNING L. REP. (June, 1983) at 134). See also, *EDF Helps Save N.J. Pinelands Plan for Fourth Time*, EDF Newsletter, at 3, col. 2 (Nov./Dec. 1982).

562. Conversation with Dale Price, Montgomery County Planning Board, August 20, 1982. Update: by the summer of 1983 local master plans had been amended to provide for over 9000 bonus units. Tustian, *Preserving Farming Through Transferable Development Rights: A Case Study of Montgomery County, Maryland*, 4 AMERICAN LAND FORUM 63, 70 (Summer 1983).

had been received by the Development Rights Fund, but 200 development rights, representing 1000 acres of protected farmland, had been sold on the open market at an average purchase price of \$4,500 per right.⁵⁶³ Three developers had submitted proposals for subdivisions which make use of transferred rights, and county officials perceive that developers willingly are accepting the TDR program.⁵⁶⁴

In the summer of 1983, the Planning Director for Montgomery County wrote:

All the available evidence suggests that this transferable development rights system is beginning to work. Over 400 TDR's have been sold, preserving over 2,000 acres of land in the agricultural reserve area. Local banks are beginning to recognize TDR's as legitimate instruments of commerce. Realtors have begun to identify TDR's as a feature of properties described in the multiple listing system. The local real estate board has requested an opinion from the state's attorney general, seeking authorization to act as brokers for land-severed TDR's as stand alone commercial instruments. A judge has recognized the economic value of TDR's in dividing property among two parties in a litigation. A receiving area developer has said that the TDR option enabled him to reduce the price of his houses by \$10,000 per unit. A land-owner sold 34 acres to the parks department without keeping the TDR's, saving the government the cost of the development rights. A county farmer has bought a 100 acre farm for under \$1000 per acre, its agricultural use value alone, because the owner kept the TDR's. Another farmer who had made plans to move out of the county has decided to stay. It is too soon to say that the system is an unqualified success, but the early signs are encouraging.⁵⁶⁵

In New Jersey, counties and municipalities with land in the Pineland preserve still are working with the Pinelands Commission to develop local master plans implementing the Comprehensive Plan.⁵⁶⁶ As of March, 1983, no development rights had been transferred on the open market, but the Burlington County Board of Freeholders had made two purchases: 4.5 credits for \$45,000 in October, 1982, and 2.5 credits for \$25,000 in early 1983.⁵⁶⁷

563. Conversation with Dale Price, *supra* note 562. Mr. Price believes the figure to be toward the low end of the fair market value of the rights. Update: by the summer of 1983, over 400 rights had been sold, preserving over 2000 acres of farmland. Tustian, *supra* note 562, at 64.

564. *Id.*

565. Tustian, *supra* note 562, at 64.

566. Parker, *supra* note 561 at 3-4; Conversation with Robert Bembridge, *supra* note 560.

567. *First PDC's Sold in Pinelands*, THE PINELANDER Newsletter of the New Jersey Pinelands Comm., at 3, col. 2 (Nov./Dec. 1982). *Burlington County Buys More PDC's*, *Id.* at 3, col. 2 (Jan./Feb. 1983). The \$10,000 per credit price in the second transfer was held to be reasonable in *Matlack v. Board of Chosen Freeholders of Burlington County*, L-69372-81 (Super. Ct. June ____, 1983) noted in *Court Rulings Advanced Pinelands Protection*, EDF Newsletter at 1, col. 3 (Aug. 1983).

It is too early to predict with certainty whether they will be successful, but it is clear that TDR programs possess great potential for protecting agricultural land. To be sure, such programs provide no panacea. They are economically feasible only in areas possessing both a market demand for new housing within the receiving zones and use controls that limit base density to a level that falls short of those demands.⁵⁶⁸ In addition, the allocation of development rights and the setting of base and bonus densities require sophisticated economic analysis.⁵⁶⁹ Nevertheless, by compensating the farmer for restrictions on his ability to develop, properly structured TDR programs combine land use controls and benefits which offset the farmer's urge to succumb to development pressure. Since, as discussed earlier, each element acts to constrain the private land development cycle,⁵⁷⁰ TDR schemes, because they combine the two, should prove to be one of the most effective vehicles for the preservation of farmland.

