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Land Use Planning: An Institutional Overview

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The environmental concerns of the 1970's have spawned an extensive institutional maze designed to achieve a multiplicity of environmental goals. Land use planning occupies an important but, unfortunatley, ill-defined role within this configuration of institutions. It is ill-defined with reference to both what land use planning is and what it can accomplish. The result is a confusion, a misallocation of research resources and planning impotence.

Land use planning is ill-defined primarily because the relationships, powers and responsibilities of the many people involved in planning are changing rapidly (institutional change) and because there exists no theory of planning which adequately integrates the market and political aspects of land use decision making. Rapid institutional change makes it extremely difficult for analysts to maintain realistic and relevant perspectives. Similarily, the absense of a comprehensive theory of planning leaves analysts without an adequate basis for conceptualizing problems and selecting appropriate analytical concepts. This paper constitutes an attempt to improve understanding of what land use planning is and what it can accomplish by examining conceptual issues and reviewing current institutional trends. Attention is also given to assessing the reasons for institutional change and the significance of recent trends with reference to social welfare and research needs.

Contributed paper, AAEA annual meetings, Aug. 15-18, 1976, Penn State Univ.

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CONCEPTUAL VIEW OF PLANNING

According to the conventional definition, planning is a public decision making process involving the evaluation of land use alternatives and the implementation of direct or indirect land use control programs. This broad definition is widely accepted, but attempts to specify the planning process in greater detail reveal vastly different perspectives and are fraught with conceptual problems. Thus, it is necessary to examine some of the major conceptual problems before presenting a more detailed conceptual framework that can serve as a basis for discussing planning institutions.

Perhaps the most significant problem is the persistent belief that land use planning can be and ought to be comprehensive. Comprehensiveness calls for determining the land use pattern which maximizes social welfare. Defined in this manner, comprehensive planning can be achieved only if two conditions are met: (1) decision makers must thoroughly understand the welfare implications of all land use outputs for all the people involved and (2) analysts must be able to clearly specify the production relationships between land and social outputs such as clean air, clean water, efficient public utility systems, aesthetic enhancement, etc. Neither of these conditions can be met at the present time and thus comprehensiveness is and will probably remain an elusive and impossible goal.[1/] The major consequence of attempting comprehensiveness is production of a document that achieves nothing. Planners who attempt to do all things find themselves without the resources to sell the public on any one of them, even though they may have acquired the data to convince themselves.

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Another conceptual problem is the tendency to view land use patterns as an output or end in itself instead of an input or method of achieving desired social goals. When a given change in land use patterns is viewed as the desired objective instead of thinking in terms of what difference it makes to society if land is used differently, attention is diverted from the real purpose of planning. This leads to ignoring methods other than land use planning as the means for achieving desired ends. For example, property damages due to flooding can be reduced by land use planning actions which discourage development on flood plains, but perhaps retention dams could achieve the same end with a more desirable cost-benefit distribution.

A third conceptual problem results from failure to understand the meaning and/or importance of analytical institutional economics. A recent AAEA article by Seagraves illustrates both the confusion which surrounds the analysis of environmental institutions and the persistent tendency of many economists to succumb to the conservative bias which requires a positivistic approach and deemphasis of distributional issues. The appraisal of environmental institutions, of which land use planning institutions are a subset, demands an assessment of what difference it will make if the rules of the game are changed and who will be affected by the impacts (Schmid, Bromley and Randall). The focus on efficiency questions, which is so strongly advocated by economists with a conservative bias, begs the question of whose efficiency. The ideal land use pattern (highest value output per unit of input) may be quite different for poor, inner city residents than for rich suburban dwellers. Perhaps many land use plans continue to

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gather dust because they are designed by and for one group, planners and community activists, but must be sold to the public at large.

The foregoing discussion only touches on the myraid of conceptual problems associated with the land use planning process, but it does provide a starting point for presenting a relatively detailed conceptual perspective that is consistent with institutional reality.

Land use planning can be viewed as a process of establishing and operating public institutions which modify the market allocation of land consistent with the wishes of the people involved.[2/] The process begins when groups of individuals become dissatisfied with the existing or projected market allocation of land resources and set out to change the rules (establish planning institutions) in order to allocate land resources in a manner more consistent with their wishes. The objective is not to optimize the use of land (comprehensive planning), but to use land use modifications as a means of achieving a narrow subset of social goals. Once the rules of the game have been established, including who makes the decisions, the distribution of power over land use, provisions for citizen recourse and provisions for financing planning efforts, the operational phase of planning begins. This phase consists of analyzing what difference it will make if land is used in different ways, selection of desired land uses, analysis of how land use patterns will change with the implementation of control alternatives, and actual implementation of control programs. More precisely, land use planning can be thought of as a process of determining property right distributions at two levels. First, the rules of the game establish whose preferences count. Secondly, property rights are changed to encourage

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land use patterns more consistent with the wishes of those whose preferences matter.

