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Agricultural Districts and Zoning: A State-Local Approach to a National Problem

by

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INTRODUCTION

The United States, blessed with a seemingly inexhaustible supply of productive agricultural land, has permitted much of this resource to pass into nonagricultural uses. American farmers have kept agricultural output from shrinking, however, by increasing productivity on the remaining land, through improved cultivation techniques and increased use of fertilizers and pesticides, as well as by bringing new land into production. The long-term consequences of continued land losses and the shifting of agriculture from region to region have rarely been questioned. Recently, however, a few states and localities have begun to curb excessive conversion of agricultural land to other uses.

The political motivations for governmental intervention to preserve agricultural land vary. Anticipation of losing cheap and dependable local food supplies, disenchantment with sprawling urban development, dismay over loss of rural lifestyles, a preference for the visual and aesthetic amenities associated with rural land, and the belief that the decline of agriculture as an industry will result in economic losses to local communities all may stimulate governmental efforts to restrict the conversion of agricultural land to nonagricultural uses. These concerns are often joined with issues more national or global in scope, such as the belief that increasing reliance on irrigated cropland will cause serious economic and environmental problems, the judgment that it is irresponsible to squander land resources enjoyed by few other nations, and the fear that continuing land losses threaten the long-term capability of American agricultural production to meet domestic and world food needs. Although the continued loss of agricultural land is of national significance, as a political issue it is likely to remain important primarily at the state and local level. The consequences of agricul-

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tural land conversion are felt most immediately in the particular localities and states where aggregate agricultural land stocks have declined severely in the past few decades.

This Article begins with the premise that most efforts to preserve agricultural land will take the form of state or local legislation, but seeks to identify those national matters that can be addressed in conjunction with the provincial or parochial concerns furnishing the political base for legislation. As part I demonstrates, the rate of loss of the better, or "prime" agricultural land, while not portending imminent catastrophe, is significant. This land frequently cannot be returned to agricultural use. National problems resulting from loss of prime land include excessive reliance on erosion-prone land and the gradual depletion of the national land base. In the long term, this base may become inadequate to supply an increasingly hungry world, especially as declining use of fossil-based fertilizers and pesticides causes land-intensive agriculture to become less productive. State and local programs to preserve agricultural land can address these national problems.

Part II examines concrete legislative techniques for preservation based upon a traditional tool of land use control—zoning. It proposes a "districting" approach to regulation that is particularly well suited to areas where governmental as well as private development displaces agricultural uses. Part III describes a method for implementing a zoning and districting scheme through special purpose, state-mandated programs that can be integrated with general land use planning and zoning by local governments.

I

AGRICULTURAL LAND CONVERSION AND ITS CONSEQUENCES

The United States contains a vast amount of agricultural land. Each year American farmers use approximately 400 million acres of land to raise crops.[1] There is also a substantial reserve of unused agricultural land,[2] but most of this is either of low quality or too difficult and costly to convert to agricultural use.[3] Because high quality reserves

1. Frey & Otte, *Cropland for Today and Tomorrow*, U.S. ECON. RESEARCH SERVICE, DEP'T OF AGRICULTURE, AGRICULTURAL ECON. REP. NO. 291, at 4 (1975).

2. Frey & Otte, *supra* note 1, at 6 (266 million acres with cropping potential).

3. The Soil Conservation Service (SCS) of the United States Department of Agriculture has begun to inventory the nation's agricultural land according to its suitability for long term cultivation. Preliminary reports indicate that only approximately 134 million acres of the United States reserves of unused agricultural land meet the survey's definition of "prime" agricultural land. Schmude, *A Perspective on Prime Farmland*, 32 J. SOIL & WATER CONSERVATION 240 (1977). For a discussion of the "prime" standard, see text accompanying notes 69-82 *infra*. Of the 134 million acres of uncultivated prime land, only 24 million acres can easily be brought into production, while another 24 million acres could be cultivated with drainage or other land treatment. *Id.* at 241; H.R. REP. NO. 218, 95th Cong., 1st Sess. 105-06, *reprinted in* [1977] U.S. CODE CONG. & AD. NEWS 638-39. The remaining 86

are limited, the nation should manage its agricultural land resources to assure the adequacy of the land stock for future generations. Trends in recent years, however, show a progressive reduction of the nation's supply of agricultural land and an increased reliance on irrigation and other energy-intensive agricultural practices to maintain production levels on the remaining cropland.

The withdrawal of agricultural land from production does not by itself create a serious danger to American agriculture. Even if demand for agricultural products greatly increased, as long as converted land could be returned to production, there would be no crisis. The irreversibility of much of the current conversion to nonagricultural uses, however, guarantees that increased demands on the agricultural land stock will bring new or return converted farmland into use only haltingly and at lower productivity.

A. The Conversion of Agricultural Land

Although new farmland is being brought into production in some regions of the country, it is being removed from production in other regions at a more rapid pace.[4] The United States has lost between 2.5 and 2.7 million acres of cropland annually to other uses since 1944,[5] although much of this was not particularly good cropland.[6] During the same period, about 1.3 million acres of new land were brought into

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million acres of presently uncropped prime farmland are unlikely ever to become part of the nation's cropland base because of the extremely high capital requirements needed for land improvement or because such land is in small parcels, is isolated in location, or is remote from agricultural products markets. *See* Schmude, *supra*, at 242; H.R. REP. No. 218, 95th Cong., 1st Sess. 105-06, *reprinted in* [1977] U.S. CODE CONG. & AD. NEWS 638-39. *But see* Berg, *The Nation's Agricultural Land Base*, 31 J. SOIL & WATER CONSERVATION 206, 207 (1976) (asserting that 100 million acres of reserve cropland can rapidly be brought into production); Didericksen & Sampson, *Important Farmlands: A National View*, 31 J. SOIL & WATER CONSERVATION 195, 196 (1976) (only 24 million acres of potential cropland is prime). *See also* Soil Conservation Service, Potential Cropland Study, USDA Stat. Bull. No. 578, at 7 (Oct. 1977).

4. Regions with particularly severe losses are New England, Appalachia, the Southeast, and the plains of Texas and Oklahoma. Frey & Otte, *supra* note 1, at 4, table 3; 123 CONG. REC. H457T (daily ed. May 17, 1977). The Corn Belt and the Mississippi Delta regions have been gaining some land through drainage, and the Mountain region of Colorado, Idaho, and some neighboring states has experienced a net gain in cropland through increased irrigation. Frey & Otte, *supra* note 1, at 4, 5, table 3. Figures substantially similar to those of Frey & Otte are reported in Krause & Hair, *Trends in Land Use and Competition for Land to Produce Food and Fiber*, in U.S. DEP'T OF AGRICULTURE, PERSPECTIVES ON PRIMELANDS 1 (1975) [hereinafter cited as PERSPECTIVES].

5. Krause & Hair, *supra* note 4, at 6, table 3 (2.7 million acres per year from 1944 to 1964); COUNCIL ON ENVIRONMENTAL QUALITY, ENVIRONMENTAL QUALITY—1975, at 179 (1975) (2.5 million acres per year) [hereinafter cited as CEQ—1975].

6. Thirty-nine percent of land converted nationwide to urban and other heavily developed uses is prime. *See* Schmude, *supra* note 3, at 242, table 3. *See also* Krause & Hair, *supra* note 4, at 9-11. In California, by contrast, 55% of converted land is prime. C. Shumway, Urban Expansion on Agricultural Land in California 19 (Oct. 1971) (Gianini Founda-

production annually, resulting in a net decline of between 1.2 and 1.4 million acres per year.[7] If present trends continue, the nation's agricultural land base could shrink by ten percent in little more than a generation.[8] In addition to the rate of conversion of agricultural land, the types of uses to which such land is converted significantly influence the ultimate impact of conversion on the nation's agricultural productive capability.

Farmland is abandoned for a variety of reasons, including erosion problems, low fertility, small parcel size, rough terrain, and isolation from markets.[9] Most cropland is abandoned to pasture and range, woodland, and open space.[10] Because these uses entail little or no capital investment and are not especially profitable, there might seem to be no major economic impediments to reconversion. The short-term feasibility of returning this land to agricultural use is limited, however, by institutional and financial constraints. Widespread abandonment of cropland carries with it the loss of agricultural support industries, marketing institutions, and investments in equipment and knowledge necessary to farm. Moreover, returning the land to production may require clearing of brush and trees that have grown in the interim. Tillage may be difficult due to compacted sod, residual roots, and clogged drainage systems. Although none of these factors is likely to be insurmountable, they present obstacles to reestablishing agricultural use of land now being abandoned.

Even though only a fraction of the total land converted to nonagricultural use is converted to urban use,[11] urbanization presents a particularly serious threat to agriculture. The steady annual rate of urban conversion, coupled with its permanence[12] and the high quality of land typically affected,[13] makes urbanization the greatest single threat to the

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tion of Agricultural Econ.); CALIFORNIA OFFICE OF PLANNING & RESEARCH, PRIME AGRICULTURAL LANDS REPORT 4 (1974) (74% of converted land is prime).

7. Krause & Hair, *supra* note 4, at 6, table 3.

8. At a net loss of 1.4 million acres per year, in 30 years 42 million acres of land could be converted from agricultural use. Approximately 400 million acres are currently being cultivated. Frey & Otte, *supra* note 1, at 4.

9. U.S. ECON. RESEARCH SERVICE, DEP'T OF AGRICULTURE, REP. NO. 584, FARMLAND: WILL THERE BE ENOUGH? (1975) [hereinafter cited as FARMLAND: WILL THERE BE ENOUGH?]; Krause & Hair, *supra* note 4, at 6.

10. *See generally* Krause & Hair, *supra* note 4; FARMLAND: WILL THERE BE ENOUGH?, *supra* note 9.

11. It is estimated that 10% of cropland lost each year is lost to urban development. CEQ—1975, *supra* note 5, at 179; Krause & Hair, *supra* note 4, at 6. The percentage of this land that is high quality cropland is less easily ascertained, however.

12. Urban buildings may remain in place for 50 to 100 years, and utilities for even longer periods. Gibson, *On the Allocation of Prime Agricultural Land*, 32 J. SOIL & WATER CONSERVATION 271, 274 (1977). *See also* Zeimetz, Dillon, Hardy & Otte, *Dynamics of Land Use in Fast Growth Areas*, in U.S. ECON. RESEARCH SERVICE, DEP'T OF AGRICULTURE, AGRICULTURAL ECON. REP. NO. 325, at 15 (1976).

13. See text accompanying notes 17-22 *infra*.

agricultural land base nationwide.

Urban land will rarely, if ever, be reconverted to agricultural use. The high costs of reconverting urban land to agricultural use make reclamation of this land extremely unlikely.[14] In addition, technological barriers make it difficult to restore urban land to its former productivity;[15] thus, even if urban land is returned to the agricultural land stock, its utility as cropland will be drastically reduced. Moreover, metropolitan growth patterns, with population spreading outward from intensely developed central areas,[16] keep suburban land values high and continually reduce the likelihood that such lands will be reconverted to agriculture. Amortization of investments in the newly constructed suburban areas occurs slowly enough so that even if the technology existed for reconverting these lands to agricultural use, it would remain uneconomical to reconvert such lands for a substantial period of time.

The effect of urbanization on the nation's agricultural land stock is magnified because top quality farmland is frequently converted. Many of the features that make land good for farming also make it attractive for residential development. Urban developers and farmers alike prefer flat, cleared, well-drained and deep-soiled land.[17] The uniform quality of farmland permits pervasive development with little waste land.[18] Developers also prefer to purchase agricultural land because it is frequently held in large tracts by single owners, enabling them to avoid the costs of land assembly.[19] Furthermore, the more productive land tends to lie in the temperate climatic zones, making it especially attractive for new residential development.[20] The result is that the major metropolitan areas of the United States, where most population growth occurs,[21] contain a greater proportion of quality agricultural land than do other areas of the country.[22]

Other land uses contribute significantly to the conversion of agricultural land. Transportation uses, especially highways, annually con-

14. Gibson, *supra* note 12, at 274.

15. See note 41 *infra*.

16. *See* COUNCIL ON ENVIRONMENTAL QUALITY, ENVIRONMENTAL QUALITY—1977, at 303-06 (1977).

17. Krause & Hair, *supra* note 4, at 8; SENATE COMM. ON GOVERNMENTAL ORGANIZATION, CALIFORNIA LEGISLATURE, PRESERVING CALIFORNIA'S AGRICULTURAL GREEN 53 (1976); *see* D. Stollenwerk, Cost Factors in the Choice of Subdivision Locations by Residential Developers 40-45, 63-64 (1964) (unpublished masters thesis, University of North Carolina, Chapel Hill).

18. Zeimetz, Dillon, Hardy & Otte, *supra* note 12, at 22.

19. D. MANDELKER, ENVIRONMENTAL AND LAND CONTROLS LEGISLATION 286-87 (1976).

20. Otte, *Farming in the City's Shadow*, in U.S. ECON. RESEARCH SERVICE, DEP'T OF AGRICULTURE, AGRICULTURAL ECON. REP. NO. 250, at 11 (1974).

21. *Id.* at 3 (80% of growth between 1960 and 1970 was in Standard Metropolitan Statistical Areas).

22. *Id.* at 8, 11.

sume a substantial amount of flat, high quality farmland.[23] Collateral development, encouraged by the new transportation lines, magnifies the effect.[24] New reservoirs also consume a small amount of cropland each year,[25] although the value of this land for agricultural purposes is generally low due to rough terrain and inaccessibility.[26]

The preservation of land in public ownership for environmental and recreational purposes consumes a certain amount of land each year.[27] Since much of this land is located in areas of rough terrain and extreme climatic conditions, the loss of good quality agricultural land attributable to these uses is small.[28] Moreover, since preserving land for recreational and environmental uses involves little physical alteration of the land, good agricultural land set aside for recreational and environmental uses can be brought back into production as readily as abandoned land.

B. The Consequences of Increased Demand

The ultimate concern in agricultural land policy is whether the productive capacity of land will be adequate to meet food supply needs. The United States, which has a disproportionately large share of the world's best agricultural land, both in relation to total land area and to population,[29] probably will continue to be able to meet domestic demand for food in the near future. Rising energy costs, however, may soon require the United States to use more of its land to produce the same quantity of food. Drastic fuel and fertilizer shortages will require the employment of agricultural practices that are less energy-intensive but considerably more land-intensive.[30] Already, the rising cost of en-

23. *See* Gibson, *supra* note 12, at 274; Frey, *Major Uses of Land in the United States: Summary for 1969*, U.S. ECON. RESEARCH SERVICE, DEP'T OF AGRICULTURE, AGRICULTURAL ECON. REP. NO. 247, at 16 (1973).

24. In the Western San Joaquin Valley in California, construction of Interstate 5 along a route that does not pass through a single pre-existing town for more than 250 miles has induced urban growth on prime agricultural land outside urban areas. This pattern has been repeated across the country. *See generally* Comment, *Preserving Rural Land Resources: The California Westside*, 1 ECOLOGY L.Q. 330 (1971).