In evaluating the other types of systems reviewed in this article, I have first described a prototype plan and then compared it to a similar plan which utilized a greater degree of planning. In each case, the latter program, generally because it employed an element the prototype did not, was shown to be, or to have the potential to be, more effective at preserving farmland. Since a more carefully planned TDR program does not exist, I have chosen to compare the TDR concept to agricultural zoning which it both closely resembles and yet differs from sharply. Consistent with the results of previous comparisons, I have concluded that, even though zoning has experienced a degree of success,⁵⁷¹ TDR programs possess greater potential for farmland preservation.

568. Costonis, *supra* note 512, at 101.

569. See generally, Berry & Steiker, *An Economic Analysis of Transfer of Development Rights*, 17 NAT. RES. J. 55 (1977).

Somewhat oversimplified, the analysis proceeds as follows: bonus densities must be set high enough to make development in receiving zones economically attractive. Authorities must first locate those zones in areas which have a market demand for more housing than land use restrictions then permit and then, taking into account such factors as the ability of public facilities to accommodate that growth, see *infra* text accompanying notes 576-77, determine how many additional housing units can be absorbed. Development credits sufficient to meet that capacity must then be created. Assuming for purposes of illustration the 1:1 development credit to bonus residence ratio envisioned by the Montgomery County program, 15,000 development credits would be required to support 15,000 units in the receiving zone. Master Plan, *supra* note 515, at 46. Since the rights which those credits represent must be severed from the sending zone, the number of acres in that zone must then be divided by the number of credits needed. In Montgomery County, the 73,000 acre sending zone yields approximately 15,000 credits, a ratio of one credit per five acres. *Id.* at 47. Finally, a base density to which a farmer can develop his own land must be established in the sending zone. Again in Montgomery County, it was determined that a ratio of one dwelling per 25 acres is consistent with studies demonstrating that 25 acre farms, if properly managed, are economically viable. *Id.* at 44. In establishing the Pinelands Development Credit Program, the New Jersey Pinelands Commission conducted a similar analysis. Comprehensive Plan, *supra* note 534, at 212.

570. See *supra*, text accompanying notes 259-60.

571. See *supra*, text accompanying notes 403-15.

Setting aside for the moment discussion of the combined effect of those elements, it appears that the use control elements in TDR programs, standing alone, are more likely to effectively preserve agricultural land than are those same elements in zoning schemes. As discussed previously, large lot nonexclusive zoning ordinances, the most widely used type, may in the long run defeat their intended purposes by fostering the "chopping up of good agricultural land into minimum sized lots . . . thereby accelerating the disintegration of the agricultural sector."⁵⁷² By contrast, in an economically viable TDR program, growth will take place primarily in receiving zones.

A developer has a choice of which land to develop. If he does not already own it, he can buy land in a receiving zone, the purchase price of which may have increased as a function of its inclusion in that zone. To be able to develop the land to the bonus density, he must also purchase development rights. On the other hand, a developer could decide to purchase farm zone land which, even though it can only be developed to a restrictive base density, will, because it is further from existing developed areas, probably carry a smaller purchase price. In a properly structured TDR system, the developer will choose the receiving zone option because the bonus density to which he can develop will permit him to make the greatest profit.⁵⁷³ Indeed, one Montgomery County developer has stated that the availability of bonus credits enabled him to reduce the price of houses by \$10,000 per unit.⁵⁷⁴

The intensified construction which will thus occur in the receiving zone fulfills both urban and rural planning goals which, as discussed previously,⁵⁷⁵ merge at the urban fringe. Urban goals are met in that development is shifted to areas in which governmental services can be provided efficiently. As noted previously, the Montgomery County master plan provides that the designation of receiving zones be "consistent with environmental, transportation, housing and population guidelines" of the various community master plans.⁵⁷⁶ The plan provides further that "optional densities shall not exceed the ability of the planned public facilities to serve the area or the ability of the land to accommodate the optional density."⁵⁷⁷

Correspondingly, the growth which the TDRs generate in receiving zones helps to preserve farmland by ensuring that any development which does occur in rural areas will almost surely be done by individuals. While

572. *Supra* note 416.