When land use planning is viewed in the above manner it permits perception of the process as but one means of achieving desired goals. It also facilitates recognition of the fact that the outcome of land use planning depends on the distribution of rights or liability rules, contrary to those who believe that optimum land use patterns could be determined, if only we had enough data. The importance of property rights means that any evaluation of planning performance must focus on how decisions vary with differences in institutional arrangements and on how successful a given institution is in achieving the objectives of those whose preferences matter. Planning performance can be evaluated with reference to the perspective of given publics, but the normative aspect of property rights makes it impossible to evaluate with reference to the total public interest.

CURRENT INSTITUTIONAL TRENDS

The current state of land use planning activity can usefully be divided into two components, input oriented and output oriented. Input oriented efforts include all planning institutions established for the express purpose of modifying land use patterns. Output oriented efforts include those institutions established to pursue an express purpose other than land use planning, but employ land use planning as one of several means for achieving their goals, (e.g., the Environmental Protection Agency).[3/]

Since federal land use legislation succumbed to impeachment

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politics and the fears of the agricultural sector in 1974, the push to establish input oriented planning institutions at a state level has abated considerably. A review of Land Use Planning Reports reveals that only one state, Wyoming, passed broad based input oriented land use planning legislation during the past 18 months and that it is being seriously considered in only one other, Michigan. County and municipal programs are still being established, but such programs continue to be almost exclusively dependent on zoning, a control technique that is only marginally effective (Babcock, p. 123).

The real action in the land use planning arena appears increasingly to involve output oriented efforts. Some of the more significant land planning institutions include highway departments, fish and wildlife bureaus, parks and recreation agencies, housing agencies and, last but not least, the Environmental Protection Agency. All of these institutions engage in land use planning as one means of achieving their objectives.

Highway departments engage directly in land use planning when they set out to determine highway routes and designate arterials. This process involves analyzing the impact of highways on land use patterns.

Fish and wildlife, parks and recreation, and housing agencies are involved in the management of agency owned lands and in the control of lands owned by others as a means of insuring the availability of wildlife habitat, recreation facilities and aesthetically pleasing housing, respectively.

The Environmental Protection Agency is involved in land use planning in many ways and is emerging as the most important of all

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output oriented land planning institutions. The activities associated with implementation of the Federal Air Quality Act (PL 91-604) and Water Quality Act (PL 92-500) are perhaps the most important land related EPA programs. Implementation of the Federal Air Quality Act involves determination of where industrial and public facilities can be located, which constitutes land use planning in its purest form.

The most significant water quality program, in terms of land use, is section 208 of Public Law 92-500. Section 208, as recently interpreted by a U. S. District Court for the District of Columbia, requires a state-wide program, which includes rural as well as urban areas. Under draft guidelines issued by EPA, section 208 programs must, among other things, "have accurate land use growth projections in order to plan for adequate waste-water management facilities and anticipated non-point source runoff." The guidelines essentially say that section 208 planning must examine, evaluate and make recommendations on the existing land use regulatory system and land management practices, particularly as they relate to non-point source control (Natural Resources Commission, p.3).

This brief summary of what is currently transpiring in the land use planning arena indicates that land use planning is occuring at an increasingly intensive pace in rural as well as urban America. But, the major programs are not the traditional land input oriented programs with the multiple objectives and political decision making that is usually envisioned in state or federal land use bills. Instead, land use planning is being done by output oriented institutions where land use decisions are made by bureaucrats and viewed as a means of

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achieving a single objective. Some of the reasons for this phenomenon are perhaps obvious, but nevertheless it might be useful to explore them before examining the policy and research implications of this changing institutional scene.

FACTORS AFFECTING THE DEVELOPMENT OF LAND USE INSTITUTIONS

Factors affecting the development of land use planning institutions fall into two categories: those which create a demand for outputs affected by land use patterns and those which influence the type of institutions which emerge for the purpose of providing the outputs demanded. Each category is discussed in turn below.

The land use planning outputs which have enjoyed the greatest increase in demand are primarily environmental in character, e.g., preservation of open space, improved air and water quality, protection of wildlife habitat and preservation of wilderness areas. The demand for these environmental products has apparently increased due to greater affluence, population pressures, improved knowledge regarding the ecological implications of man's activities and changing life styles. There is probably no question about the general validity of these forces, but what is not well understood is the extent to which such forces vary by geographical and social dimensions. To what extent and for what reasons, for example, is the demand for environmental products different in urban versus rural communities. Casual observation indicates that the political pressures for environmental products are greatest in the more affluent urbanized regions, but we know precious little about why such differences exist. Are they due

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to different preferences (values) or to different levels of knowledge regarding ecological factors?