25. Frey, *supra* note 23, at 18.

26. Zeimetz, Dillon, Hardy & Otte, *supra* note 12, at 19. *See also* CEQ—1975, *supra* note 5, at 179 (of the 2.5 million acres of cropland annually converted to other uses, only 50,000 acres goes under water).

27. Frey, *supra* note 23, at 18.

28. *Id.* at 16.

29. *See generally* Brown, *The World Food Prospect*, 190 SCIENCE 1053 (1975); U.S. CENTRAL INTELLIGENCE AGENCY, POTENTIAL IMPLICATIONS OF TRENDS IN WORLD POPULATION, FOOD PRODUCTION AND CLIMATE (1974).

30. Although technologies less reliant on fossil fuel and chemical inputs are available to replace energy-intensive technologies, Klepper, Lockertz, Commoner, Gertler, Fast, O'Leary & Blobaum, *Economic Performance and Energy Intensiveness on Organic and Conventional Farms in the Corn Belt: A Preliminary Comparison*, 59 AM. J. AGRICULTURAL ECON. 1 (1977), their land needs are greater. Replacing commercial fertilizers with green or

ergy has resulted in food price increases and adjustments in cropping patterns aimed at reducing energy consumption.[31]

Even the most optimistic researchers have concluded that many regions of the world are and will remain seriously deficient in food production capacity.[32] Production increases expected from new, high-yielding varieties of grain crops introduced as part of the "Green Revolution" have failed to materialize.[33] Although some increases in production through conversion of grass and forest land to agricultural use are possible, in some regions developable land does not exist,[34] and in others buildup of salinity and other desertification effects on land

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animal manures drastically increases the total acreage necessary to equal the output from chemically fertilized farms. Hill & Erickson, *Economic Restraints on the Reallocation of Energy for Agriculture*, in ENERGY, AGRICULTURE, AND WASTE MANAGEMENT 105, 114 (W. Jewell ed. 1975). *See also* NATIONAL ACADEMY OF SCIENCES, AGRICULTURAL PRODUCTION EFFICIENCY 126-28 (1975). A similar increase in cultivated acreage is necessary when fossil fuel powered tractors are replaced by animal power. *Id.* at 126. Decreased use of pesticides, unless adequate alternative biological controls for pests are found, also diminishes yields, thus requiring additional land to maintain production at current levels. *Id.* The need for herbicides can be reduced through increased mechanical tillage. This method of farming however, significantly increases erosion. *See* Pendleton & Lloyd, *Fuel, Fertilizer, Food, Forage, Feed and Fiber: The Sense and Nonsense of Alternatives and Substitutions*, in SOIL CONSERVATION SOCIETY OF AMERICA, CRITICAL CONSERVATION CHOICES: A BICENTENNIAL LOOK 106, 107 (proceedings of the 31st annual meeting, Aug. 1-4, 1976) [hereinafter cited as CRITICAL CONSERVATION CHOICES]; Allen, Stewart & Unger, *Conservation, Tillage and Energy*, 32 J. SOIL & WATER CONSERVATION 84, 86 (1977). Thus, decreased use of herbicides without resorting to increased mechanical tillage also requires that more land be brought into production. Increasing the land area under cultivation, which will require the farming of poorer lands, also poses significant erosion problems. Carr & Culver, *Agriculture, Population and the Environment*, in COMM'N ON POPULATION, GROWTH & THE AMERICAN FUTURE, RESOURCES & THE ENVIRONMENT, III RESEARCH REPS. 183-95 (1972).

31. Swanson & Taylor, *Potential Impact of Increased Energy Costs on the Location of Crop Production in the Corn Belt*, in CRITICAL CONSERVATION CHOICES, *supra* note 30, at 81; B. Commoner, M. Gertler, R. Klepper & W. Lockeretz, The Vulnerability of Crop Production to Energy Problems (Jan. 1975) (a report sponsored by the National Science Foundation and prepared at the center for the Biology of Natural Systems, Washington University, St. Louis, Mo.); Adams, King, & Johnston, *Effects of Energy Cost Increases and Regional Allocation Policies on Agricultural Production*, 59 AM. J. AGRICULTURAL ECON. 444 (1977).

32. *E.g.*, L. BLAKESLEE, E. HEADY, & C. FRAMINGHAM, WORLD FOOD PRODUCTION, DEMAND & TRADE (1973). These researchers, writing before the advent of the energy crisis and the "Green Revolution" failure, see note 33 *infra*, concluded that with population control, increased land development, more intensive cultivation, and freer trade in food commodities, the world could feed itself by the year 2000. *Id.* at 229. They also found that South America, Africa, and Asia still would be seriously deficient in agricultural production and would rely heavily on developed nations for adequate nourishment. *Id.* at 110, 115, 124, 164-74, 202.

33. The original goal of the so-called "Green Revolution" was to solve the world hunger problem by introducing new highly productive strains of grain to the poorer nations of the world. The program failed for several reasons, including the prohibitive cost of fertilizers required by the "supercrops." CEQ—1975, *supra* note 5, at 584. *See* Brown, *supra* note 29, at 1058.

34. Brown, *supra* note 29, at 1058. For a catalogue of potentially developable land worldwide, see L. BLAKESLEE, E. HEADY & C. FRAMINGHAM, *supra* note 32, *passim*.

poorly suited for agriculture may render newly opened land completely incapable of growing crops after ten to twenty years of cultivation.[35] Moreover, scientists fear that the apparent shift in world climatic conditions will have a major negative impact on the future world food supply.[36]

As worldwide deficiencies in food supply become more critical, the United States will have to decide whether to increase food exports substantially. The political and ethical decision to increase food exports will be made more difficult by the economic relationships among agricultural land losses, domestic food prices, and tax increases required to bring more land into production.

Expansion of gross food production in the United States can be accomplished only by increasing production on currently productive cropland, expanding production to presently uncropped land, or both. Because United States agricultural productivity has traditionally depended upon abundant supplies of energy and water, shortages of these resources would make attempts to increase production on a constant cropland base difficult and expensive.[37] Furthermore, more intensive cultivation of relatively erosion-prone cropland already in production will increase erosion, thus threatening the long-term capacity of such lands to support any kind of crops.[38] Consequently, in order for the United States to respond to world food needs by substantially increasing exports, it will have to increase the quantity of land in production, rather than the intensity of agriculture on existing cropland.

There are two obstacles to increasing the quantity of land in production, however. First, to the extent that high-quality land has been converted to relatively "permanent" nonagricultural uses, the economic, institutional, and technological barriers to reconverting this land to agriculture may be insurmountable. Second, increased demand for agricultural land will tend to induce cultivation of the most cheaply available but previously idle land, which often will be abandoned or previously uncropped land of low quality and susceptible to erosion. Farming such lands may result in permanent damage to the lands themselves and may cause severe environmental problems as well.

Many economists assume that the difficulties of reconverting land to agricultural use can be overcome since sufficient demand will induce reconversion even in the face of substantial investments in alternative

35. E. ECKHOLM, LOSING GROUND 58-73 (1976).

36. Moran, Dugas & Olson, *Agricultural Implications of Climatic Change*, 32 J. SOIL & WATER CONSERVATION 80 (1977).

37. See note 30 *supra*. Productivity per unit of land in the United States is considered by some scientists already to have approached the maximum given existing technology. Toth, *U.S. Farmers Till Science, Nature to Outer Limits*, Los Angeles Times, Nov. 22, 1979, at 1, col. 1.

38. See note 44 *infra*.

uses.[39] This view, however, fails to take into account the political and social constraints on reconversion.

It cannot be anticipated that poor, famine-stricken nations will have the economic means to induce reconversion of United States land to agricultural uses by bidding up the price of food. An increase in food exports to such nations will thus require a political decision by the United States to subsidize such exports. In order to induce reconversion via market mechanisms the United States government could simply purchase the food needed for exports. This would result in an increase in food prices that would in turn cause the value of land for agricultural uses to rise, thereby stimulating conversion. Food prices would have to rise dramatically, however, before sufficient land would be reconverted to substantially increase the production of food.[40] Alternatively, the government could directly subsidize reconversion and production of food for exports. The costs of such a program, borne by American citizens through progressive taxation, may be preferable to increasing food prices for all consumers regardless of their ability to pay.

Whatever method is chosen for expanding agricultural production will be expensive for Americans. This expense, whether borne in the form of higher food prices or direct taxes, will be a political impediment to any governmental effort to induce reconversion of agricultural lands for the purpose of increasing exports of food to needy nations.

Moreover, even to the extent that market or governmental mechanisms successfully induce reconversion, much of the land returned to agricultural use will be of poor quality. Land that is subjected to intensive nonagricultural uses will be permanently damaged.[41] Thus top

39. *See, e.g.*, R. HEALY, LAND USE AND THE STATES 205-06 (1st ed. 1976); Gillies & Mittelbach, *Urban Pressures on California Land: A Comment*, 34 LAND ECON. 80, 82 (1958).

40. *See generally* Gibson, *supra* note 12. The market value of land for urban use typically is five to ten times its value for agricultural use. M. CLAWSON, SUBURBAN LAND CONVERSION IN THE UNITED STATES 132 (1971). Capital improvement costs for urban development increase this figure severalfold. *Id.* To permit land conversion to continue until crop prices increase (as a result of reduced food supplies) sufficiently to offset the value of nonagricultural use of the land would produce intolerable hardships for poorer Americans.

41. Currently, there is no known way to restore to its former productivity land from which topsoil has been removed or that has been covered and deprived of air and water for long periods of time. *See* Plass, *Reclamation of Coal-Mined Land in Appalachia*, 33 J. SOIL & WATER CONSERVATION 56, 57 (1978). Some scientists of the Soil Conservation Service believe it is possible to restore land to productivity if topsoil is removed and stored for eventual replacement. 123 CONG. REC. H3772 (daily ed. Apr. 28, 1977) (remarks of Rep. Jeffords, referring to letter from Sec. Bergland, Dep't of Agriculture, to Sec. Lance, Office of Management and Budget); *id.* at H3774 (remarks of Rep. Ruppe). Whether this is actually so, however, remains to be proven. *See* Plass, *supra*, at 57. The principal place where methods of topsoil segregation and replacement are currently practiced is on strip-mined lands. Even here, where land displacement is for only a few years, the effects of storage on the physical, chemical, and biological properties of topsoil are not known. *Id.* Where land is

quality farmland, even if recoverable, may be substantially less productive after a period of conversion; the failure to preserve this land from conversion will result in a permanent reduction of overall agricultural production capability.

Finally, prevailing land use and real estate investment patterns ensure that the land that had the greatest productive capacity prior to conversion often will be the most difficult to reconvert to agricultural use.[42] Whenever increased demand for agricultural products encourages entrepreneurs to search for new acreage to farm, they will not necessarily reconvert prime farmland that has been converted to nonagricultural uses. Rather, they will farm the land that can most economically be brought into production. Those who are already engaged in farming will often farm land they already own but that has been withheld from production previously for economic or environmental reasons. The pressure of increased demand on agricultural production thus initially, at least, will result in the farming of relatively less productive or more erosion-prone farmland.[43] Conversion or reconversion of erosion-prone lands to agricultural use may permanently reduce the productive capacity of such lands and will significantly increase water pollution.[44]

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converted to urban use, the storage of topsoil would be more problematic since the duration of storage, even if it were feasible, would be far longer than for mined lands.

42. Disproportionately more high quality farmland than poor farmland is converted to urban development. See text accompanying notes 17-22 *supra*. Urbanized land is technologically and economically the most difficult to restore to agricultural productivity. See note 41 *supra* and text accompanying notes 14-15 *supra*. Although abandoned land is relatively easy to reconvert, it is generally of low quality. See text accompanying notes 10-11 *supra*. The same is true of land under public ownership, despite its susceptibility to reconversion by governmental actions. See text accompanying notes 27-28 *supra*.

43. An example of this phenomenon occurred during the Nixon Administration's push for greater agricultural exports when the drive for increased production fostered the cultivation of erosion-prone land. *See* Grant, *Erosion in 1973-1974: The Record and the Challenge*, 30 J. SOIL & WATER CONSERVATION 29, 31 (1975); Berg, *The Nation's Agricultural Land Base*, 31 J. SOIL & WATER CONSERVATION 206 (1976). *See also* H.R. REP. NO. 1744, 94th Cong., 2d Sess. 7 (1976); Cory & Timmons, *Responsiveness of Soil Erosion Losses in the Corn Belt to Increased Demands for Agricultural Products*, 33 J. SOIL & WATER CONSERVATION 221, 226 (1978).

44. Indeed, increased erosion may be the greatest danger posed by the current trends of agricultural land conversion. In addition to the long-term hazard of soil depletion and, ultimately, desertification, *see* E. ECKHOLM, LOSING GROUND 58-73 (1976); Dregne, *Desertification: Man's Abuse of the Land*, 33 J. SOIL & WATER CONSERVATION 11 (1978), eroding soil carries into watercourses substantial quantities of silt and sediment, *see id.* at 12-13, accompanied by chemicals from fertilizers, herbicides, and pesticides that have bonded to soil particles, causing water to become unsafe for humans and wildlife. COUNCIL ON ENVIRONMENTAL QUALITY, ENVIRONMENTAL QUALITY—1976, at 24 (1976); Krivak, *Best Management Practices to Control Nonpoint Source Pollution from Agriculture*, 33 J. SOIL & WATER CONSERVATION 161, 162, 164-65 (1978); Comment, *Agricultural Nonpoint Source Water Pollution Control Under Sections 208 and 303 of the Clean Water Act: Has Forty Years of Experience Taught Us Anything?*, 54 N.D. L. REV. 589, 591-95 (1978). In the case of nitrogen fertilizer and phosphates, erosion and runoff leads to eutrophication, an exces-

Over a period of decades, efforts may be made to expand the cropland base to include previously uncropped lands; however, even if increased demand ultimately induces farming of high quality uncropped lands, the reserve of such lands is limited.[45]

Quantitive estimates of the additional American farmland that will be required to meet future domestic demand alone vary widely.[46] Current estimates based on a low level of domestic population growth, moderate increases in agricultural exports not subsidized by government, and per-acre crop yield reductions induced by more land- and less energy-intensive farming practices, indicate a need for as much as sixty million acres of additional cropland in the United States by the year 2000, even assuming a fifty percent gross increase in fossil fuel consumption by agriculture.[47] This figure is more than double the current stock of presently uncropped prime agricultural land considered to be readily available for crop production.[48] Even if this estimate is overly pessimistic, there is serious doubt, given the continuing loss of high quality agricultural land, that the existing stock of uncropped farmland will be sufficient to meet the needs of the next generation.

