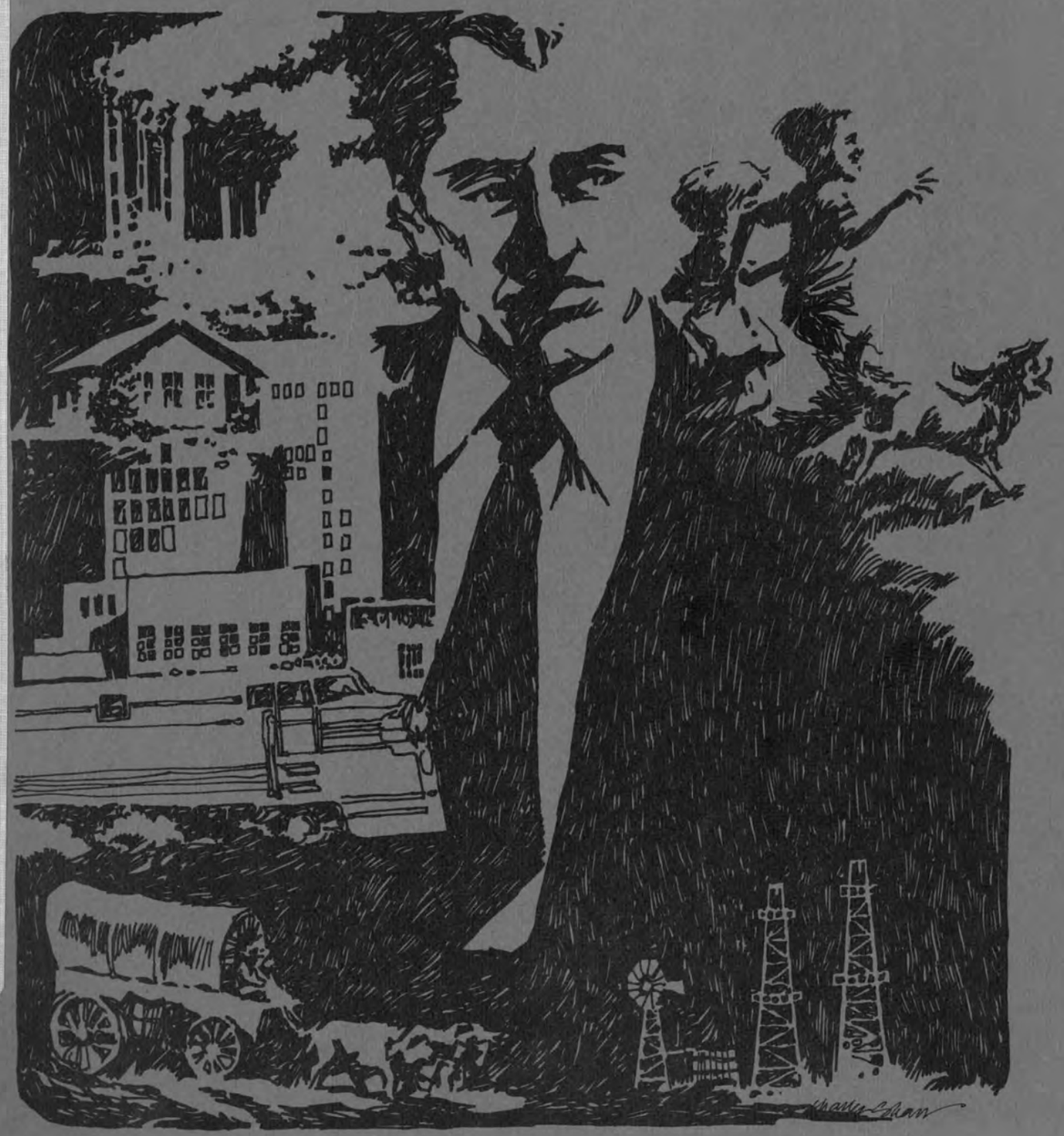
# TEXAS LAND USE

## 5-Needs for the Future



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# TEXAS LAND USE

A

Comprehensive Land Resource

Management Study

Report No. Five: Needs for the Future

Conducted by:

Research and Planning Consultants

Austin, Texas

for

The Division of Planning Coordination

Office of The Governor

# FOREWORD

Throughout its history, Texas has been blessed with an abundant supply of land and other natural resources capable of sustaining a wide variety of uses. This heritage has enabled Texas to grow and prosper in a manner characterized by a diversity of human lifestyles, agricultural capabilities, and business interests which are unique to our nation.