Analyses of public attitudes indicate that preferences or value differences explain some of the variance in demand than differences in knowledge (Comer, p. 40). If these preliminary results prove to be valid, a number of land use and other environmental programs are doomed to fail. Most notedly, land use education efforts directed at making planning in rural areas politically acceptable are not likely to succeed if the public does not want what land use planning will provide, as opposed to not understanding what the outcomes will be.

The factors influencing the type of institutions being established to provide environmental outputs are more difficult to discern, but at least three plausible forces come to mind: (1) the relative ability of the public to identify with broad goals as opposed to techniques for achieving goals, (2) the fact that oblique changes in property rights are more politically acceptable than direct and obvious changes, and (3) the fact that politicans find it difficult both conceptually and politically to provide specific policy directions.

In this election year it appears to me to be particularily evident that the public identifies much more readily with goals than with techniques for achieving them. Much as Governor Carter finds it more persuasive to speak of goals, rather than of programs to achieve goals, the general public is more apt to support pristine water quality than they are to support land use planning, which is usually equated with zoning. If this phenomenon is as pervasive as it appears, it would come as no surprise when Congress adopts environmental goals that require land

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use planning to achieve, but turns down land use planning bills.

Much of the resistance to input oriented land use planning can be attributed to the obvious changes in property rights which occur when plans are implemented. Property rights are viewed by many lay people as being absolute and inviolate such that any change threatens the very foundations of the social structure. However, opposition to changing property rights is intense only when changes are direct and obvious. Perhaps this is due to the fact that you cannot oppose something unless you recognize that it is occuring, or perhaps it is due to the fact that property right changes are implicitly accepted when the resulting outcomes clearly warrant it. In either case it is clear that oblique property rights changes, such as giving a farmers neighbor the right to be free of the dust associated with grain storage via an Air Quality Act, are much more acceptable than a direct change such as zoning cropland agricultural.

A third important factor contributing to development of output oriented land use planning institutions is the difficulty of making specific political decisions when the issues involved are extremely complex and controversial. Politicians at all levels of government cope with complexity by making broad policy decisions and assigning to bureaucrats and to the courts the task of working out the details and the conflicts. This phenomenon is evidenced quite clearly in the evolution of environmental law. The National Environmental Policy Act, the Water Quality Act and the Air Quality Act were all so broad that no one knew what they meant until bureaucrats drafted guidelines (administrative law) and the courts approved or disapproved

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such guidelines, given their view of congressional intent. If this approach continues, and there does not appear to be a viable alternative, input oriented land use planning efforts which call for detailed political decision making are likely to remain insignificant.

The output oriented land use planning institutions which emerged in recent years appear destined to continue their domination of the land use planning arena, given the nature of the forces which underlie such developments. Assuming this view is correct, several critical social welfare and research issues merit attention.

SOCIAL WELFARE EFFECTS

What appears to be quite clear from the emerging pattern of land use planning institutions is that market directed land use patterns are being drastically modified, but not in the manner envisioned by many advocates of land use planning. Instead of planning efforts which seek to balance multiple objectives, the scene is being increasingly dominated by single objective programs, e.g. water quality. Land use decisions are being made by bureaucrats and the courts instead of by the elected representatives of the people. Similarily, the emergence of strong output oriented programs has successfully removed most of the important decisions from the local control so strongly advocated by many input oriented planners.

The principle welfare consequence of these developments appears to me to be the danger that particular objectives will dominate to the exclusion of others or, more broadly, the danger that many publics will not be adequately represented as land use decisions are made. At

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the present time, for example, people concerned about air quality, water quality, automobile transportation systems and the preservation of historical sites, wilderness areas and wildlife are quite well represented as contrasted to those publics who are interested in preservation of agricultural land, in quality mass transit systems, in lower cost housing and in efficient public utility systems. Perhaps what is needed is an Agricultural Land Act, a Mass Transit Act, a Private Housing Act and a Public Utilities Act comparable in impact to the Wilderness Act, the Air Quality Act and the Federal Highway Act. One could then permit the courts to adjudicate the increased conflicts which result, or establish additional adjudicating bodies called something other than land use planning boards.

In considering the social welfare effects of the envolving pattern of land use planning institutions, it soon becomes clear that what has been, is being or could be produced by alternative institutional arrangements remains largely unknown. There exists little empirical evidence to either refute or support deductive conclusions.