In developing agricultural land policy, governmental planners should seek to maintain the agricultural capacity of the existing stock of high quality, relatively erosion-free lands. These lands should be

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sive algae growth that suffocates other aquatic life. CEQ—1975, *supra* note 5, at 584-85; Brewer, *Agrisystems & Ecocultures, or: Can Economics Internalize Agriculture's Externalities?*, 53 AM. J. AGRICULTURAL ECON. 848, 852 (1971); Comment, *supra*, at 593 n.24. Sedimentation fills in reservoirs and ponds, reducing their storage capacity for irrigation, domestic use, and production of hydroelectricity. The reduced availability of relatively erosion-free land will also hamper efforts to reduce agricultural nonpoint source pollution under § 208 of the Clean Water Act, 33 U.S.C. § 1288 (Supp. I 1977). This statute has yet to be broadly implemented in connection with agricultural nonpoint sources because of perceived difficulties in enforcing the drastic changes in farming practices that might be required to achieve significant reductions in agricultural pollution. As more highly erodable land is pressed into agricultural production, nonpoint source pollution will become more severe, and the difficulty and expense of controlling it will increase proportionately.

The ultimate effect of increased pressures for production may be to intensify efforts to develop better erosion control techniques. *See* Cory & Timmons, *supra*, at 226. The mere possibility that such techniques may be developed, however, should not reduce concern over the loss of better, more easily controllable soils. Prime agricultural land is the farmland that can be most easily and cheaply managed to control erosion. Schmude, *supra* note 3, at 241; LAND INVENTORY AND MONITORING DIVISION, SOIL CONSERVATION SERVICE, U.S. DEP'T OF AGRICULTURE, BACKGROUND PAPER: PRIME, UNIQUE, AND OTHER IMPORTANT FARMLANDS (1975) [hereinafter cited as BACKGROUND PAPER FOR LIM-3].

45. See notes 2 & 3 *supra*.

46. *Compare* L. BLAKESLEY, E. HEADY & C. FRAMINGTON, *supra* note 32, at 322-25, *with* Spaulding & Heady, *Future Uses of Agricultural Land for Non-Agricultural Purposes*, 32 J. SOIL & WATER CONSERVATION 88, 92 (1977) (loss of agricultural land through the year 2000, while having significant impacts, will not impair significantly the overall production capacity of U.S. agriculture).

47. Carr & Culver, *supra* note 30, at 181, 183-95.

48. *See* Schmude, *supra* note 3, at 241 (only 24 million acres can be easily brought into production).

preserved for agricultural use whether they are currently productive or not. While the policy reasons for agricultural land preservation previously discussed have been matters of predominantly national concern, states and localities also have social and economic reasons for preserving farmland.[49] Parts II and III of this Article outline a proposed land

49. In addition to national or global implications, the interests of individual states and localities are affected by loss of agricultural lands. An important consideration is the loss of land necessary to sustain the local agricultural economy. The relationship between preserving land and maintaining the local economy is not entirely direct. For example, economic development accompanying urbanization of farmland provides far greater economic benefits and more jobs than had been provided by agriculture. Indeed, agriculture itself can be stimulated by nearby urbanization as local markets for certain products, particularly fresh produce, milk, and meat, expand. C. Harris & D. Allee, Urbanization and Its Effects on Agriculture in Sacramento County, California 58 (Giannini Foundation of Agricultural Econ., Research Rep. No. 268, Dec. 1963). Thus, although the quality of agriculture, the types of of agricultural jobs available, and the total acreage available for agriculture may change with urbanization, the economic product available to the local community may increase if some land is left for agriculture.

Nevertheless, there are reasons to be concerned about changes in the local agricultural economy. Urbanization frequently induces lower capital investment in agriculture in anticipation of urban development or actual withdrawal of land from production. Kottke, *Changes in Farm Density in Areas of Urban Expansion*, 48 J. FARM ECON. 1290, 1296 (1966); *see* Vaughn, *A Program for Agricultural Land Use in Urbanizing Areas*, 48 J. FARM ECON. 1313, 1315 (1966). In areas with limited agricultural land stocks, the amount of land-based agriculture can fall below the "critical mass" necessary to sustain service industries such as grain marketing and agricultural input suppliers. Vaughn, *id.* at 1315; Dhillon & Derr, *Critical Mass of Agriculture and the Maintenance of Productive Open Space*, 3 J. NORTHEASTERN AGRICULTURAL ECON. COUNCIL 23 (1974) (attempting to quantify critical mass for common crops grown in the Northeast). This phenomenon potentially could make agriculture impracticable throughout an area far exceeding the probable extent of future urbanization in the locality.

Nearby urbanization can adversely affect agriculture in other ways as well. Air pollution caused by urban uses has demonstrable negative effects on yields of many crops. Howell & Kremer, *Ozone Injury to Soybean Colyledonary Leaves*, 1 J. ENVT'L QUALITY 94-96 (1972); URBAN/AGRICULTURAL RESOURCE MANAGEMENT TASK FORCE, URBANIZATION AND CALIFORNIA'S AGRICULTURAL RESOURCES 10 (1977) (reporting severe damage to leafy vegetables in San Joaquin Valley near Fresno). Some farm practices may be curtailed in order to avoid conflicts with urban neighbors. *See, e.g.*, Vaughn, *supra*, at 1315. Although their precise impact is difficult to measure, these local factors need to be considered in designing an agricultural land preservation program.

Aside from these problems, agricultural land preservation frequently is advocated because of aesthetic benefits of agriculture, environmental benefits of open space, a desire to preserve rural lifestyles, or a desire to limit the adverse fiscal impacts of urban sprawl. See Dresslar, *Agricultural Land Preservation in California: Time for a New View*, 8 ECOLOGY L.Q. 303-04 (1979); The Conservation Foundation, Conservation Foundation Letter, Aug. 1977, at 4-5; New York State Comm'n on the Preservation of Agricultural Land, Preserving Agricultural Land in New York State (1968); Senate Comm. on Governmental Organization, California Legislature, Preserving California's Agricultural Green 57 (Jan. 1976); D. Miner, Farmland Retention in the Washington [D.C.] Metropolitan Area 32-35 (June 1976) (report prepared for the Washington Council of Governments); Vlasin, *Some Key Issues and Challenges Posed by Nonagricultural Demands for Rural Environment*, 53 AM. J. AGRICULTURAL ECON. 235, 239-40 (1971). Many of these reasons for preserving agricultural land are problematic. For example, agriculture in some areas may seem pristine or be representative of a pastoral way of life; modern, industrialized agriculture, however, is often aesthetically displeasing and far from pastoral. *See, e.g.*, A. VINK, LAND USE IN ADVANCING AGRICUL-

use program for implementation at state and local levels that can accomodate both national and state and local policies aimed at preserving agricultural land.

II

FORMULATION OF THE ZONING SCHEME

Current trends in land use call for the formulation of a regulatory scheme to limit and direct the conversion of agricultural land. One obvious approach is a zoning program. Unfortunately, zoning measures historically have been ineffective in protecting agricultural land against conversion.[50] Local governmental efforts to zone and preserve land for agricultural use repeatedly have been abandoned in the face of political and economic pressure for development.[51] Dissatisfaction

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TURE 41-43, 343 (1975); Libby, *Land Use Policy: Implications for Commercial Agriculture*, 56 AM. J. AGRICULTURAL ECON. 1143 (1974); Wibberly, *Rural Resource Development in Britain and Environmental Concern*, 27 J. AGRICULTURAL ECON. 1, 3 (1976) (some of these authors recommend creation of "rural parks" where aesthetically appealing agricultural localities and practices would be preserved against commercialization). The watersheds that serve urban centers are not necessarily coterminous with nearby agricultural lands, although they may overlap in many cases. Furthermore, agriculture itself can be a source of erosion, sedimentation, and pollution of water supplies. See note 44 *supra*.

In many cases, where greenspace and watersheds are threatened, the most sensible response will be legislation to preserve these specific amenities directly, rather than reliance upon agricultural land to provide such amenities. Similarly, the adverse affects of urban sprawl, which are well documented, *see, e.g.*, REAL ESTATE RESEARCH CORP., THE COSTS OF SPRAWL (1974); J. LITTLE, H. NOURSE, R. READ & C. LEVEN, THE CONTEMPORARY NEIGHBORHOOD SUCCESSION PROCESS: LESSONS ON THE DYNAMICS OF DECAY FROM THE ST. LOUIS EXPERIENCE (1975) (monograph published by the Institute for Urban & Regional Studies, Washington University, St. Louis, Mo.); Phillips & Agelasto, *Housing and Central Cities: The Conservation Approach*, 4 ECOLOGY L.Q. 797 (1975); Ottensmann, *Urban Sprawl, Land Values, and the Density of Development*, 53 LAND ECON. 389 (1977); Lindemann, *Anatomy of Land Speculation*, 42 J. AM. INST. PLANNERS 142 (1976) (discussing the effects of suburbanization and other factors on the land speculation market), will not necessarily be eliminated through the preservation of quality agricultural land. See text accompanying notes 86-88 *infra*. Without question, these concerns provide support for agricultural land preservation. Nevertheless, they do not constitute an unqualified and compelling basis for government to intervene in the land market. The proposal that follows in this Article is tailored toward preservation of agricultural economies and of land for agriculture; it is not proposed as a means of alleviating more generalized social, economic, and environmental ills.

50. At times, "agricultural" zoning has been construed to allow numerous nonagricultural activities such as low-density residential use or recreational uses. *See, e.g.*, Morse v. County of San Luis Obispo, 247 Cal. App. 2d 600, 55 Cal. Rptr. 710 (1967) (five acre lots); Sladovich v. County of Fresno, 158 Cal. App. 2d 230, 322 P.2d 565 (1958) ("rural residential and agriculture"). Moreover, some agricultural zoning programs have been designed merely to place agricultural land in a holding zone, deferring development only temporarily pending development of other areas, perhaps in the hope that development pressure would ultimately be relieved. Thus, commentators who lament the ineffectiveness of "agricultural" zoning may be reviewing zoning schemes unlike the program proposed in this Article.

51. Even when the uses permitted within agricultural zones are strictly limited, zoning may be changed from year to year as the local government responds to varying political demands or as a result of recurring changes in the makeup of the local governing body. *See*

with this traditionally weak tool for long-term land use control has led to proposals for and experiment with a variety of other methods for agricultural land preservation, including preferential property tax incentives, schemes for governmental acquisition of less-than-fee interests in farmland, transferable development rights, and land banking.[52]

W. WHYTE, THE LAST LANDSCAPE 49-50 (1968); Ellingson, *Differential Assessment and Local Government Controls to Preserve Agricultural Lands*, 20 S.D.L. REV. 548, 570-71 (1975).

52. The following is a description of these alternative measures and the major problems that should be expected in connection with their use.

Preferential Taxation: At least 44 states now have some form of "preferential assessment" property tax legislation. COUNCIL ON ENVIRONMENTAL QUALITY, UNTAXING OF OPEN SPACE 19 (1976). These programs fall into three basic categories: (1) assessing all "agricultural" land at its value for agricultural use without restricting conversion to other uses; (2) assessing land at its value for "agricultural" use but recapturing foregone taxes if conversion occurs; and (3) reducing assessments to agricultural use value only if the landowner executes an enforceable agreement limiting his ability to develop the land for a specified period of time. *Id.* at 6. The most comprehensive statistical studies show that none of these methods effectively reduces conversion to nonagricultural uses, principally because the tax benefits are small compared with the large profits to be realized from conversion to more intensive uses and because farmers often decide to sell their land, not because of the costs of owning it, but because they wish to retire. *Id.* at 63-66, 115-18; STANFORD ENVIRONMENTAL LAW SOCIETY, THE PROPERTY TAX AND OPEN SPACE PRESERVATION IN CALIFORNIA: A STUDY OF THE WILLIAMSON ACT 81-82 (1974). Marginal effects on conversion rates have been noted in some areas, but by and large even the most rigorous recapture-linked-with-restrictions approach under the California Land Conservation Act (Williamson Act), CAL. GOV'T CODE §§ 51200-51295 (West 1963 & Supp. 1979), has been adopted primarily where the pressures for conversion are the least. Sonoma County Planning Dep't, Agricultural Preserves in Sonoma County 7-8 (1970); Hansen & Schwartz, *Prime Land Preservation: The California Land Conservation Act*, 31 J. SOIL & WATER CONSERVATION 198 (1976); P. FELLMETH, THE POLITICS OF LAND 41 (1973); STANFORD ENVIRONMENTAL LAW SOCIETY, *supra*, at 81. The Williamson Act has also been criticized for benefitting primarily large landowners, P. FELLMETH, *supra*, at 41, although more recently it has been argued that the Act significantly redistributes income in one study area in Sacramento County. Hansen & Schwartz, *Income Distributional Effects of the California Land Conservation Act*, 59 AM. J. AGRICULTURAL ECON. 294 (1977).

Recently, Michigan and Wisconsin have initiated novel programs offering a state income tax incentive to farmers who leave their land in agricultural production. MICH. COMP. LAWS ANN. §§ 554.701-.719 (West Supp. 1979-80); WIS. STAT. ANN. § 71.09(11)(a)-(p) (West Supp. 1979). Initial participation in the Wisconsin program has been promising, Barrows & Yanggen, *The Wisconsin Farmland Preservation Program*, 33 J. SOIL & WATER CONSERVATION 209, 212 (1978), but this type of program may have the same limitations in preventing conversion as the preferential property tax assessment.

Acquisition of less-than-fee interests: See Roe, *Innovative Techniques to Preserve Rural Land Resources*, 5 ENVT'L AFF. 419, 429-37 (1976); Comment, *Easements to Preserve Open Space Land*, 1 ECOLOGY L.Q. 728 (1971). This method, typically involving the acquisition of negative easements eliminating the ability of the private landowner to develop the land, is unsatisfactory for an obvious reason: if acquired through voluntary negotiations, the cost of acquiring the easement may approach the market value of the land for development, discounted only by a factor representing the present value of money that eventually would be realized by sale for development. Since the discounted value of land for agricultural use will be low relative to the discounted value of development rights in such areas, the cost to the acquiring agency will be substantial. See text accompanying notes 14-22 *supra*. Only where the likelihood of development in the near term is exceedingly low will the discount factor be high. If acquired by condemnation, the cost of the easement also would be high under the "highest and best use" standard for compensation. *See* Santemna and Murphy, *Fair Market*

Each of these alternative measures is plagued with problems ranging

Value in Condemnation and Realty Tax Proceedings, 6 REAL EST. L.J. 46 (1977); 4 NICHOLS ON EMINENT DOMAIN §§ 12.1, 12.2 (3d ed. 1978). In either case, the government must pay an amount substantially equivalent to the excess of development value over agricultural value. This amount may be small in those areas where the likelihood of development is low, but it will be prohibitive where development potential is high. Thus, the usefulness of easements for preservation purposes may be limited to areas not subject to strong development pressures where the need for a strong preservation program is least compelling. *See* L. BURROWS, GROWTH MANAGEMENT 22 (1978). As a matter of equity, however, this method of compensation may be preferrable to regulation without compensation, at least where investment decisions have been made in reliance on the expectation that the land could be developed. *See* D. HAGMAN & D. MISCZYNSKI, WINDFALLS FOR WIPEOUTS 13 (1978). But it would be cheaper and equally equitable to preclude these investment decisions through vigorous, sustained zoning that prevents such expectations in the first place. Development rights acquisition in areas with little short-term development potential may be appropriate and cheap enough as a means of preventing such expectations from arising in the long term, as well.