As the State has grown and developed so has the realization that our land resources are indeed finite. There is a need to study various land resource management techniques which may be useful in Texas to preclude or solve certain land use problems similar to those which have been experienced by older, more densely populated and heavily industrialized sections of the country. The seriousness of these problems has resulted in proposed federal legislation which, among other provisions, would encourage the state and local governments to develop planning and management mechanisms conducive to prudent land use practices.

Realizing the importance of these problems and the need for establishing proper land use practices throughout the state, the Governor's Office, through the Division of Planning Coordination, authorized a study of land resource management in Texas. This study is comprised of the following eight technical reports:

* Historical Perspective - A survey of historical developments, trends, and processes in land resource management in the State of Texas.

* Existing Mechanisms - A survey of the legal bases for existing land resource management activities in Texas.

* Problems and Issues - A determination of existing and potential land use problems.

* Significant Policies - An identification of existing significant public policies relating to land resource management in Texas.

* Needs for the Future - A determination of the relative need for improving the existing approach or approaches to land resource management.

* Management Approaches - Consideration of alternative approaches to improve land resource management.

* Role of Planning - A study of the role and scope of land use planning as a major ingredient of a continuing land resource management program and as an element in an overall state planning process.

* An Informed Public - Development of recommendations in regard to ways by which to best inform the citizens of the State of Texas about the need for a revitalized state and local role in land use planning and land resource management.

In this manner, factual information and objective interpretation of issues are presented with the expectation that they will provide a basis for action by those private citizens or public officials who will have the responsibility for making land management decisions in the future.

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# I. INTRODUCTION

From the days of the first settlers, Texas has been viewed by its people as a land of unlimited resources. The land itself stretched endlessly in all directions. Energy, in the form of petroleum, was inexpensive and in abundant supply. Water, though relatively scarce in some areas, was readily available in most localities of the State.

Until recently the people of Texas did not have to concern themselves with the fact that these resources were of limited supply. Oil and water shortages were matters of only academic concern until a few decades ago. The need to reconcile environmental quality and economic growth has only arisen in this generation. In short, only since the turn of the century has Texas begun to realize the limits of its resources.

With continued rapid population growth and a sustained desire for a higher standard of living, problems of resource scarcity will become increasingly pressing problems for Texas. These problems, in turn, generate needs:

(1) needs for understanding of the natural, economic and social forces which underlie the problems,

(2) needs for governmental policies to meet these problems,

(3) needs for new and revised institutions to implement policies adopted through the political process,

(4) needs for updating mechanisms to keep policies and institutions consistent with changing technology and social preferences.

## II. THE BASIC NEED:

## A BALANCE OF SOCIETY AND ECOLOGY

Farmers and ranchers have long been familiar with the concept of maximum sustainable yield. This concept refers to the intensity of utilization of land or other resources which can be sustained over long periods of time without damage to the resource itself. This yield may be exceeded for short periods, but only at the cost of degrading the resource resulting to a lower level of sustainable yield. If the income extracted from the resource is to be maintained or increased, the manager must strike a balance between the rate of resource extraction and the sustainable yield.

In the past, Texas has not even approached extracting more than the sustainable yield of its resources, except in isolated cases. The population and available technology were simply not capable of draining so vast and rich a land. Thus, the problem of balance seldom arose above the scale of individual ranchers or unitary oil fields. As the need for balance was not critical, there was no need to involve government in achieving a balance. Furthermore, the people had not realized, because the problem had not presented itself, the importance of balancing society's demands on the eco-system with the regenerative powers of the land, air and water.

However, today, the need for balance is becoming increasingly clear. The population and irrigated acreage of West Texas must be balanced against the annual ability of aquifers to recharge. The location of industry and population concentrations must be balanced against the capacity of the air, land and water in disposing of wastes and supplying a high quality environment. Unless people are willing to accept a lower standard of living, either in monetary terms or in terms of the quality of their environment, it is essential that Texas strike a balance between the location of industry and population on the one hand, and the availability of water, energy and land on the other.