573. *See supra* note 569.

574. *See supra*, text accompanying note 565.

575. *See supra*, text accompanying note 74.

576. Master Plan, *supra* note 515, at 44.

577. *Id.* at 41.

individual construction can also lead to a “chopping up” of the land, there is less likelihood of that occurring with a TDR program than with a zoning program. TDR systems complement their land use controls with a benefit—payment for development rights—which serves as an incentive for the farmer to resist development pressure. Under a zoning scheme, the farmer must absorb the value lost as a result of regulation, and, if he wishes to recoup his investment, he has no choice but to sell off his land, possibly to individuals desiring a large lot in the country. By contrast, under a TDR system, owners are compensated for the restrictions placed on their land. Put another way, instead of being forced to sell their land for development, farmers can recoup a large portion of their investment by simply selling off development rights for use in receiving zones. Since the farmer now has an incentive to resist development, a drop in individual home construction should follow.

The coupling of benefits with use controls provides advantages other than the creation of an environment which is less than hospitable to farmland development. First of all, just as broad-based planning protects agricultural zoning from constitutional attack,⁵⁷⁸ the combination of use control and compensation, itself a form of broad-based planning, also ensures the legality of TDR programs.

In *Penn Central Transp. Co. v. New York City*,⁵⁷⁹ the owner of Grand Central Station challenged the New York City Landmarks Commission's rejection of its plans to build an office building atop the Grand Central Station, contending that the landmark act on its face constituted a taking of its air rights. Treating the act essentially as a zoning ordinance, the Supreme Court rejected the argument.

[T]he submission that appellants may establish a “taking” simply by showing that they have been denied the ability to exploit a property interest that they heretofore had believed was available for development is quite simply untenable. Were this the rule, this Court would have erred not only in upholding laws restricting the development of air rights, . . . but also in approving those prohibiting both the subjacent . . . and the lateral . . . development of particular parcels. [citations omitted]. “Taking” jurisprudence does not divide a single parcel into discrete segments and attempt to determine whether rights in a particular segment have been entirely abrogated. In deciding whether a particular governmental action has effected a taking, this Court focuses rather both on the character of the action and on the nature and extent of the interference with rights in the parcel as a whole—here, the city tax block designated as the ‘landmark site.’⁵⁸⁰

578. See *supra*, text accompanying notes 429–33.

579. 438 U.S. 104 (1978).

580. *Id.* at 130–31.

From the Court's response, it seems clear that a landowner in a TDR farm zone will be unable to argue successfully that his "development rights" have been taken.

In addition, everyone concerned in *Penn Central*—the parties, the Court, and the dissenters—agreed that no taking would occur if, instead of applying only to selected properties, the restrictions had been imposed as part of an historic district preservation scheme. Justice Rehnquist, in dissent, pointed out that under a zoning scheme,

[a]ll property owners in a designated area are placed under the same restrictions, not only for the benefit of the municipality as a whole but also for the common benefit of one another. In the words of Mr. Justice Holmes, speaking for the Court in *Pennsylvania Coal Co. v. Mahon* . . . there is "an average reciprocity of advantage."⁵⁸¹

Likewise, "[In historic districting,] owners although burdened by the restrictions also benefit, to some extent, from the furtherance of a general community plan."⁵⁸²

By analogy, agricultural TDR programs, which preserve farmland for the benefit of the public at large, also enhance the economic viability of the farm community. Farmers who want to remain in the business can use the monies received from the sale of development rights to expand their operations. Money spent for new equipment will help to ensure the continued presence of farm service businesses.⁵⁸³ More importantly, because its development value will have been severed, land can be purchased at use value. Thus, those farmers who choose to reinvest will be able to afford to purchase the land of those who want to recover their investment and retire.⁵⁸⁴ It follows that the "reciprocity of advantage" inherent in the Montgomery County and Pinelands plans should bring them into conformity with even the dissent's definition of constitutionality.⁵⁸⁵

Challenges to agricultural TDR systems, as applied to individual parcels, should also be unsuccessful. In concluding that the action of the Landmarks Commission, as applied specifically to *Penn Central*, did not constitute a taking, the Court noted that the restrictions in no way interfered with the current use of the terminal.⁵⁸⁶ Similarly, restricting agricultural areas primarily to farming does not interfere with their present use.