Transferable development rights (TDR): This method of preserving land has received voluminous conceptual treatment in legal and planning periodicals. *See* Costonis, *Development Rights Transfer: An Exploratory Essay*, 83 YALE L.J. 75 (1973); Costonis, *The Chicago Plan: Incentive Zoning and the Preservation of Urban Landmarks*, 85 HARV. L. REV. 574 (1972); Costonis, *Development Rights Transfer and the Taking Clause: The Case of Manhattan's Tudor City Parks*, 24 BUFFALO L. REV. 77 (1974); Note, *The Unconstitutionality of Transferable Development Rights*, 84 YALE L.J. 1101 (1975). *See also* J. COSTONIS, SPACE ADRIFT 32-34 (1974) (discussing the use of TDR's in landmark preservation programs). Recently, the United States Supreme Court upheld the application of TDR's as not constituting a "taking" in violation of due process. Penn Cent. Transp. Co. v. New York City, 438 U.S. 104 (1978). *See* Marcus, *The Grand Slam Grand Central Terminal Decision: A Euclid for Landmarks, Favorable Notice for TDR and a Resolution of the Regulatory/Taking Impasse*, 7 ECOLOGY L.Q. 731 (1979). Conceptually, TDR involves down-zoning land in one area to relatively low-intensity uses, while permitting landowners in that area to sell their "development potential" to landowners in another district, the transfer district. Although land is zoned for intensive uses in the transfer districts, landowners are permitted to "add on" development rights purchased elsewhere in order to increase the density of permitted development above base level zoning. Thus, landowners in areas zoned for low value uses are compensated for the loss in developability, and a market is created in the transfer district to buy lost development rights. Although in concept TDR has much appeal, some commentators have doubted whether it can be administered on a large scale. *See, e.g.*, Barrows & Prenguber, *Transfer of Development Rights: An Analysis of a New Land Use Policy Tool*, 57 AM. J. AGRICULTURAL ECON. 549 (1975); Berry & Steiker, *An Economic Analysis of Transfer of Development Rights*, 17 NAT. RES. J. 55 (1977).

Land Banking: Under a land banking program, the government acquires fee title to land and leases it to private users. *See generally* A. STRONG, LAND BANKING (1979). The advantage of this method is that the government as owner has substantially more practical control over the users and the uses of the land than if it merely regulated the land. The cost of acquiring the land, however, is greater than or equal to that of acquiring development rights easements. As compared with development easements, moreover, land banking is even more at variance with political traditions in the United States, which tend to favor private ownership, and therefore land banking is less likely to gain political acceptance than zoning or other more traditional forms of land use control. "There is nothing that lies so deep in the soul of an American farmer as the desire to own his own land." Rep. Paul Findley (R.-Ill.), *quoted in* 6 REAL ESTATE L.J. 365 (1978).

At least one land banking program is in operation on a limited scale in the United States—the California Coastal Conservancy. Land banking has been a fairly successful means of preserving agricultural land in three Canadian provinces: Alberta, *see* A. STRONG, *supra*, at 5; British Columbia, *see* British Columbia Land Commission, Keeping the Options

from sheer ineffectiveness in the case of preferential assessment of agricultural lands, to possibly insurmountable complexities in administering an effective program in the case of transferable development rights, to the excessive drains on public fiscal resources associated with most acquisition and land banking proposals.[53]

With the increasing role state governments have assumed in land use control,[54] the zoning approach has become a more viable means of reducing conversion of agricultural land. An effective preservation program can be formulated through state legislation which requires local governments to implement and maintain a zoning program that carries the force of state law, rather than mere local discretion. Indeed, with the stability and authority afforded by state legislation, zoning, or districting, becomes an especially appropriate method for agricultural land preservation for a number of reasons. First, crop agriculture, to a greater degree than other uses, requires particular, identifiable types of land likely to be found only in certain areas. Thus, a districting approach, which restricts uses only within clearly defined boundaries, will enable identification and regulation of those lands that are particularly suitable for agricultural use. Second, agriculture suffers when conducted too near certain other uses: it in turn generates externalities that adversely affect other uses. Hence, districts segregating agricultural uses from other unrelated uses will be beneficial to both. Third, within a particular locality, minimum levels of agricultural production may be required in order to maintain the necessary local marketing and related support industries. Thus, in some instances, it may be necessary to preserve more than just the best cropland. Through zoning, a state can ensure that sufficient land is left in agricultural production within each district to sustain local agricultural economies. Finally, although agriculture involves diverse practices on a nationwide basis, it tends to be sufficiently similar in practice within individual localities to be consistent with classical concepts of zoning for a single use.

A. Defining Land for Preservation

In formulating an agricultural zoning scheme, one initial task is to

Open, *reprinted in* Agriculture in the Future and its Implications for Land-Use Planning 1 (May 1-2, 1975) (conference held in San Francisco, Cal., sponsored by Continuing Education in City, Regional, and Environmental Planning, University Extension, University of Cal., Berkeley); Saskatchewan, *see* Miner, *Land Banking in Canada: A New Approach to Land Tenure*, 32 J. SOIL & WATER CONSERVATION 158 (1977). It is especially useful for aggregating small parcels into economic farming units through government purchase and leaseback transactions. Zoning can accomplish the same result indirectly, however. See note 105 *infra*.

53. See note 52 *supra*.

54. *See generally* D. MANDELKER, *supra* note 19; R. HEALY, *supra* note 39. Healy recently published a second edition reviewing developments since the early 1970's in state land use legislation. R. HEALY & J. ROSENBERG, LAND USE AND THE STATES (2d ed. 1979).

define the land that will be included in the program. Land may be classified as agricultural because of its status as part of an operating farm,[55] its economic yield,[56] or on the basis of an objective assessment of its production potential.[57] Operating farm status and economic yield are inadequate criteria on which to base a preservation-oriented land classification scheme; definitions based on these criteria alone would result in preservation of unproductive lands and failure to prevent conversion of land that should be preserved. For example, an operating farm—even one that is yielding a satisfactory gross or net economic return—may include some land that is of poor quality, either because it requires excessive tillage or fertilizer, or because it is erosion prone. Preservation of such poor land often will be unnecessary and undesirable. Conversely, these criteria will not ensure preservation of potentially excellent agricultural lands since they do not include lands not recently farmed. In addition, these criteria may enable a landowner to avoid the regulatory scheme simply by withdrawing his land from production.[58]

Classifications based on capacity to yield a given economic return are often grossly inaccurate. Fluctuations in product prices may change the land areas covered by the program. Continuing inflation renders any fixed dollar figure completely unsatisfactory as a measure of land quality.[59] The primary drawback of classifications based on economic yield is, however, that they are inherently difficult to administer. In contrast to other classification schemes that can be implemented simply by examining the land, a classification based on economic criteria requires an assessment of a wide range of factors largely unrelated to the quality of the parcel being evaluated. Although some agencies, such as the Agricultural Extension Service, are skilled in evaluating the economic feasibility of farming particular parcels, economic assessment involves consideration of complex factors such as markets, pricing practices in agricultural products, federal sub-

55. *E.g.*, CONN. GEN. STAT. ANN. § 12-107c(a) (West 1972); 1956 Md. Laws ch. 9.

56. This may be gross agricultural product defined in economic terms, *see, e.g.*, CAL. GOV'T CODE § 51201(c)(4),(5) (West Supp. 1979); OR. REV. STAT. § 308.372(2) (1977); WASH. REV. CODE ANN. § 84.34.020(2)(b), (c) (Supp. 1979), or simply net economic return to the owner in agricultural use. The latter was a proposed addition to the California statute. *See* S.B. 1710, Cal. Reg. Sess. § 51210(c), (f) (1976).

57. *E.g.*, CAL. GOV'T CODE § 51201(c)(1), (2) (West Supp. 1979).

58. For a discussion of the problem of farmers withdrawing land from production to avoid its being classified as agricultural, see Audience Comments in Exchange with State Assemblyman Charles Warren, in Agriculture in the Future and its Implications for Land Use Planning 107-08 (May 1-2, 1975) (proceedings of a conference held in San Francisco, Cal., sponsored by Division of Environmental Studies, University of Cal., Davis).

59. *See id.*; BACKGROUND PAPER FOR LIM-3, *supra* note 44, at 1. Even if supplemented by a cost of living index such as those published by the U.S. Dep't of Labor, a classification focusing on economic criteria, will, because of the complexities described below, be extremely difficult to administer.

sidies for producing or not producing particular crops, costs of agricultural production, and farmowner income needs—all of which are difficult to predict with certainty for the long term. Thus, if economic criteria are used alone, the result would be a fluctuating definition of the land sought to be preserved, ill-suited for both governmental and private planning and decisionmaking purposes.

Despite the complexity and administrative burden of using net economic return as a basis for land classification, this criterion should be incorporated in some form into the administrative framework under which the use of land is regulated. Landowners prefer this criterion because they fear they may otherwise be restricted to agricultural use of land that would be more valuable for other uses.[60] Moreover, in most jurisdictions constitutional constraints require that property owners not be stripped of all economic use of their property.[61] Thus, restricting land to an uneconomical agricultural use may lead to judicial intervention. The legislature can avoid such intervention by adopting a regulatory scheme that requires land to be restricted to agricultural use under the program only where such use will provide some economic return to the owner.

Although it is difficult to predict whether a particular parcel will someday yield a reasonable economic return,[62] the level of current knowledge about crop productivity is fairly high.[63] The foremost example of a classification based on production potential is the "primeness" standard used by the Soil Conservation Service (SCS) of the United States Department of Agriculture.[64] The assessment of production potential is made on the basis of several land quality criteria established by the SCS and other authorities. These criteria are relatively permanent, cannot be manipulated by individual landowners, and can

60. See, for example, recurrent industry-supported legislative proposals in California incorporating this "bottom line" criterion. A.B. 293, Cal. Reg. Sess. § 51201(c) (1977) (introduced by Assemblyman Boatright); S.B. 1710, Cal. Reg. Sess. § 51201(c) (1976) (introduced by Sen. Zenovich); Telephone conversation with Joe Janelli, lobbyist for the Cal. Farm Bureau Federation (Jan. 20, 1977).

61. See text accompanying notes 95-108 *infra*.

62. *See* BACKGROUND PAPER FOR LIM-3, *supra* note 44, at 1.

63. Thus, decisionmaking will be easier under a regulatory scheme that focuses on potential land productivity, rather than one based on predictions of future economic conditions. Because the success of a regulatory program depends largely on the smoothness of its operation and the certainty and cost of its procedures, a classification based on productivity would be preferable to one based on economic return. The economic return criteria need not be ignored, however. For land with little likelihood of producing an economic return in the long term, a variance procedure could be incorporated into the regulatory scheme. The variance procedure would come into play only upon initiation by the landowner, thus producing a lighter administrative burden on the responsible government agency than would ensue if economic criteria were used as the basis of the entire classification scheme. See text accompanying notes 100-10 *infra*.

64. *See generally* BACKGROUND PAPER FOR LIM-3, *supra* note 44, at 2.

be converted into classifications for preserving land.[65] This classification scheme could be incorporated into legislation by reference to the SCS criteria as those defining the agricultural land to be preserved. Maps based on these classifications would facilitate identification of lands slated for preservation.[66] Such maps already exist for large areas of the country.[67] An examination of the criteria used in the SCS' Land Inventorying and Monitoring Division (LIM)[68] illustrates their relationship to the national policy concerns discussed in part I of this Article.

The LIM definition of "prime" farmland[69] is designed to identify land that is highly productive and suited to sustained, intensive cultivation.[70] The principal defining characteristics of prime farmland are adequate moisture, whether artificially added or not; capacity to hold moisture without waterlogging; low susceptibility to or ease of control of erosion; freedom from excessive alkalinity, acidity, and salinity; low rock content; and a climate suitable for farming.[71] It is the SCS' view that lands meeting these criteria, if treated with proper soil management techniques, can sustain intensive cultivation of commonly grown

65. BACKGROUND PAPER FOR LIM-3, *supra* note 44, at 1-2. *See also* Didericksen & Sampson, *supra* note 3, at 1977.

66. Interview with Walter McCallum, Consultant for Cal. Assembly Comm. on Resources, Land Use and Energy, in Sacramento, Cal. (Jan. 19, 1977).

67. Maps are available for 60% of the land in the contiguous United States, including virtually all agricultural land in the nation. H.R. REP. NO. 218, 95th Cong., 1st Sess. 105, *reprinted in* [1977] U.S. CODE CONG. & AD. NEWS 638. The most extensive mapping has been done on the basis of the SCS Land Capability Classification System, which identifies prime agricultural land by criteria capable of conversion to the LIM criteria discussed in the text accompanying notes 69-82 *infra*. *See* Reganold & Singer, *Defining Prime Farmland by Three Classification Systems*, 34 J. SOIL & WATER CONSERVATION 172, 174 (1979). Mapping of prime lands as defined by the LIM system and of specialty-crop lands and lands of statewide and local importance is also in progress, 7 C.F.R. § 657.4(3) (1979), with completion expected by 1986. GENERAL ACCOUNTING OFFICE, REPORT TO THE CONGRESS: PRESERVING AMERICA'S FARMLAND 2 (1979) (CED-79-109). Many states have established similar classification systems, which the SCS anticipates can be used in conjunction with LIM-3 to identify prime land. BACKGROUND PAPER FOR LIM-3, *supra* note 44, at 2. Finally, other types of data compiled by agricultural experts have proven valuable in land use decisionmaking. *See, e.g.*, Clark, *Agricultural Zoning in Black Hawk County, Iowa*, in TOUGH CHOICES IN TODAY'S WORLD 149 (1977) (proceedings of a national symposium sponsored by the SCS in Omaha, Nebraska) [hereinafter cited as TOUCH CHOICES]; Beatty & Yanggen, *Role of Detailed Soil Survey in Preparation and Exploration of Zoning Ordinances*, in SOIL SURVEYS & LAND USE PLANNING 160-74 (L. Bartelli ed. 1966).

68. See 7 C.F.R. pt. 657 (1979).

69. SOIL CONSERVATION SERVICE, U.S. DEP'T OF AGRICULTURE, LAND INVENTORY AND MONITORING MEMORANDUM 3 (Oct. 15, 1975) [hereinafter cited as LIM-3]. A nearly identical definition is in 7 C.F.R. § 657.5(a) (1979).

70. BACKGROUND PAPER FOR LIM-3, *supra* note 44, at 4.

71. LIM-3, *supra* note 69, at 3-4; 7 C.F.R. § 657.5(a). For a humorous exchange between two senators, one posturing as a country bumpkin unable to understand the "technical" terms used in the definition of prime farmland, see 123 CONG. REC. S8109-10 (daily ed. May 20, 1977) (remarks of Sens. Hanson & Culver).

crops under modern farming practices.[72] Maintaining these lands in production should benefit society while also meeting the needs of landowners.