## The Inadequacy of the Market Result

In the past this balance has been left to the free market system; therefore, little action by government was necessary. Relying on the market to accomplish such a balance is based on the assumption that an optimum result for society will be achieved by allowing everyone to act in his own self-interest. While this is true in many instances, it does not mean that the achievement of the overall demands of society guarantees the long term productivity of the ecosystem.

The inadequacy of a purely market solution is shown by what is normally referred to as the "commons problem." If several herdsmen have access to a common grazing area, each one will serve his self-interest by putting additional steers out since each sees his animals as making only a marginal difference. Furthermore, if one herdsman refrains, he has no guarantee his neighbors will not get the benefit of the grass he leaves.

Such a situation will quickly lead to an overconcentration of animals on the land with a resulting deterioration of the land so that its yield in future years is lowered. No balance will be struck short of disaster as in each future year, the herdsmen and their cattle compete for less grass and overgrazing becomes more severe.

The analogy seems applicable to several land use problems currently facing Texas. One additional subdivision or manufacturing plant does not overburden a city, yet the sum of all subdivisions and industries has resulted in urban sprawl with its inefficient provision of public services, deterioration of central cities, and loss of effective management over the development of urban areas. The individual actions induced by the market in this particular situation have served to lessen the well-being of the people. Government, however, as the representative of all the people, is uniquely equipped to provide a balance between individual demands and the ability of cities to remain socially and economically viable, thereby, meeting the needs of the "greater public interest."

One additional acre of irrigated land by one farmer or one additional house supplied with water by a well may have no measureable effect. But, the sum of all the additional acreages and houses results in damage to aquifers, land subsidence and pollution of groundwater. Without proper management through governmental action

to strike a balance between the demand for and supply of water, all users may ultimately suffer.

The desires of the people of Texas as a society are not necessarily identical with the sum of their individual desires. This is especially true whenever a "commons problem" arises. Because of externalities and the need to balance use with long-term supplies of resources, an increasing number of land use questions cannot be satisfactorily answered by the market. To achieve a balance between social and individual desires and to have the natural resources to meet those desires, Texas needs an overall land resource management policy.

## III. COORDINATION NECESSARY TO ACHIEVE A BALANCE

Land is the locational matrix within which a balance between the supply of resources and human demands must be achieved. The intensity of land use dictated by economics or by governmental action in turn largely determines the intensity of demand for other resources.

This demand for resources is clearly set through trade-offs and an interactive process. Industries have traditionally located close to transportation centers and supplies of inexpensive energy. Similarly, population gravitates to such locations to seek employment. This, in turn, generates more demand for land, energy, water, transportation and other public services. If growth and concentration continue, the society will ultimately encounter a resource constraint in terms of water, land or energy.

Since resources are not unlimited, growth cannot proceed forever on a course of ever-increasing per capita consumption of resources. However, this does not mean society must resign itself to a stable or declining standard of living. Much of the increase in standard of living has come not from increasing resources per capita, but from increasing the benefits that can be obtained from given resources. In other words, present levels of prosperity can be maintained as readily from increasing the efficiency with which resources are used as from increasing the total resources available for current use.

Thus, achieving a balance between Texas' resources and the demands of its people means encouraging the efficient use of available resources and curtailing practices which might diminish the long-term availability of resources through degradation of the resource base. This balance is necessary if the people of Texas are to achieve the standard of living which can be accommodated by the State's resource base.

The rate of utilization of important resources found in given locations can be properly managed by the regulation of the type and intensity of activities found in these locations. For this reason, a land resource

management policy is essential to any state effort in this field. Utilizing this tool, the State and its political subdivisions have the potential, when necessary, to influence the locational distribution of employment opportunities, residential development, energy sources and public services. Through this influence Texas can protect the resource base while bettering the standard of living of its people.

## IV. TOOLS AVAILABLE TO ACHIEVE BALANCE THROUGH LAND RESOURCE MANAGEMENT

Many people may not recognize land resource management as a tool to improve their well being but rather as just another instance of increased government regulation of individual action. Land resource management, however, is not a new management tool for government. State and local government, for example, have long influenced land use decisions through provision of public services.