581. *Id.* at 140.

582. *Id.* at 139, n. 2.

583. For a statement of the problem *see generally, supra* text accompanying notes 119–22.

584. One Montgomery county farmer was able to purchase 100 acres for under \$1000 per acre, its use value, because the seller kept the development credits. *See* text accompanying note 565, *supra*.

585. *Accord, Keene, supra* note 8, at 635–645.

586. 438 U.S. 104, at 136.

The Court also recognized the value of development credits which were transferable to any of Penn Central's surrounding properties. "While these rights may well not have constituted 'just compensation' if a taking had occurred, the rights nevertheless undoubtedly mitigate whatever financial burdens the law has imposed on the appellants and for that reason, are to be taken into account in considering the impact of regulation."⁵⁸⁷

In its earlier review of the case, the New York Court of Appeals was even more explicit:

Development rights, once transferred, may not be equivalent in value to development rights on the original site. But that, alone, does not mean that the substitution of rights amounts to a deprivation of property without due process of law. Land use regulation often diminishes the value of the property to the landowner. Constitutional standards, however, are offended only when that diminution leaves the owner with no reasonable use of the property. The situation with transferable development rights is analogous. If the substitute rights received provide reasonable compensation for a landowner forced to relinquish development rights on a landmark site, there has been no deprivation of due process. The compensation need not be the "just" compensation required in eminent domain, for there has been no attempt to take property. . . .

[TDRs] are valuable, and provide significant, perhaps "fair," compensation⁵⁸⁸ for the loss of rights above the terminal itself. Hence no constitutional violation has been established.⁵⁸⁹

The same result should follow from a challenge to an agricultural TDR system, provided the transfer credits are adequately marketable. Because Penn Central's credits were transferable to several of its own parcels, the issue was not really considered by the *Penn Central* Court. However, in *French Inv. Co. v. City of New York*,⁵⁹⁰ the New York Court of Appeals invalidated a zoning resolution restricting the use of private parkland, although the owner received transfer credits.

By compelling the owner to enter an unpredictable real estate market to find a suitable receiving lot for the rights, or a purchaser who would then share the same interest in using additional development rights, the amendment renders uncertain and thus severely impairs

587. *Id.* at 137.

588. See Costonis, *Compensation And The Accommodation Power: Antidotes For The Taking Impasse in Land Use Controversies*, 75 COLUM. L. REV. 1021 (1975). Similarly, in upholding Montgomery County's downzoning of land in the agriculture reserve zone, the court in *Dufour v. Montgomery County Council* (Jan. 20, 1983) (discussed in Tustian, *supra* note 562, at 71) held that the rights had "a reasonably significant value." Bozung, *supra* note 561, at 132.

589. Penn Cent. Transp. Co. v. City of New York, 42 N.Y. 2d at 335-36, 366 N.E. 2d at 1278, 397 N.Y.S. 2d at 921-22 (1977).

590. 39 N.Y.2d 587, 340 N.E.2d 381, 385 N.Y.S.2d 5 (1976).

the value of the development rights before they were severed. . . . Hence when viewed in relation to both the value of the private parks after the amendment, and the value of the development rights detached from the private parks, the amendment destroyed the economic value of the property. It thus constituted a deprivation of property without due process of law.⁵⁹¹

By contrast, the drafters of the Montgomery County and Pinelands plans have attempted to ensure marketability by taking the supply of potential development sites into account in establishing sending and bonus ratios⁵⁹² and by creating development rights banks which are permitted to purchase credits.⁵⁹³ The programs should be able to withstand constitutional attack.⁵⁹⁴

In addition to ensuring their legality, the combination of use controls and benefits helps to equitably distribute the benefits and burdens of such a system. Under a zoning scheme, the farmer must absorb any value lost as a result of regulation, while the landowner in a development zone receives a windfall.⁵⁹⁵ By contrast, under a TDR system