A particular virtue of the LIM definition is that it excludes erosion-prone lands.[73] Erosion of farmland results in sedimentation of streams and other waterbodies; pollutants such as salts, fertilizers, herbicides, and other pesticides are introduced into the water supply along with the eroded soil.[74] A preservation program founded upon the LIM definition thus will permit the reduction of environmental hazards from over-use of erosion-prone lands to a greater extent than one which preserves all "agricultural" land regardless of quality.[75]

The LIM definition of prime farmland is not certain to identify all lands whose best use is agricultural; it represents a balance of factors likely to identify the land that will be the best for crop production so long as agricultural technology does not change dramatically. For example, under the LIM definition, prime farmland is not necessarily naturally fertile.[76] If the land is not fertile, however, it must "respond exceptionally well to fertilizer."[77] Prime farmland must have sufficient moisture to sustain crops, but this moisture may be derived from irrigation.[78] Moreover, the SCS' criteria pertaining to moisture do not exclude lands that lose large quantities of water in evaporation or rapid percolation.[79] In addition, land that is susceptible to tillage with "obsolete" equipment will not be classified as prime if it is unsuited to farming with modern equipment.[80] On the other hand, land that is

72. LIM-3, *supra* note 69, at 2. The SCS has less carefully defined another category of land called "unique" farmland, capable of growing specific high value crops that require special moisture, soil, or climatic conditions. *Id.* at 4; 7 C.F.R. § 657.5(b) (1979).

73. "Prime farmlands are not excessively erodible . . . ." 7 C.F.R. § 657.5(a)(1) (1979).

74. See note 44 *supra*.

75. The erosion problem will not be eliminated, but LIM-defined "prime" but erodible lands are also more easily managed to minimize unavoidable erosion than are other lands. See note 44 *supra*.

76. *See* Johnson, *Classification and Mapping of Prime and Unique Farmlands*, in PERSPECTIVES, *supra* note 4, at 189, 193 (stating SCS' view that "the responsiveness of the soil to management, including amendments of lime and fertilizer, is more important to food and fiber production capacity than natural fertility").

77. BACKGROUND PAPER for LIM-3, *supra* note 44, at 4.

78. LIM-3, *supra* note 69, at 3; 7 C.F.R. § 657.5(a)(1), (2)(i)(B) (1979).

79. The criteria related to water refer only to the "dependability" and "adequate quality" of the irrigation water supply rather than to water efficiency. 7 C.F.R. § 657.5(a)(2)(i)(B)-(C) (1979). These criteria thus leave open the possibility that soils with excessive drainage rates could be designated prime, *see id.* § 657.5(a)(2)(viii), even though SCS states that soils "whose use for growing crops results in extreme waste of water" should be excluded from land designated "unique or of statewide or local importance." BACKGROUND PAPER for LIM-3, *supra* note 44, at 3.

80. *See* LIM-3, *supra* note 69, at 4; Didericksen & Sampson, *supra* note 3, at 195. SCS dropped the reference to "large equipment" in its final rule, 7 C.F.R. § 657.5(a) (1979), but did not remove the one criterion—stones in soil—which is interpreted in LIM-3 as excluding

unsuitable to large-scale farming either because the parcels are small and isolated[81] or because it is too remote from existing markets is not excluded from the LIM definition of prime farmland. Finally, the LIM definition measures production potential on the basis of criteria designed to identify land that is important for national policy reasons; it includes no criteria pertaining to peculiarly local conditions that would identify land that is not especially high in quality or productive capacity but is suitable for the production of locally important specialty crops or otherwise important to the local agricultural economy. These criteria are left to be determined by the appropriate state or local agency.[82]

B. Establishing Agricultural Districts

To ensure that farming is economically feasible in a locality, there must be sufficient production within that locality to sustain necessary support industries such as marketing services and agricultural input suppliers.[83] A districting approach that is designed to maintain sufficient agricultural production within each designated district to support the related local service economy[84] will be more effective than a program that fails to account for local economic factors. The need to maintain a minimum level of production within local areas—known as the "critical mass" phenomenon—together with the need for contiguous areas of agricultural production, will often require that lands other than prime lands be included within a given district. Even in small regions the quality of land is not uniform.[85]

Before creating agricultural districts, the responsible state regula-

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soils poorly suited to large equipment. *See id.* § 657.5(a)(2)(ix). *See also* Johnson, *Identifying Prime Food and Fiber Lands*, in TOUGH CHOICES, *supra* note 67, at 105, 108.

81. Schmude, *supra* note 3, at 241; Berg, *supra* note 44, at 207.

82. *See, e.g.*, Johnson, *supra* note 80, at 108-09. The SCS has recognized the value of local definitions of important lands, but has not incorporated them into the definition of "prime" farmland. 7 C.F.R. § 657.5(c)-(d) (1979). See also note 72 *supra*.

83. See note 49 *supra*. *See especially* Lapping, *Agricultural Land Retention Strategies: Some Underpinnings*, 34 J. SOIL & WATER CONSERVATION 124, 125 (1979).

84. A districting approach similar to that proposed here is now being implemented in New York. *See* Sullivan, *Agricultural Districts: The New York Experience in Farmland Preservation*, in TOUGH CHOICES, *supra* note 67, at 122; Conklin & Bryant, *Agricultural Districts: A Compromise Approach to Agricultural Preservation*, 56 AM. J. AGRICULTURAL ECON. 607 (1974). The New York program, like that of California's Williamson Act, *see* UNTAXING OPEN SPACE, *supra* note 52, at 271-95, is voluntary and relies on tax incentives. Conklin & Bryant, *supra*, at 609-10.

85. *See* Miller, *Soil Survey Under Pressure: The Maryland Experience*, 33 J. SOIL & WATER CONSERVATION 104, 110 (1978); Rodd, *Planning for Agriculture, Suburbs and Rural Housing: Ontario's Experience*, 34 J. SOIL & WATER CONSERVATION 11, 14-15 (1979); Frazier & Shovie, *Sampling Land Use Changes in Western Whitcomb County, Washington*, 34 J. SOIL & WATER CONSERVATION 25, 26 fig. 2 (1979). In California, the existence of prime, alluvial valley soils in large, homogeneous masses mitigates the need for such districting. Interview with Walter McCallum, *supra* note 66. Even in California, however, land quality

tory agency should designate for regulation all prime agricultural land that is not committed to an essentially permanent nonagricultural use. Areas within cities and counties should be designated as "agricultural districts" if, out of all the land within them that is available for agricultural use, there are proportionately large amounts of prime farmland. Localities that include lesser proportions of prime land should be further assessed for agricultural significance. In areas where a local agricultural economy could be sustained without cultivation of any nonprime lands, an agricultural district may be defined to include only that part of the political subdivision made up of prime lands. In other areas, it may be necessary to combine prime land with some lower quality agricultural land to make up a district. If there is insufficient prime agricultural land within a locality to justify efforts to support a struggling agricultural economy, that locality may be excluded from districting altogether. In rare cases, a state concerned with the general demise of agriculture may create agricultural districts that include only small amounts of high quality agricultural land, even where the farming of such land will not support a related agricultural service economy. Such farming could be sustained by means of direct subsidies to agriculture.

Districting land can cause perplexing problems in areas where there is pressure for continued urban growth. An agricultural district defined solely on the basis of land capability may surround a city and, without a variance procedure, prevent all growth. Scattered districts around an urban area might force development to meander around the farmland, inducing expensive and inefficient urban sprawl. In such situations the best course might be to allow some high density development adjacent to existing urban areas even at the expense of some prime land, rather than to require inefficient development patterns. For example, the regulatory program might permit urban development up to a prescribed boundary, such as one based on a projected ten-year urban land requirement.[86] Provision for extending urban boundaries beyond these limits could be allowed on a special showing of need.[87]

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can be highly variable in significant agricultural localities. *See* Reganold & Singer, *supra* note 67, at 174-75, figs. 2 & 3.

86. This idea was included in A.B. 15, Cal. Reg. Sess. § 67746 (1974), *as amended* Aug. 17, 1976. The 10-year growth ring was added to A.B. 15 after the League of California Cities vigorously protested the failure to take into account the growth needs of urban areas in the original version. Interview with David Beatty, Lobbyist for the League of Cal. Cities, in Sacramento, Cal. (Feb. 2, 1977). *See* Memorandum from League of Cal. Cities to Members of Senate Comm. on Finance (Aug. 17, 1976). A later bill in California continued this provision. A.B. 1900, Cal. Reg. Sess. § 68072(a) (1977).

87. Both goals were advanced in the California agricultural land preservation legislation. *See* A.B. 222, Cal. Reg. Sess. § 67772(b) (1977) (introduced by Assemblyman Warren, permitting urban expansion on prime land if the need for such growth "overrides the policy of . . . preserving agricultural land" and "it is unreasonable to use other than prime land for

Alternatively, a variance procedure could be enacted, under which urban development would be allowed on prime land only if a demonstrable need for development existed at that particular location and lesser quality land were not available nearby.[88]

C. *Permitted and Compatible Uses*

After the land to be included in the program has been identified, the next step in formulating the zoning program is to consider the uses to be permitted, including those that "support" agriculture. For land not devoted to agriculture, the agency must designate uses compatible with the long-term goals of the program.

In addition to normal farming activities, such as planting, irrigating, harvesting and growing cover crops to build organic content, the agency must consider many activities not generally thought to be essential adjuncts to farming. For example, animal husbandry is not essential to support the growing of crops, but it is pursued on many farms. Farm residences are necessary, but may present serious questions when the farm residents include a significant number of agricultural laborers who, in many instances, could live on nonagricultural land. Finally, many farms have processing, packing, drying, storage, or selling facilities that are thought necessary to market profitably the farm's products. Difficult line-drawing problems arise where these facilities serve large industrial farming operations or several farms. At some point, these activities become more industrial than agricultural and might easily be conducted on nonagricultural land. Unless these secondary activities are limited, the concept of "agricultural use" will cease to fulfill its primary purpose of reserving farmland for the cultivation of crops.

Existing legislative definitions of "agricultural use" have attempted to balance the desire to avoid undue interference with customary agricultural practices against the need to exclude uses that are neither necessary for farm production nor free of environmental externalities that make their location in an urban setting more desirable.[89]

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such purpose"). Another proposal was more vague about grounds for extending urban boundaries. *See* A.B. 1900, Cal. Reg. Sess. §§ 68002(b)-(c), 68086 (1977). The first of these sections was similar in language to A.B. 222, but was only a statement of policy, while the second, which implements the policy, provided no specific standards but did require state approval to extend urban boundaries.

88. This procedure was part of the proposed California legislation, see note 87 *supra*, and is incorporated in Oregon's land use planning goals for local government plans affecting agricultural land. OREGON LAND CONSERVATION AND DEVELOPMENT COMMISSION, STATEWIDE PLANNING GOALS AND GUIDELINES, Goal 3 (1975). Goals carry the full force of statutory law, although they are promulgated by administrative agencies. OR. REV. STAT. § 197.250 (1977). The Land Conservation and Development Commission can revise local plans to conform to the goals.

89. A sample of these definitions follows:

"Agricultural use" means use of land for the purpose of producing an agricultural

These definitions are generally couched in very broad terms, such as "accepted farming practice" and "customarily utilized in conjunction with farm use," setting forth general types of uses rather than limiting "agricultural uses" to a specific list of activities.[90]

Such terms leave to the enforcement agency the difficult task of determining what constitutes an acceptable use. Enforcement of these terms on a specific farm may be difficult unless the agency is familiar with local farming practices and adjunct activities and will carefully construe the statutory language. However vague the statutory definition may be, it should grant the administrative agency the discretion to exclude from agricultural districts uses that could just as well be located off the farm.[91]

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commodity [any and all plant and animal products produced in this state] for commercial purposes.

S.B. 1710, Cal. Reg. Sess. § 51201(a), (b) (1976).

[U]se of land for the purpose of raising, harvesting and selling plant and animal products [including, but not limited to] the use of land for the preparation and storage of such products or the use of land as a site for buildings, including housing, usually and customarily provided in connection with or in support of accepted farming practices.

A.B. 222, Cal. Reg. Sess. § 67711 (1977).

"[F]arm use" means current employment of land including that portion of such lands under buildings supporting accepted farming practices for the purpose of obtaining a profit in money by raising, harvesting and selling crops or by the feeding, breeding, management and sale of, or the produce of, livestock, poultry, furbearing animals or honeybees or for dairying and the sale of dairy products or any other agricultural or horticultural use or animal husbandry or any combination thereof.

OR. REV. STATS. § 215.203(2)(a) (1977).

"Current employment" of land for farm use includes [soil banking, fallowing, and orchards not yet at maturity].

Id. § 215.203(2)(b).

"[A]ccepted farming practice" means a mode of operation that is common to farms of a similar nature, necessary for the operation of such farms to obtain a profit in money, and customarily utilized in conjunction with farm use.

Id. § 215.203(2)(c).

[Agricultural property is] [r]eal property . . . devoted to the production for sale of livestock, dairy animals, dairy products, poultry and poultry products, fur bearing animals, horticultural and nursery stock . . . fruit of all kinds, vegetables, forage, grains, bees and apiary products . . . .

MINN. STAT. ANN. § 273.111(6) (West Supp. 1978).

[Uses other than cropping or pasturing of] agricultural lands shall be limited to construction necessary for farming such as farm residences and buildings, farmworker accomodations, farm and lumber service facilities, farm and lumber roads, or other uses attendant to an agricultural or timber-harvesting economy. . . . Major agricultural service facilities, however, should be located within rural communities unless such a location is infeasible.

CALIFORNIA COASTAL ZONE CONSERVATION COMMISSION, CALIFORNIA COASTAL PLAN 60-61 (1975).

90. See note 89 *supra*.

91. *See especially* CALIFORNIA COASTAL ZONE CONSERVATION COMMISSION, *supra* note 89, at 60-61 (quoted in note 89 *supra*). On the subject of what is included in the term "agricultural use" when the term is not explicitly defined in the zoning ordinance, see 2 R. ANDERSON, AMERICAN LAW OF ZONING §§ 15.03-.10 (2d ed. 1976).

In addition to permitting a range of agricultural and support activities, most statutes allow nonagricultural uses when they are deemed to be compatible with nearby agricultural uses. Exemptions for compatible nonagricultural uses usually are drafted in broad language[92] leaving administrators considerable latitude. Moreover, legislatures frequently explicitly classify as "compatible" certain uses that do not fit these definitions.[93] Although this practice may be necessary for political reasons or to further other important policy goals, if done carelessly it can weaken the basic policy of a preservation statute. A long list of incompatible but permitted activities—whether incompatible because they create severe use conflicts with agriculture or because they irreversibly consume good land—may limit the usefulessness of the concept of compatibility as used in the statutes. This leaves conscientious administrators baffled and induces unconscientious administrators to create additional classes of "compatible" uses that actually conflict with agriculture. A statutory enumeration of "compatible" uses should include limiting language that requires alternative location of such uses if possible, and minimization of their adverse effects on agriculture if location in agricultural districts is unavoidable.[94] If incompatible uses must be permitted, they should not be included in an enumeration of compatible uses, but rather should be specifically exempted as permitted incompatible uses.