RESEARCH NEEDS

The increased emphasis on output oriented planning efforts calls for quite different research programs than those currently being emphasized by land use planning economists. Current research programs, to the best of my knowledge, focus on: (1) property value effects of public land use decisions; (2) the impact of incentive based policies on land use patterns; (3) measurement of public land use preferences; (4) development of land use data systems; (5) explanations for the

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spatial distribution of economic activity; and (6) identification of prime agricultural lands.[4/] Suggested changes in research priorities are discussed below with reference to three major recommendations:

1. Additional research is needed on the outcomes associated with different institutional arrangements.

With land use planning institutions in a rapid state of evolution, it is imperative for society to closely examine what differences result from alternative institutional arrangements. For example, what differences are likely to result from decisions made by elected officials, bureaucrats and judges? To what extent do land use decisions which result from output oriented institutions differ from input oriented pursuits? Does citizen participation in planning change decisions or does it simply legitimitze what would have been done anyway? Answers to these and numerous related questions are essential if there is to be any hope of anything more than random achievement of land use goals.

2. Additional research is needed on the relationships between land use and quality of life variables.

At the present time little is known about the all important relationships between land use and quality of life variables. Specific examples which merit attention include: (1) the relationship between a sprawled urban land use pattern and air quality; (2) the effect of prohibiting urban development of agricultural land on the quantity, quality and cost of available housing; and (3) the relationship between use of inorganic compounds on cropland and the impact on potable water supplies and water based recreation. Input oriented planning efforts have often failed because they didn't consider relevant outputs and

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output oriented efforts can succeed only if asking output oriented questions results in credible answers.

3. Increased emphasis should be placed on the efficient collection of the types of data which influence land use decisions.

Perhaps the most serious malallocation of research resources occurs with reference to the collection and analysis of data for all lands, when it is relevant to decisions on only a small part of the total acreage. For example, detailed data on the physical suitability of soils for urban use is needed for areas where urban development is likely, but is a waste of effort for areas where one can be quite certain that urban development will not occur. A better more general illustration might be land resource inventories. Most land resource inventory systems call for collection of the same data for all lands within a jurisdiction, despite the fact that land use changes occur only on a small and predictable portion of the total land base.

Another malallocation occurs when researchers collect data and analyze issues which they believe important, but which decision makers chose to ignore. This factor is becoming increasingly important as narrowly focused output oriented planning institutions increase in prominance.

SUMMARY

This institutional overview reveals that land use planning must be conceived of as a subcomprehensive public decision making process that focuses on modifying land use patterns to produce desired outputs, with decisions made on the basis of distributional impacts, not economic

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efficiency. When land use planning is conceived of in this broad context it becomes clear that the public decisions regarding land use are increasingly being made by output oriented planning institutions such as EPA and not by conventional planning commissions. Output oriented planning institutions can be expected to continue their rapid growth, due to the relative ability of the public to identify with specific instead of general goals; the fact that oblique changes in property rights are more acceptable than direct and obvious changes; and the fact that politicians find it increasingly difficult to make detailed resources use decisions such as those required with input oriented planning.

Current trends in the evolution of land use planning institutions mean that increasingly it is the bureaucrats and the courts instead of politicians who are making land use decisions, and that the distribution of power over land use is shifting from the local to state and federal governments. These developments pose an increased danger that particular planning objectives will dominate to the exclusion of others and that the divergent interests of different localities will not be adequately represented.

The high priority research needs associated with the changing institutional scene include evaluation of the outcomes associated with different institutional arrangements, and estimates of the relationships between land use and quality of life variables. In addition, research planning needs to involve a greater emphasis on determining the data and research results which are most relevant to the decision making process.

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FOOTNOTES

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1. For a more complete treatment of why comprehensive land use planning is an impossibility, with emphasis on the difficulties inherent in the political process, see Libby, (pp.106-108).

2. It is useful to distinquish between land use planning and public land management, where land use planning involves public controls over private lands and public land management involves public decisions regarding public lands. Public land management is essentially a subset of land use planning where the market is rejected in favor of public ownership as a means of land use control.

3. It is important to carefully distinquish between institutions which engage in making decisions about land uses for the purpose of achieving particular goals or outputs (output oriented planning) and those who merely establish rules which incidentally influence land use. For example, tax rules influence land use but the Internal Revenue Service does not engage in land use deliberations. The Environmental Protection Agency, in contrast, engages in both rule making and in deliberations regarding desired land use patterns.

4. This summary of current research emphasis is based on published

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output and inferences which can be drawn from the work of the National Task Force on Research Related to Land Use Planning and Policy.

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