The massive decentralization of individual cities over the last thirty years was made possible by the construction of highspeed roads and streets by various units of government. The decision to build extensive primary, secondary and farm-to-market roads has probably had more impact on the pattern of urban growth and the location of employment than any state regulatory powers.

Various levels of government have further influenced land use through construction of reservoirs to provide local water supplies. Population shifts have also been effected through construction of state hospitals, colleges and other facilities which draw people to small towns or deter their emigration to metropolitan centers.

Although state and local governments have seldom viewed these actions in the context of land use policy, the effects of locational decision regarding infrastructure and state enterprises do exist. Such decisions shift population either by changing the economics of certain locations for industries or by directly providing employment. State and local governments do not need new powers to influence the intensity of land use through the location of employment opportunities, but rather they need the understanding and will to coordinate their own land use decisions to help achieve a balance of resources and population in the various sections of the state.

This power to influence the balance between population and resources through provision of public services is often inadequate to meet specific situations.

State spending cannot be geared solely to this concern. Further, state expenditures are not large enough to exert detailed control when small but important areas or developments of state concern are in question.

For these reasons, state authority to influence land use patterns needs to be supplemented by providing limited power to regulate land use if land resource management is to achieve the desired balance. Any such regulation would clearly be the exception and not the rule in making land use decisions--to be used only where the private market proves to be inadequate. The State has an excellent opportunity, in the future, to use its expenditures and persuasion to yeild a result consistent with the overriding state need for a long term balance between resources, population and a desirable standard of living.

# V. NEEDS TO ACHIEVE A BALANCE BETWEEN SOCIETY AND LAND RESOURCES

Most land use problems of Texas are but symptoms of local imbalances between society and the ecological system. Without action, these are not likely to disappear. Moreover, in most cases increasing demands on natural resources will cause these imbalances to spread and grow more severe.

The people of Texas cannot move overnight to restore and maintain resource balances. Restoration requires coordinated action by many branches and levels of government. The need for coordinated action means not only the unification of land use policies, but the restrictions of the powers and organizations of state and local entities to deal with complex ecological and economic forces.

There is no absolutely "correct" rate or manner in which Texas should consume its land and other resources. Resource use can only be evaluated as "efficient" or "equitable" in light of the current ordering of social priorities and the capabilities of current technology. Thus, there is a need to keep land resource management policies politically and technically realistic by structuring policy-making institutions to be sensitive to the state of knowledge and the changing preferences of society.

These considerations can be restated as four general needs Texas must satisfy to obtain long term balance between the population and the land resource base. They are:

(1) An understanding by the people of Texas and their elected officials of the need for ecological balance to maintain and raise the income and quality of life of the average citizen.

(2) Coordination by state government of policies on transportation, energy, water, industry and residential development to achieve a balance between Texas' population and its resource base.

(3) Restructuring of governmental entities, their powers and jurisdiction, at state and local levels, to facilitate policy implementation for land resource management.

(4) Creation of mechanisms in government to keep land resource management policies and institutions consistent with changing technology and social preferences.

## Summary

Theoretical implications are useful intermediate products of a thought process, but they are seldom so specific as to provide a detailed agenda for implementation by either the public or private sectors. To attract the attention of the Legislature and those serving in State agencies, these generalized needs must be closely related to the clear and specific needs created by current imbalances. This melding of the general problem and its specific manifestations is the subject of the remainder of this Report.

# VI. THE RELATION OF GENERAL NEEDS TO CURRENT PROBLEMS

The "Problems and Issues" Report of this study categorizes Texas' current land use problems as those of:

(1) Urbanization

(2) Water Resources

(3) Energy Resources

(4) Transportation

(5) Recreation

This Section takes each problem category and examines the needs for understanding, coordination, restructuring and mechanisms for change presented by each. As indicated in the preceeding section, most of these problems are the result of an imbalance between the resource base, the human population and social preferences on style and standards of living. Thus, in general, the needs are to understand:

(1) the nature of specific imbalances;

(2) the means of restoring the balance;

(3) the state, local and federal policies which affect the balance;

(4) the restructuring of institutions necessary to bring coordinated governmental action to bear on the problem;

(5) the information channels necessary to detect the formation of new problems and imbalances through changing technology and human desires.