D. Surviving Judicial Scrutiny: Exemption Procedures

To be successful, an agricultural zoning scheme must withstand legal challenge. Although the threat of judicial intervention is by no means grave, several considerations should be addressed.

Even though the legitimacy of using the police power to preserve agricultural land is well established,[95] the strength of the public interest

92. *See, e.g.*, CAL. GOV'T CODE § 51100(h) (West Supp. 1979) (defining "compatible use" in timber preserve zoning as "any use which does not significantly detract from the use of the property for, or inhibit, growing and harvesting timber," and then listing only a few specific compatible uses); CAL. PUB. RES. CODE § 30241 (West 1977) (requiring coastal development to "minimize conflicts" between agricultural and urban uses); *id.* § 30242 (any permitted conversion of agricultural land to other uses "shall be compatible with continued agricultural use on surrounding lands"); S.B. 1710, Cal. Reg. Sess. § 51201(h) (1977) (" '[c]ompatible use' is any use determined by the county or city . . . to be compatible with the agricultural, recreational, or open-space use of land"); A.B. 222, Cal. Reg. Sess. § 67713 (1977) (compatible use "means a use of land other than an agricultural use thereof, which will not adversely affect the agricultural use of such land and for which there is no reasonable alternative location").

93. *See, e.g.*, A.B. 222, Cal. Reg. Sess. § 67713 (1977) (providing that erection and maintenance of gas, electricity, and communications transmission facilities, gas storage facilities, and energy and mineral extraction activities are "compatible uses").

94. The former has been done, *id.*, but not the latter.

95. Many courts have determined that the preservation of land for agriculture is a legitimate objective of the police power. *See, e.g.*, Gisler v. County of Madera, 38 Cal. App. 3d

in regulation can be crucial to the validity of use restrictions.[96] In a leading case involving exclusive agricultural zoning, *Gisler v. County of Madera*,[97] the California Court of Appeal was careful to note the strong legislative policy, embodied in several statutes designed to preserve agricultural land, as a ground for upholding the ordinance.[98] Courts may balance the benefits sought to be implemented by the statute against the severity of the restrictions it imposes on private landowners. Thus, the legislature must set out with clarity the purposes of the legislation both in general and for the particular scheme adopted, so that courts will permit inclusion of land that is not especially suited for agriculture. Where the legislative purpose is unclear or unimportant, courts employing the balancing test will find it easy to invalidate an ordinance that restricts to "compatible uses" land of marginal productivity.[99]

Declaring a strong legislative purpose, however, may not be sufficient to protect the program from judicial intervention. An inevitable consequence of establishing agricultural districts or "preserves" is the over-inclusion of land. In districts that include significant amounts of nonprime land, much of the lower quality land will need to be farmed in order to maintain support industries integral to production within the district. For districts that include land not appropriate for agricultural use, some provision must be made to exempt land that, because of physical limitations[100] or nearby incompatible uses,[101] is not tillable. Absent an exemption procedure, the severe diminution of value that would result from restricting a parcel to a single use that could not reasonably be pursued probably would be held an unconstitutional tak-

303, 308-09, 112 Cal. Rptr. 919, 922 (1974); *In re* Spring Valley Development Co., 300 A.2d 736, 746 (Me. 1973). *See generally* Village of Belle Terre v. Boraas, 416 U.S. 1, 8 (1974); 1 R. ANDERSON, AMERICAN LAW OF ZONING § 7.32 (2d ed. 1977) (listing various law review discussions of natural resource preservation as a legitimate regulatory objective). Examining agricultural districts specifically, Anderson has concluded that the preservation of environmental values justifies the imposition of zoning regulation in rural areas. 2 R. ANDERSON, AMERICAN LAW OF ZONING § 9.42 (2d ed. 1977).

96. Van Alstyne, *Taking or Damaging by Police Power*, 44 S. CAL. L. REV. 1, 37-41 (1971). *See, e.g.*, Just v. Marionette County, 56 Wis. 2d 7, 201 N.W.2d 761 (1972) (expressing importance of clear social values to justify stringent restrictions on land use). *See also* Heyman, *Open Space and the Police Power*, in OPEN SPACE AND THE LAW (F. Herring ed. 1965).

97. 38 Cal. App. 3d 303, 112 Cal. Rptr. 919 (1974).

98. *Id.* at 307, 112 Cal. Rptr. at 921.

99. *See* Kmiec v. Town of Spider Lake, 60 Wis. 2d 640, 648, 211 N.W.2d 471, 476 (1973) (agricultural zoning "confiscatory" where land had no apparent agricultural use due to physical limitations of the soil).

100. *Id.* at 650, 211 N.W.2d at 476; Arastra Ltd. Partnership v. City of Palo Alto, 401 F. Supp. 962, 974 (N.D. Cal. 1975).

101. Schere v. Township of Freehold, 119 N.J. Super. 433, 435, 292 A.2d 35, 36-37 (1972). In some cases, this zoning may amount to impermissible spot-zoning.

ing of property.[102]

Agricultural zoning of all land within district boundaries subject to an owner-initiated exemption procedure is a suitable approach for a preservation program. The exemption procedure should not require much additional planning; rather, it should be designed simply to release individual parcels that are unsuitable for agricultural use while ensuring continued viability of nearby agricultural operations.[103]

An important virtue of this procedure is that it is owner-initiated. The administrative agency will be required to address the propriety of including a specific parcel only when the owner seriously believes that his land satisfies established statutory grounds for exemption. If the burden of persuasion is placed on the owner, the number of exemptions granted should be minimized. By compelling the owner to demonstrate the economic or environmental infeasibility of farming, the exemption procedure provides an opportunity for careful evaluation of land capability, cropping alternatives, and farming methods on particular parcels, while preserving the integrity of the more broadly applicable zoning scheme. One limitation of this approach is that courts have been reluctant to allow administrative variances from zoning regulations unless the characteristics that render the parcel incapable of producing a reasonable economic return are "unique" to that parcel and

102. See cases cited in note 100 *supra*. In California, the recent case of Agins v. City of Tiburon, 24 Cal. 3d 266, 157 Cal. Rptr. 372, 598 P.2d 25 (1979), *aff'd*, 48 U.S.L.W. 4700 (June 10, 1980), casts some doubt on this conclusion. In *Agins*, the court held that the mere fact that the land had no value under existing zoning did not give rise to a cause of action in inverse condemnation for monetary relief. *Id.* at 272, 157 Cal. Rptr. at 375, 598 P.2d at 28. The court, however, clearly left open the possibility of judicial relief for excessively restrictive zoning through administrative mandamus. *Id.* By rejecting monetary recovery but allowing judicial review through mandamus, the court allows the regulatory agency to reconsider its action and either justify it, through payment, or modify it by changing the zoning. *See* CAL. CODE CIV. PROC. § 1094.5(e) (West 1979). This approach has the advantage of not requiring the agency to pay for property that it has "taken" but may not wish to own, while affording the landowner some relief from excessively stringent regulation.

Where land is capable of being farmed at some reasonably economic level, even if it is not currently used for agriculture, the courts will generally uphold zoning for agricultural use. *See, e.g.*, Joyce v. Portland, 24 Or. App. 689, 546 P.2d 1100 (1976) (restriction of land to agriculture upheld although soil was of marginal quality and presently unused for agriculture, but capable of producing a reasonable return if farmed); Brown v. City of Fremont, 75 Cal. App. 3d 141, 142 Cal. Rptr. 46 (1977) (similar); Gisler v. County of Madera, 38 Cal. App. 3d 303, 112 Cal. Rptr. 919 (1974); Cohen v. Charter Township of Canton, 38 Mich. App. 680, 197 N.W.2d 101, 105-06 (1972); Chevron Oil Co. v. Beaver County, 22 Utah 2d 143, 146, 449 P.2d 989, 991 (1969) (plaintiffs are not deprived of their property by the denial of rezoning to build a retail gasoline station; "[t]hey bought grazing land, and they still own grazing land"); *cf.* Rutherford v. Armstrong, 31 Or. App. 1319, 572 P.2d 1331 (1977) (denying variance in light of possibility of consolidation of small parcels to achieve economic return). This is so particularly where the legislature has made findings that such land is important to the jurisdiction. *See* Gisler v. County of Madera, 38 Cal. App. 3d 303, 308, 112 Cal. Rptr. 919, 921 (1974).

103. Thus, an exemption should not be granted if the proposed use substantially conflicts with surrounding agricultural uses.

not shared by other parcels in the same district.[104] In an exclusive agricultural district that includes significant quantities of poor land as well as good land, it may be that no parcel will be sufficiently unique to qualify for an exemption under this standard. Hence, in order to ensure administrative discretion to exempt land that has been "over-included" in a district, the legislation should expressly provide for such discretion, stating explicitly that land need not be uniquely unfit for farming to qualify.

The California Coastal Plan suggests several factors that could be used to evaluate economic feasibility of farming on particular parcels. These include: (1) whether the cropping capability of the land is outweighed by the costs of farming the particular parcel; (2) whether the subregional agricultural economy is adequately supported by the existing land stock, and whether cumulative conversions of land including the present parcel will undermine the land base; (3) whether the potential exists for combining the parcel with other parcels to make farming economically feasible;[105] (4) the effect of the proposed nonagricultural use on surrounding agricultural parcels; and (5) whether the parcel is contiguous to other land devoted to the proposed nonagricultural use.[106] For presently unfarmed land additional economic criteria might include the possibility that clearing, drainage, or irrigation could lead to profitable use of the land.

In addition to economic infeasibility, exemptions should be granted for those parcels on which farming would be environmentally undesirable. One of the purposes of agricultural land preservation is to avoid the need to farm land that, if cultivated intensively, would pose environmental hazards or would be highly energy or water inefficient.[107] Although the forced removal of these lands from production is not necessary to preserve a resource base for long-term needs, it makes little sense to overlook environmental hazards and inefficient cropping; such lands should not be considered part of the long-term

104. *See* Topanga Ass'n for a Scenic Community v. County of Los Angeles, 11 Cal. 3d 506, 520-22, 113 Cal. Rptr. 836, 845-46, 522 P.2d 12, 21-22 (1974); Hamilton v. Board of Supervisors, 269 Cal. App. 2d 64, 67, 75 Cal. Rptr. 106, 109 (1969); Bryden, *The Impact of Variances: A Study of Statewide Zoning*, 61 MINN. L. REV. 769, 772 (1977).

105. CALIFORNIA COASTAL ZONE CONSERVATION COMMISSION, *supra* note 89, at 56, 58, 59. An Oregon court rejected the proposed removal of a five acre parcel from an agricultural zone because this possibility was not considered. Although farming the parcel by itself would be unprofitable, it was held to be erroneous to grant the variance without considering profitability of the land when leased, sold, "or by some other arrangement put to profitable agricultural use." Rutherford v. Armstrong, 31 Or. App. 1319, 1321, 572 P.2d 1331, 1333 (1977).

106. CALIFORNIA COASTAL ZONE CONSERVATION COMMISSION, *supra* note 89, at 59.

107. See note 44 *supra*. Presently, removal of these lands from production by the owner is completely voluntary; erosion-prone lands continue to be cultivated, some even with Federal assistance. *See* COUNCIL ON ENVIRONMENTAL QUALITY, ENVIRONMENTAL QUALITY—1977, at 90-91 (1977).

supply of agricultural land. Consequently, land posing these hazards should not be restricted to agricultural use, especially where the proposed alternative uses would not interfere with agricultural use of nearby higher quality land.[108]

E. The Effect of Governmental Activities in Agricultural Zoning

Since more than ninety-nine percent of agricultural land is held in private ownership,[109] one might expect regulation of privately owned land alone to protect agricultural lands adequately. Governmental decisions on siting of public facilities can, however, significantly affect agricultural land. The government makes virtually all siting decisions involving transportation, large reservoirs, and numerous other public facilities. Some of these uses directly consume large quantities of agricultural land.[110] Others promote collateral nonagricultural development because they attract workers and others to the area surrounding the installation,[111] thus inducing pressure to exempt land from the coverage of the statute. It follows that a comprehensive attack on agricultural land conversion should address governmental as well as private land use decisionmaking.

Despite the significant impact of governmental land use decisions on conversion of agricultural land, land use planners may tend to treat these decisions as generally benign and requiring less stringent regulation than private decisions. Thus, while private land use is subjected to rigorous standards, governmental uses are deemed compatible where they are in the public interest or are "necessary for the public health or public safety."[112] If legislation is to be effective in preserving agricultural land, however, it must confront the potential detrimental effects of public siting decisions as rigorously as it regulates private land use decisions.

Regulation of governmental activities affecting the use of agricultural land may involve several tiers of government. In some states, municipalities and special districts are immune from other municipalities' land use regulations. If local governments are to regulate land use, state constitutional amendments or specific statutory mandates may be required to subject certain local governmental agencies to regulation by other local agencies.[113] Moreover, specific constitutional or statutory

108. These decisions can be based on SCS soil maps and mapping in progress under the LIM system. See note 67 *supra*.

109. Frey, *supra* note 23, at 19.

110. See text accompanying notes 23-28 *supra*.

111. See note 24 *supra*.

112. *E.g.*, A.B. 222, Cal. Reg. Sess. § 67713(c) (1977).

113. *See* Trenton v. New Jersey, 262 U.S. 182 (1923) (local government has no property rights as against state legislature). Some state restrictions conferring home rule powers on local government may present obstacles to state control of local governmental siting deci-

revisions may be necessary to overcome existing constitutional or statutory obstacles to imposing local regulation on state agencies.[114] An alternative to subjecting state agency decisions to local control is state control of state agency decisionmaking affecting agricultural land. A state agency can supervise other agencies' land use decisions or can require agencies to mitigate the effects of their decisions on agricultural land.[115] The proper approach to these problems depends on the existing state constitutional and statutory framework for intergovernmental relations and on attitudes about the appropriate level for control of governmental decisions.

One approach to limiting the effects of governmental activites on agricultural land is that of the California Coastal Act, which requires "public works" development to be "limited to accomodate needs generated by [private] development or uses permitted consistent with the provisions of this [Act]."[116] These provisions could adequately guard against expansion of transportation or municipal utilities that generate pressures on agricultural land. They would be even more effective if supplemented with requirements that governmental agencies avoid siting of public facilities on agricultural lands if possible and minimize consumption of agricultural land where location on such land is necessary.[117] Certain facilities, such as governmental office buildings and prisons, should be restricted to areas allocated for urban use, or to non-agricultural land. Governmental siting decisions should also be made to avoid disrupting necessary agricultural support services.