. . . [o]wners of restricted resources are not wiped out, but are duly compensated, and the windfall of increased land values that owners within transfer districts [or those to whom they sell] might otherwise enjoy in consequence of these restrictions is offset by the payments they must make for additional development rights.⁵⁹⁶

It follows that TDR programs should be favorably received by the agricultural community. As developed previously, land is a major investment for the farmer, often representing, among other things, his retirement fund; programs, such as agricultural zoning, which limit his ability to recover that investment inevitably give him cause for concern.⁵⁹⁷ TDR programs address those concerns since by selling his development rights the farmer is able to recoup that portion of his investment which

591. 39 N.Y.2d at 598.

592. See *supra*, note 569.

593. See *supra*, text accompanying notes 559–61, 590–93.

594. The Montgomery County plan was upheld in *Dufour v. Montgomery County Council*, *supra* note 588. The challengers alleged that zoning the agricultural reserve zone for agricultural use only was a "taking" because no receiving zones had been designated at the time of the downzoning, thus leaving them without a market for their right. The court held that the downzoning was permissible on its own merit and thus did not turn on the TDR scheme; therefore, the absence of receiving zones was immaterial. *Tustian*, *supra* note 562, at 71. The court went on to say that had the TDR scheme been considered, the fact that the rights had "a reasonably significant value," *Bozung*, *supra* note 588, would have been further evidence that no taking had occurred. *Tustian*, *supra* note 562.

595. See generally, HAGMAN & MISCZYNSKI, WINDFALLS FOR WIPEOUTS: LAND VALUE CAPTURE AND COMPENSATION (1978) (prepared for HUD).

596. *Costonis*, *supra* note 512, at 99–100.

597. See *supra*, text accompanying 75–89.

zoning would have "wiped out."⁵⁹⁸ It therefore seems probable that the TDR concept will be met with more than the "grudging acceptance" afforded agricultural zoning.⁵⁹⁹

Thus, TDR programs, like the Wisconsin Farmland Preservation Act and Minnesota's Metropolitan Preserves Act, respond to the special problems of the farmer. Although they employ different devices, each of the three programs integrate land use controls with offsetting benefits addressed to the "values, goals, and assumptions"⁶⁰⁰ of the farming community. In other words, the programs "exercise rational control"⁶⁰¹ over land development through a theory of broad-based planning for the preservation of agricultural land. Of the programs reviewed in this article, they are the most likely to succeed.

CONCLUSION

Since Maryland adopted the first differential assessment act in 1956, state and local governments have been actively devising programs for the protection of agricultural land. Those programs have been successful to the extent they have been able to "exercise rational control" over the private land development cycle by either imposing land use controls or affording the farmer benefits which encourage him to resist development pressure. At the urban fringe, where land is most vulnerable, benefits alone have not been able to offset the possible financial gains to be had from conversion to nonagricultural uses. On the other hand, land use controls which restrict the farmer's ability to recover his investment but do not provide compensatory benefits tend to be unpopular. Thus, the programs which are, or have the potential to be, the most effective are those which incorporate both elements into a theory of broad-based planning. In those programs, the public's interest in the preservation of agricultural land and the farmer's "values, goals, and assumptions" are "mutually supportive."

598. Neither the Montgomery County nor the Pinelands plan addresses the taxability of credits prior to transfer. The Buckingham Township plan provides for the taxation only upon issuance, which does not occur until immediately prior to a previously negotiated sale. Bucks Twp. Zoning Ord. reprinted in part in Schmidman, *Transferable Development Rights: An Idea In Search of Implementation*, 11 LAND & WATER L. REV. 339, 368-72 (1976). A proposed open space TDR plan provides for taxation in the same manner as real property, using current sales to determine value. Rose, *supra* note 511, at 661-62.

A strong argument can be made that since a farmer cannot develop beyond the base density, he should be taxed only at that level. On the other hand, so long as an adequate credits market exists (and given the existence of a credits "bank," it will) taxing credits would not unfairly force participation.

599. See *supra*, text accompanying note 414.

600. See *supra*, text accompanying notes 75-89.

601. *Id.*