## Needs Related to Specific Problem Areas

### Urbanization

Society is just beginning to fully realize the complex relationships which exist between the location of employment opportunities, residential development, water supplies, energy sources and transportation networks as they relate to the growth and decay of urban areas. Urban areas have specific growth characteristics which must be kept consistent with the natural resource base. Many of the dynamics of cities are subtle and unrecognized. The nature of these dynamics has often led to ineffective or undesireable government actions producing effects far different from those intended by their advocates.

The influence and regulation of locational and developmental decisions are perhaps the most direct means of maintaining natural, economic and social balances in urban areas. The location of employment opportunities ultimately determines the distribution of population. Government can control such location in a gross way through the pattern of transportation development, control of power plant locations, water development, and other similar actions. More directly, government can restrict, through regulation, the locational options allowed to new developments. However, before any control is applied there is need for government to understand the effects which may result from manipulation of locational variables. Another major determinant of residential location is the pattern of local political subdivisions. Such subdivisions are important because of the differentials they create over relatively small areas in terms of taxes, public education, building costs and land use policies. Any attempt by state government or local bodies to maintain balanced urban growth requires an understanding of the effect of actions taken by these subdivisions on the growth and decay of cities.

Cities are ultimately limited in their population densities and absolute size by the availability of land, water and energy to create employment opportunities and service the population. None of these resources are ever absolutely unavailable. All are available at some price. However, society must make some determination of just what price it is willing to pay to sustain population concentrations in water or energy short areas. Further, before it makes transportation and other investments which encourage growth in certain areas, society, through government, needs to evaluate the costs of such growth

in terms of waste disposal and the provision of water and energy. It may be that there are optimum sizes and densities for a given urban area determined by the capabilities of its land resource. The state government needs to understand the economies and diseconomies of urban scale if it is to influence population distributions to achieve viable urban communities.

Water Resources

In many areas of the state water shortages already threaten to limit growth in population or agricultural production. There is a pressing need for the state to adopt a policy of water and land use in water short areas to produce a pattern of urban and agricultural development which can be sustained without damage to the water source or to the land.

Another danger to stable water supplies is the potential pollution of aquifers from surface development taking place in recharge areas. This interaction of surface and subsurface is not well understood at present. There is a need to research this relationship and adopt policies which will protect aquifers without imposing unnecessary hardships on owners of surface rights.

Both of these needs point up the problems which result from the current absence of any policy limiting extraction of groundwater by surface owners. A policy is needed to avoid these problems as well as others, such as subsidence in coastal areas.

There is also a need for greater understanding of the benefits of alternative policies for flood control. A state policy for flood plain management is needed to protect

(1) potential home owners from unknowingly purchasing homes in flood prone areas,

(2) existing and key facilities which must be located in areas subject to flooding,

(3) wildlife habitat, and

(4) to avoid the expense of public works to protect ill-planned developments.

Finally, Texas needs to relate water development policies which supply water to users through dams and

reservoirs to the need to maintain the proper salinity levels of bays and estuaries necessary for continued marine life in the coastal areas.

All of these needs reflect the inseparable relationship between water policies and land management policies. Water, as well as land, is required to support both rural and urban populations. Rational action by the state requires close coordination and unified planning of land and water resources.

Energy Resources

The discussion of needs for understanding urbanization processes has already pointed up the importance of energy supplies in determining the location of industry, population and the demand for land resources. With the advent of nuclear power as a major source of new electric power, the state needs policies to delineate the location of these plants in a manner consistent with desired population distributions.

The large size of these new plants means they will serve more than one locality. Experience has shown that while most people want the benefits of ample electric power, few want the generating plant close by. This type of reverse "commons" problem has slowed planning and construction of electrical plants below levels justified by current needs or demands, or any standards of safety or environmental protection. The State needs to assume a decision-making role to insure that sets of individual localities do not obstruct their own collective well-being.

Transportation

Transportation needs produce many of the same characteristics as energy needs. Both affect the demand for resources by affecting the location of population. Highways and airports have always been planned to reflect established public demands. However, in order to achieve balance between population and land resources, the state needs to adopt policies which will enable it to use transportation decisions as a tool to influence the distribution of population.