The remaining problem faced by state or local land use regulators is federal governmental siting decisions. The Federal Government uses land for military installations, offices, and research facilities. It plays the dominant role in siting many reservoirs and some roads. Yet, its land use activities are exempt from regulation by states in all of these areas.[118]

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sions. *See* S. SATO & A. VAN ALSTYNE, STATE AND LOCAL GOVERNMENT LAW 134-78 (2d ed. 1977). In general, these obstacles are easily overcome where a supervening state interest and preempting state statute are involved, but there may be exceptions. *Id.*

114. *See* Town of Atherton v. Superior Court, 159 Cal. App. 2d 417, 324 P.2d 328 (1958) (in resolving a conflict between municipal zoning and school siting, the court held that a school district, as a state agency, was immune from local regulation). *See generally* S. SATO & A. VAN ALSTYNE, *supra* note 113, at 899-918. Such obstacles can generally be avoided by statutes explicitly empowering local government to regulate state agency land use decisions. *See, e.g.*, City of Orange v. Valenti, 37 Cal. App. 3d 240, 112 Cal. Rptr. 379 (1974) (leasing a building is a "project" as defined in the California Environmental Quality Act and therefore is subject to local environmental impact report procedures).

115. Both methods are currently being used, though rather ineffectively, in federal governance of federal agency actions affecting agricultural land. See text accompanying notes 120-24 *infra*.

116. CAL. PUB. RES. CODE § 30254 (West 1977).

117. A.B. 222, Cal. Reg. Sess. § 67713 (1977).

118. Absent congressional consent, states may not regulate federal activities. Hancock v.

State governments can mitigate the effect of growth generating activities by the Federal Government on agricultural land by rigorously regulating nonfederal development induced by these activities. Absent federal consent, however, states can exercise only persuasive power insofar as federal activities directly consume agricultural land or adversely affect agriculture.[119] Thus, the main impetus for avoiding conversion of agricultural land to nonagricultural federal activities must come from the Federal Government itself.

Federal efforts have been inadequate. The Soil Conservation Service has "urged" federal agencies to avoid construction on prime agricultural land,[120] and the Council on Environmental Quality has issued a memorandum[121] requiring agencies to identify the effects of their projects on prime land in environmental impact statements (EIS).[122] Although the memorandum requires the agency to identify prime land and changes in land use induced by federal action,[123] the SCS regulations for review and comment on such EIS's contain no substantive guidelines other than a general admonition to consider alternative locations that consume less prime farmland.[124] In view of other concerns, such as the effect of development on agricultural support industries and on agricultural land preservation programs, the scope of these regulations should be broadened. In addition, the Federal Government should make a stronger effort to avoid agricultural land conversion by federal projects not requiring preparation of an EIS.

Train, 426 U.S. 167 (1976); EPA v. California, 426 U.S. 200 (1976). The federal agency may be required to submit plans for approval, but these must be approved *unconditionally* by the state. *Id.* 426 U.S. at 211-15 (1976).

119. Hancock v. Train, 426 U.S. 167 (1976); EPA v. California, 426 U.S. 200 (1976).

120. John A. Kneble, Acting Secretary of Agriculture, Secretary's Memorandum No. 1827, Supp. 1, Statement on Prime Farmland, Range, and Forest Land (June 21, 1976).

121. Russell Peterson, Chairman, Council on Environmental Quality, Memorandum for Heads of Agencies: Analysis of Impacts on Prime and Unique Farmland in Environmental Impact Statements (Aug. 30, 1976), *reprinted in* COUNCIL ON ENVIRONMENTAL QUALITY, ENVIRONMENTAL QUALITY—1977, at 387 (1977) [hereinafter cited as Peterson Memorandum].

122. The EIS requirement is imposed by § 102 of the National Environmental Policy Act of 1969, 42 U.S.C. § 4332 (1976), and implemented through SCS review pursuant to 7 C.F.R. § 650.7(1) (1979).

123. Peterson Memorandum, *supra* note 121, at 387.

124. 7 C.F.R. § 650.7(1) (1979). The General Accounting Office reports that the Peterson Memorandum, *supra* note 121, has produced virtually no change in evaluation of impacts on farmland in the EIS review process. GENERAL ACCOUNTING OFFICE, *supra* note 67, at 44. A proposal to formalize by statute the reconciliation of other federal policies with the policy to preserve agricultural land, H.R. 2551, §§ 101-104, 97th Cong., 1st Sess. (Mar. 1, 1979) (as introduced) has been deleted from the pending Agricultural Land Protection Act, H.R. 2551, 96th Cong., 1st Sess. (Nov. 16, 1979) (as reported to the House).

III

IMPLEMENTING AND ADMINISTERING THE PROGRAM

A. Source of Regulatory Authority: The State-Mandated Local Program

In some states, agricultural land preservation programs may create conflicts over which level of government should enact and administer the program.[125] These conflicts will arise from expectations that state-enacted legislation cannot readily be rescinded or weakened, whereas locally enacted legislation will be more vulnerable to short-term political change.[126] Moreover, local officials, who have diverse responsibilities and constitutuencies, may be less strongly motivated toward rigorous implementation of an agricultural land preservation program than a state agency charged with implementation of a uniform state policy. Thus, proponents of a rigorous preservation policy will urge enactment and administration of the program by the state, whereas those who prefer less rigorous preservation of agricultural land will prefer a local government program, or at least local administration of a state-enacted program.

In addition to the problem of political stability, there are practical reasons for preferring state enactment of the preservation program. First, the most important policy underlying the need for a preservation program—ensuring an adequate supply of food—has a national scope. Local governments do not have the resources or perspective to be properly concerned with national and international food supply problems. Second, the state may be the only governmental entity with sufficiently broad geographic jurisdiction to encompass entire regional agricultural economies, which often cross local political boundaries. In such places even an aggressively preservationist local governmental entity will have insufficient power to protect a land base large enough to support the local agricultural economy. Moreover, regulation of state and local governmental activities affecting agricultural land generally requires state legislation.[127] Third, the expense of administering a zoning and districting scheme, and the lack of expertise necessary to properly formulate a program, may deter local governments from enacting one. This would be particularly true where maintenance of the local agricultural economy may require subsidies exceeding the fiscal capacity of

125. *See, e.g.*, R. HEALY, *supra* note 39, at 161-63; Geisler & Marinson, *Local Control of Land Use*, 52 LAND ECON. 371 (1976) (discussing local control generally, rather than in the specific context of agricultural land preservation); Schacht, *Land Use Bills Will be Back*, S.F. Chronicle, Dec. 13, 1976, at 54, col. 6; Kircher, *The Legislative Battle Over Preserving Agricultural Land*, 7 CAL. J. 155, 156 (1976).

126. See note 51 *supra*.

127. See text accompanying notes 113-17 *supra*.

local government.[128] By contrast, states have broader revenue bases, and therefore stronger fiscal bases to support agricultural land preservation programs. Finally, if Congress enacted legislation to preserve agricultural land,[129] it is probable that states rather than local governments would be charged with its implementation.[130] Thus, to the extent that statewide political support exists for agricultural land preservation, it should be channeled into a program that anticipates federal program requirements by incorporating the federal government's definition of farmland.

Despite the significant political, legal, and fiscal factors favoring state enactment of a preservation program, a number of countervailing considerations necessitate some local involvement in the program.

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128. A state-imposed requirement that localities plan for agricultural use of land in districts large enough to sustain an agricultural economy will be ineffective in areas where land is abandoned principally because of the poor quality of the soil or other factors that make farming economically infeasible. In some cases, a state may wish to subsidize farms either to ensure an adequate local food supply or to preserve agricultural values. See note 49 *supra*. In other areas, abandonment may occur in premature anticipation of development. A land use program that reduces the expectation of such development may also reduce the incentive to abandon agricultural uses without the necessity for direct subsidies to agriculture.

129. The only federal legislation that has even minimal impact on preserving agricultural lands is the Surface Mining Control and Reclamation Act of 1977, 30 U.S.C. §§ 1202-1328 (Supp. I 1977). The threat to prime agricultural land posed by strip-mining of coal and other minerals led to the inclusion in the Act of stringent controls on mining of prime agricultural land. *Id.* §§ 1258(a)(2)(C), 1260(b), (d), 1265; 30 C.F.R. pt. 700 (1978) (establishing Dep't of the Interior's enforcement program under the Act). While the Act does not totally prohibit mining on such land, it does require an operator to demonstrate the capability to return the land to its former or greater productivity, 30 U.S.C. § 1260(d)(1) (Supp. I 1977), and requires the operator to segregate and retain the topsoil for that purpose. *Id.* § 1265(b)(7). Whether mining companies are capable of such restoration remains to be seen. *See generally* 33 J. SOIL & WATER CONSERVATION 54-79 (1978) (collection of articles on reclamation of strip-mined land); 123 CONG. REC. H3,772 (daily ed. Apr. 28, 1977) (remarks of Rep. Jeffords). See also note 41 *supra*. Meanwhile, grandfather clauses in the Act permit continued conversion of prime agricultural land for several years; § 1260(d)(2) of the Act permits continued mining under permits issued prior to the date of enactment. The amount of land covered by such permits is not known. Furthermore, the language of § 1260(d)(2), which appears to permit revisions of existing permits without compliance with § 1260(d)(1), does not state whether "revisions" can include expansion of the permit area.

130. *See, e.g.*, H.R. 2551, 96th Cong., 1st Sess. (1979) (Agricultural Land Protection Act), *discussed in* H. REP. NO. 654, 96th Cong., 1st Sess. (1979); S. 632, 92d Cong., 2d Sess. § 501(c), 92 CONG. REC. 31217, § 303(b)(1)(A) (1972) (Land Use Policy and Planning Assistance Act of 1972, H.R. 16579), *discussed in* S. REP. NO. 869, 92d Cong., 2d Sess. 22 (1972). *See generally* Hughes, *Appraisals of Natural Resources Supply and Demand: Status Report on Legislative Activity* 5, 5 n.4, *reprinted in* STAFF OF THE SENATE COMM. ON INTERIOR INSULAR AFFAIRS, 95TH CONG., 1ST SESS., CONGRESS AND THE NATION'S ENVIRONMENT, App. B, at 1653, 1659 (1977). *See also* R. HEALY & J. ROSENBERG, *supra* note 54, at 271-73. The federally-mandated state program approach in federal land use legislation in part reflects recognition that although some land use issues, such as housing, environmental quality, agriculture and transportation, involve matters of federal policy, land use planning is primarily of state or local concern. The state program approach also provides flexibility, allowing tailoring of individual state programs to meet specific state needs, while concurrently promoting federal objectives.

First, because of the long history of local land use regulation in most states, local governments will probably resist state efforts to intervene in the land use regulatory process, especially where the result would be to eliminate local authority altogether.[131] Second, in the legislation contemplated here, the state's sole regulatory purpose is to conserve agricultural land. Most planning and land use decisions are made locally and affect primarily local interests. Consequently, state legislation to preserve agricultural land must be tailored to the relatively narrow policy interests of the state in order to protect the ability of local governments to regulate other legitimate local interests.

Third, states may avoid the need to create extensive and costly new bureaucracies by integrating their activities under state preservation programs with the planning and zoning functions of local governmental authorities. Creation of a new state administrative apparatus to implement an agricultural land preservation program often would result in inefficient duplication of local governmental regulatory activities and would increase the cost to landowners of complying with the regulatory process. This in turn would adversely affect many permissible private development activities. A state-enacted program imposed on local government undoubtedly would increase the administrative burdens and costs incurred by those local governments and, to the extent the state is required to supervise and assist local governments, would increase these burdens on the state government as well. The aggregate cost to government can be minimized, however, through reliance upon existing local governmental agencies that can integrate agricultural land use planning and zoning within their existing regulatory structure, leaving the state to provide only limited assistance in the formulation, implementation, and administration of the program.[132] Moreover,

131. Compare the pre-colonial, historical basis for statewide land use planning in Hawaii, Chinen, *The Hawaiian Land Revolution*, 5 HAWAII B.J. 11 (1967), with vociferous objections to statewide planning in many other states, *see* R. HEALY, *supra* note 39, at 161-63; Geisler & Marinson, *supra* note 125. The political history of statewide land use measures varies from state to state and popular sentiments favoring local control do not necessarily preclude adoption of state legislation. *See* R. HEALY & J. ROSENBERG, *supra* note 54, at 183-201, 218-20. Nevertheless, proponents of local control represent a force that must be contended with in any statewide land use control measure. See note 132 *infra* and sources cited in note 125 *supra*.

132. The effort to achieve a politically and financially feasible accomodation of local concerns with preeminent state policy objectives has led to adoption of single-purpose land use legislation designed to be implemented and administered primarily by local governments. *See, e.g.*, California Coastal Act, CAL. PUB. RES. CODE §§ 30000-30900 (West 1977); Forest Taxation Reform Act, CAL. GOV'T CODE §§ 51100-51155 (West Supp. 1979). *See also* Land Conservation & Development Act of 1973, OR. REV. STAT. § 197.175(b) (1973). More detailed discussion of these statutes is most readily available in D. MANDELKER, *supra* note 19, at 55-60 (1976) (Land Conservation & Development Act); R. HEALY & J. ROSENBERG, *supra* note 54, at 194-95 (Land Conservation & Development Act); *id.* at 80-120 (California Coastal Act); Unkel & Cromwell, *California's Timber Yield Tax*, 6 ECOLOGY L.Q. 831 (1978) (Forest Taxation Reform Act). The Oregon legislation is similar to the California

once the initial planning and implementation of a program is accomplished, and local governments have been given a clear mandate to enforce the program, there may be no further need for a major state administrative agency to operate the program. It will be difficult to dislodge the entrenched state bureaucracy, however, once such an agency is established.

State legislation should provide for both initial planning and the continued administration of the program by local governments pursuant to statutory standards supplemented by state administrative regulations. Initially, local governments would be required to formulate plans in accordance with statewide standards and subject to review by state officials. During this planning period, some interim provision for the control of land use would be necessary to ensure that agricultural land conversion has not rendered the preservation program moot.[133] In addition, some mechanism must be developed for coordinating the activities of local governmental authorities in adjacent communities where agricultural land use patterns and economies do not correspond to local political boundaries.[134] After the initial planning stages the program can be carried out largely by local governments in accordance with their approved local plans and the administrative guidelines developed by the state.[135] Some measure of ongoing state supervision may also be necessary to ensure that local governments continue to implement the program in accordance with state policy.

B. Program Development

The state, contemplating predominantly local administration, should establish guidelines both for the substantive and procedural aspects of the local planning and zoning schemes. The legislation should

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legislation in that it mandates local planning in accordance with state guidelines and standards, but differs in that it purports to mandate local comprehensive planning in accordance with these standards, rather than single-purpose planning of the type represented by the two California statutes.

Legislation allocating authority between state and local governments varies. A notable example of how politics may dictate a greater degree of local control than preferred by proponents of regulation can be found in the progression of proposals in California from a powerful state planning and zoning authority for agricultural land preservation to one far more reliant on local administration and good faith. The latter, nevertheless, failed to result in a politically feasible program. *See* Dresslar, *supra* note 49, at 316-19.