Within this context of achieving balance, Texas also needs to understand the trade-offs between higher environmental standards in transportation planning on the

one hand and the costs to users and nonusers on the other. The interests of those located adjacent to a highway have often been subordinated to the interest of those at either end. As public opinion on these matters change, Texas' policies will need to shift as well.

Recreation

The last area of concern set out in the report on "Problems and Issues" is the provision of recreational areas. Here Texas has two major needs. The first is a need to identify and protect unique natural and historical sites for future generations. The second is a need to develop recreational areas close to population concentrations. This second need requires the state to better understand future demands for recreation and to acquire necessary sites in advance of residential development.

Summary

State government is not alone in its need for understanding. Many of the policies implied by land use management may seem to transcend the proper sphere of governmental action in the eyes of many of the people of Texas. Before they will be willing to vote for or otherwise support land use management programs, citizens and their leaders need thorough and complete information on current problems, future implications of these problems, and the advantages of developing the economy in balance with the land.

As the people are informed of problems, alternatives and costs of action and inaction, they, in turn, communicate to their representatives the order of social priorities they desire. Policies must be responsive to human needs for there is no merit in protecting land and other resources apart from their ability to provide utility to man. Therefore, elected officials must understand the needs of the people before establishing land use policies. This need must be met before government can meaningfully take any action on land use.

The needs for understanding the dynamics of urbanization, water development, energy, transportation and recreation as a foundation for a land use management policy can be summarized thusly:

Urbanization. A need to understand the interrelationships of private and public locational decisions and resource policies on the growth and decay of cities.

A need to understand the effect of the pattern of political subdivisions on the growth and decay of cities.

A need to maintain uniform standards in contiguous incorporated and unincorporated areas to prevent undesirable development patterns.

A need to understand the economies and diseconomies of cities of different sizes and densities in the context of given resource availabilities and capabilities.

Water Resources. A need to limit urban and agricultural development to prevent overextraction of groundwater and permanent damage to aquifers.

A need to limit surface development to prevent pollution of aquifers essential to support existing populations.

A need to establish policies limiting unnecessary real estate development in flood plains.

A need to understand the relationship between erection of dams and maintenance of proper salinity levels in gulf estuaries.

Energy Resources. A need to make the location of new power plants consistent with desired population concentrations.

A need to establish state policies for power plant construction to prevent obstruction of the public interest by individual localities.

Transportation. A need to consider transportation as a tool to influence population distribution rather than reacting to present distributions.

A need to evaluate and understand trade-offs between environmental quality and the benefits of new transportation investments.

Recreation. A need to identify and preserve unique natural and historical sites.

A need to anticipate and act on future recreational needs as determined by desired population distributions.

This understanding must extend to the goals of people as well as the technical matters of social and natural sciences.

## VII. POLICY COORDINATION

As was set out in the previous sections, many of the actions of state and local government have a profound effect on the locational decisions of private decision-makers. These actions include:

Location of highways and highway interchanges.

Airport location.

Water development for human consumption, shipping, flood control, recreation, and other uses.

Location of medical, educational and research facilities.

Location of energy supplies.

Taxation of land and real property.

Location of recreational facilities.

Current zoning and subdivision controls.

Some of these policy decisions are made by state government. Other responsibility for decisions is located in a multitude of municipalities and other local governments. Even the responsibility concentrated in state government is scattered through a number of separate state agencies.

Compared to the immediate problems and demands confronting these state and local decision-makers, land resource management may appear as a vague and remote goal. However, the decisions regarding the immediate problems and demands are likely to have more impact on land use than the relatively small degree of direct regulation Texas can be expected to support in the near future. Therefore, the state needs to coordinate governmental decisions in a manner consistent with sound land resource management.

In urban areas, this may mean redrafting statutes on annexation and incorporation. Coordination may require

altering plans for new highway construction to encourage industry and population to locate in less developed areas or in areas contiguous to current development. To prevent decay of central cities, it may be necessary to coordinate transportation policies, taxation policies, eminent domain and manpower training to attract new industry to urban rather than suburban areas.

In rural areas, this may mean limiting the irrigated acreage in areas where water is scarce in order to support larger urban populations. To avoid too large a direct state role in land management it may be desirable to increase county land management powers to at least the current level employed by cities.