The state-mandated local programs are used to preserve specific natural resources in accordance with state policy by utilizing existing administrative resources of local governments together with some degree of state supervision and planning assistance. This regulatory format may eliminate the need to create an intermediate level of decisionmaking or a major new state administrative apparatus.

133. See text accompanying notes 145-46 *infra*.

134. See text accompanying notes 40-42 *supra*.

135. The guidelines should set forth standards for a zoning or districting scheme as discussed in part II of this Article.

require local governments to incorporate new substantive standards into local zoning ordinances. The increasingly common state law requirement that local governments engage in comprehensive land use planning and enact zoning ordinances consistent with such planning[136] provides a ready vehicle for implementation of new substantive standards. Thus, a state may require local governments to include an agricultural land element in their general plans, and to enact districting ordinances that consign land within established districts to agricultural and compatible use zoning.[137] Once a local government develops the agricultural land element of its general plan and enacts a zoning scheme determined by state authorities to be consistent with the plan, its remaining obligation to ensure the long-term integrity of its program should be fairly clear.[138] If the legislation also requires state and regional agencies to conduct their activities in conformance with local plans, a mechanism should be provided whereby agricultural land preservation policies may be reconciled with other state policies.

During the formulation of local plans, state supervision and assistance will be necessary to ensure that state agricultural lands policy will be given effect. One means of ensuring good planning would be to give primary planning responsibility to a state agency. This method has the disadvantage of requiring an initially large state administrative apparatus. The alternative is to require local governments to bear the primary responsibility for planning, with the state assuming a supervisory role during the planning stage and retaining authority to review the local plans once completed.[139]

Interjurisdictional conflicts are likely to arise in the implementation of state-mandated local planning programs. For example, irregular boundaries defining local governmental jurisdictions in many states will often divide self-contained agricultural areas among more than one local jurisdiction. State legislation should provide a mechanism for identifying and resolving such horizontal, interjurisdictional conflicts during the planning process.

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136. See text accompanying notes 125-32 *supra* and sources cited in note 125 *supra*.

137. This is roughly the form of the principal recent California proposals for preservation of agricultural land, including: A.B. 1900, Cal. Reg. Sess. (1977); A.B. 222, Cal. Reg. Sess. (1977); A.B. 15, Cal. Reg. Sess. (1975); S.B. 193, Cal. Reg. Sess. (1977).

138. Some ongoing review by the state may still be necessary to ensure that a local government cannot subvert state policy by loosely interpreting its zoning ordinances or the standards for amending its general plan. See text accompanying notes 147-49 *infra*.

139. Materials already prepared by federal and state governments will in most instances provide an adequate data base for local governments engaged in planning an agricultural preservation program. Reliance on existing maps allows local governments to use existing definitions of prime agricultural land without having to delay implementation of the preservation program pending further study of soil characteristics. See note 67 *supra* and accompanying text. *But cf.* Dresslar, *supra* note 49, at 524-26 (asserting that the necessary inventory and soils analysis will exceed the capabilities of local governments).

Coordination of local land use programs may be complicated by the desire of local governments to remain autonomous and by the absence of regional agencies to oversee and coordinate local governmental efforts. Since a fundamental objective of the state-mandated local program approach, however, is to avoid creation of new, costly institutions by utilizing existing governmental entities, procedures for consultation between local governments are preferable to regional agencies. In some states, existing institutions designed to coordinate other local land use decisions may be adaptable to an agricultural lands program.[140] Alternatively, agencies with extended geographical jurisdictions may provide a forum for consultation among local governments. The state legislature, by providing for both consultation and coordination and for state review of local agency compliance, can ensure adequate coordination of local governmental efforts without assuming planning and coordination responsibilities.[141] The ultimate threat of state disapproval of the local plan, as well as administrative advice given by the state to the consulting local agencies, may be sufficient to induce local governments to coordinate their planning activities with those of other local governments.[142]

It will also be necessary for local planners to consult with state agencies, such as housing, transportation, utilities, and environmental protection agencies, to ensure the conformity of locally designed plans with other important state land use objectives. The state legislation should require state agencies to plan their activities to avoid interference with agricultural and other authorized uses of land within designated agricultural districts except upon a special showing of necessity and overriding state policy objectives. Such agencies should also be required to consult and advise local agencies of their planning objectives. The legislation should make clear that the nascent state agricultural land policy shall not be undermined by state agencies whose independent institutional objectives have previously gathered inertia except where state policy in these other areas has greater priority. Although it will not be possible to insulate the final local plans from all

140. One example is California's Local Agency Formation Commission, a county-level agency which has authority to designate "spheres of influence" for municipalities and to approve or disapprove annexation decisions of municipalities based on factors including these designations. CAL. GOV'T CODE §§ 54796(h), 54790(a)(3), (b) (West Supp. 1979). Local Agency Formation Commissions have been criticized, however, for being susceptible to domination by the major city within each county.

141. *See, e.g.*, OREGON LAND CONSERVATION AND DEVELOPMENT COMMISSION, STATEWIDE PLANNING GOALS AND GUIDELINES, § 14 Urbanization (1974) (county-level coordination of urban development plans). *See generally* Healy, *Coordination: The Next Phase in Land Use Planning*, 31 J. SOIL & WATER CONSERVATION 140 (1976).

142. *See, e.g.*, Force, *Urban Growth Issues About Ready for Public Action*, Medford Or. Mail Tribune, Jan. 23, 1977, at C-1, col. 2 (reporting the success of this approach in Jackson County, Oregon's development of a plan in response to the Oregon legislation).

subsequent, inconsistent state governmental activities, the coordination and planning process should minimize the likelihood of such disruption in advance by imposing a substantial burden of persuasion on state agencies that subsequently wish to change their planned acitivities.

Final state review of local planning efforts will be necessary in order to ensure that local politics have not interfered with state policy objectives. This review should be considered secondary to the preliminary planning process and the substantive state legislative and administrative guidelines as a method for enforcing compliance with state policy. The latter should be designed to clarify local governmental duties and ensure the adequacy of local planning activities in order to reduce the likelihood that local plans will be rejected. In addition to such measures, the state needs to retain final authority to review local plans and perhaps even to formulate plans for a municipality that fails to comply with state requirements.

There is some controversy over the appropriate standard for review of local governmental plans.[143] Recognition of the legitimate role of local governments in the planning process, the inadequacies of much planning data, and the difficulties of long range predictive planning should induce state legislatures to adopt a standard of review that is substantially less stringent than de novo hearings or independent judgment by the state agency charged with review. Furthermore, a stringent standard of review would only encourage independent state decisionmaking, potentially eliminating the financial savings incurred through the use of the existing local planning framework. Indeed, it may be sufficient to require local governments to demonstrate only procedural compliance with the planning provisions of the state legislation, thereby ensuring that full consideration was given to the substantive criteria established by legislation. The burden of demonstrating substantive noncompliance should be imposed on the state, in order to reduce the number of successful challenges to local planning decisions.

C. Interim Implementation of the Program

Pending the approval of local plans, it will be necessary to impose some controls upon the use of agricultural lands. In the absence of such controls, local governments may inadvertently allow conversion of prime agricultural land. In addition, some local governments may respond to pressure for development because they do not sympathize with the state's preservation policies. Opportunities for mistakes, whether deliberate or not, will be numerous; their potential cumulative effect is substantial since local plans may easily take several years to

143. *See* Dresslar, *supra* note 49, at 516.

complete.[144] Because agricultural land frequently is the principal land available for development and because some allowance for conversion probably will be provided in the final plan, a complete prohibition on development of all agricultural land would, however, be too drastic. An extensive moratorium on development may be a far more intrusive interim control measure than is required by the long-term policy justifications for the preservation program. On the other hand, a broad prohibition on development limited to land already in agricultural use would be inadequate to ensure preservation of land that, although currently devoted to unintensive, nonagricultural uses, should eventually be placed within agricultural districts.

A possible solution to prevent undermining state agricultural land use policy would be to provide for state administration of all land use decisions beyond the boundary surrounding all contiguous areas of existing urban development. This proposal has the disadvantage of requiring a major administrative apparatus. Moreover, the boundary separating urban land from nonurban land fails to provide even a gross delineation of the land that will most likely be included within agricultural districts. This boundary would overinclude poor quality land or land on which development eventually will have to be permitted.

A more sophisticated method for identifying land that probably will be included in agricultural districts is to provide an interim boundary such as that just described in conjunction with additional criteria such as those described in connection with the exclusion of land from agricultural districts.[145] Local governmental authorities would apply these criteria on a parcel-by-parcel basis upon application by landowners for permission to develop. The state could retain the power, however, to review local governmental decisions on applications for development of land outside the interim boundary.

The additional state staffing required to monitor these local decisions creates a conflict with the objective that the program rely principally on existing local institutions. The alternative to this solution, however, is to leave enforcement of the program during this interim period to reviewing courts under conventional standards of administrative law. This alternative will consume already limited judicial resources and result in haphazard enforcement of interim land use standards.[146] By limiting state review authority to an "abuse of discretion" standard and providing legislative exclusions for land that clearly will not be included in the agricultural districts, the responsibilities

144. The California coastal legislation and the Oregon legislation discussed in note 132 *supra*, still have not been fully implemented nine and six years, respectively, after enactment. *See* R. HEALY & J. ROSENBERG, *supra* note 54, at 119-20, 195.

145. See text accompanying notes 103-08 *supra*.

146. *See* MANDELKER, *supra* note 19, at 20.

given to a state agency during the planning period can be limited. It is difficult, however, to avoid a significant state role at this stage of implementation without relying too heavily on local governments, which will be under pressure to permit development, or on relatively cumbersome judicial procedures.

D. Continuing State Oversight

Even after local plans have been approved, continued coordination of state and local policies will be necessary. If the state legislature is willing to entrust substantial regulatory authority to local governments, it may choose not to conduct detailed, continuous administrative oversight of local activities. At a minimum, however, local governments should be required to continue to adhere to binding state administrative regulations.

Sufficiently clear, mandatory guidelines governing the types of uses permitted in agricultural districts, together with the trend of subjecting local land use decisions to increasingly stringent judicial review,[147] will provide a basis for entrusting local governments with primary responsibility for enforcing their own agricultural districting plan. Through private attorney general enforcement provisions and substantial public hearing requirements for all local decisions, significant pressure can be exerted to ensure that local governments do not ignore statutory and regulatory requirements.[148] Furthermore, continued state monitoring of local decisions and periodic state review of each locality's compliance with its plan will help ensure that even the most wayward localities do not ignore state requirements.[149] This approach uses limited state resources to extract compliance with state requirements from those localities whose recalcitrance threatens to undermine the effectiveness of the program, while recognizing the increasing sensitivity of many localities to environmental concerns and to their responsibilities under state-mandated planning legislation.[150] In

147. See text accompanying note 143 *supra* and sources cited therein.

148. *See* Sax & DiMento, *Environmental Citizen Suits: Three Years' Experience Under the Michigan Environmental Protection Act*, 4 ECOLOGY L.Q. 1 (1974).

149. An example of a "call-back" state monitoring procedure of the type suggested here is contained in the Oregon legislation discussed in note 132 *supra*, OR. REV. STAT. §§ 197.250, .325(1) (1973).

150. Suffolk County, New York and Buckingham Township, Buck's County, Pennsylvania both have implemented local agricultural land acquisition or development rights transfer programs without state support. GENERAL ACCOUNTING OFFICE, *supra* note 67, at 31-33. King County, Washington voters recently approved a similar program for the Seattle metropolitan area. 7 LAND USE PLANNING REPORT 357 (1979). *See also* COUNCIL ON ENVIRONMENTAL QUALITY, ENVIRONMENTAL QUALITY-1978, at 274 (discussing the Minneapolis-St. Paul Metropolitan Council's program to encourage local zoning for preservation of agricultural land). Where such political motivation and planning expertise exist at the local

extreme cases the state must have the option to compel localities to enforce their programs.

CONCLUSION

Legislation designed to preserve agricultural land may take any number of forms. The following set of recommendations, however, is an outline for an effective agricultural land preservation program.

The legislative scheme should incorporate the LIM classification system in order to identify land that is important for national policy reasons while allowing additional criteria defining locally important lands to be determined by the appropriate state or local agencies. Incorporation of the LIM criteria will enable state and local governments to make use of existing maps and other data, thus avoiding the heavy costs and delays of a statewide "inventory and evaluation" process.[151]

The legislative scheme should have as its basis a districting approach. Districting, which comports with the local economics, practices, and land quality needs of crop agriculture, will be the most effective mechanism for preserving agricultural land in most areas, particularly where land quality is not uniform. In defining permitted agricultural uses and compatible uses, the legislation should not be so vague that the entire burden of determining acceptable uses falls upon the enforcement agency. Yet the agency should have the discretion to exclude from agricultural districts those uses that could be located on nonagricultural land. Compatible uses should be strictly limited; incompatible but permitted uses should be designated as such rather than included in an enumeration of compatible uses.

Traditional land use techniques such as zoning are readily adaptable for agricultural land preservation, although continued state supervision of local zoning efforts may be required to ensure political stability. State-mandated local zoning offers a politically feasible alternative to more intrusive state land use regulatory efforts. Primary responsibility for planning should be placed on existing local governmental agencies to avoid the need to establish a large new state administrative apparatus. Provision should be made for state review and approval of local plans, however, in order to ensure both good planning and the implementation of state agricultural lands policies. Procedures should be devised for consultation between local governments and coordination of their activities. Local planners should consult with state agencies to

level, state administrative resources are most efficiently used if they are focused upon the recalcitrant communities rather than spread across the entire state.

151. Utilization of such data could substantially reduce the costs and start-up time of programs proposed by other writers. *See, e.g.*, Dresslar, *supra* note 49, at 326-27.

ensure that local plans conform with other important state land use policies.

While local plans are being formulated some provision should be made for interim land use regulation to prevent excessive conversion of cropland before local programs are implemented. Once local plans have been adopted, the state should continue to oversee local land use regulation through the use of statewide regulations and guidelines, private attorney general enforcement provisions, public hearing requirements, and periodic state review of each locality's compliance with its plan. An owner-initiated exemption procedure allowing careful evaluation of particular parcels will avoid undue hardship on individual landowners and the responsible agency.

Continued conversion and abandonment of agricultural land at present rates will not necessarily have disastrous effects on United States agricultural productivity. If, however, there are significant reductions in the supply of inputs such as fertilizers, pesticides, and fuel, most of which have a petrochemical base, and if the United States increases agricultural exports to help alleviate foreign food shortages, the effects of continued land losses could be serious. In light of known limitations on supplies of petroleum and possible future food shortage problems in other nations, regulatory action to preserve land capable of sustained and intensive cultivation is warranted. Moreover, in some areas, state or local concerns favoring continued cultivation of lands in regional or local areas provide additional justification for legislative action to regulate conversion of prime agricultural land.