However, the most important need for policy coordination is the need to increase the communication and cooperation of local governments in the provision of municipal services and in deciding on the location of developments of more than local impact. Although there are encouraging signs of cooperation in the context of the Regional Councils of Government, narrow self-interest is much more the rule when the essential interests of a municipality are involved. Perhaps this need may be better stated as the need to obtain results as if municipal governments operated to achieve state and regional goals. Therefore, the question of whether the need is met through voluntary cooperation, restructuring of local government, or state preemption of decision-making is left open.

With the establishment of Interagency Councils, communication at the state level has improved significantly; however, the commission form of government coupled with a relatively weak executive branch has resulted in a series of semiindependent agencies rather than a government with unified actions. Texas needs some means to insure improved coordination of agency policies and actions relating to land resource management.

## Need to Restructure Institutions

Policy coordination is in large part a matter of information flows and the allocation of decision-making powers within institutions. A lack of policy coordination indicates that these channels and powers are not arranged to deal effectively with current problems. In order to facilitate information flows and decision powers, Texas needs to consider adjusting institutional arrangements along new functional lines and the creation of new powers

in state and local government to make decisions which now require the voluntary agreement of many parties.

At the state level, some entity will need to be given the authority to make decisions necessary to plan and administer a broad program for Texas land resources. This will involve some ability to require coordination among existing agencies as well as additional power over private decision-makers. There are several ways this might be achieved. The redefinition of the relative powers of agencies and the Governor through constitutional revision is one. The vesting of regulatory and review powers in an entity charged with land resource management responsibility is another. The selection of a specific alternative is not the concern of this report. Some alternative to the present system is needed to meet the institutional requirements of policy coordination.

The needs for institutional restructuring at the local level are even more complex than at the state level. In some cases there is a need to make decisions on the basis of regional and state goals rather than on single municipalities. In other cases, such as in unincorporated areas, there is a need simply to give some level of government the power to make land management decisions to prevent substandard and imbalanced uses of land.

Again, there are many alternatives for restructuring which could meet these needs. This subject is examined in the reports on "Management Approaches" and the "Role of Planning."

## Need for Mechanisms to Change Policy

When most of the present institutions relating to land resource management were established, the pace of change was much slower than it is today. This is true both as regards technological change and changes in social priorities. Because of the previously more stable situation, little consideration was given to the abilities of these institutions to adapt to meet changing policy needs.

This type of system, however, does have some merit. A man that sets out to build an automobile that can be converted into an airplane twenty years hence may end up with an overly expensive car to begin with and an inferior airplane in the future. Organizational design holds the same flaws. The best way to meet the problem is not to attempt to design an operating institution to

meet all needs of all generations, but to construct the institutions in such a way that they are flexible and are responsive to public pressure.

Any set of institutions charged with responsibility for managing the balance between populations and their land resource base must be sensitive both to changing technologies and to changing social priorities.

Texas needs institutions capable of analyzing the effects of technological change and altering incentives and regulations so that a high standard of living can be maintained, while at the same time, guaranteeing long-term protection of the resource base. In urban matters this requires sensitivity to the choice of transportation modes, the performance standards applied to buildings, and the mix of land uses. In rural areas techniques of irrigation, dry farming and more intensive utilization of land merit similar attention.

There are many sets of public and private goals consistent with protection of the resource base; however, there is no single set of goals the state should arbitrarily force on its people. The only way to decide which are the most appropriate sets of goals consistent with resource maintenance is through the political process.

It has been a common pattern for governmental bodies to try to enforce policies long after the reason for their existence has disappeared and most people have forgotten the original rationale for enactment of the policy. One need only look to the common law of property to find numerous examples of such policies. Such anachronisms seem to occur most frequently in bodies relatively isolated from the political process. This is perhaps the major reason it is essential that institutions charged with land management policies be open to the pressures of the political process.

To insure management policies meet current problems and not the problems of a long-forgotten time, Texas needs to insure the decision-making process for policy coordination on land management questions are responsive to social dynamics as translated through the political process. Removing policy-making from this process makes land management a captive of the dead hand of the past and of those interests who benefit most from an anachronistic status quo.

# VIII. CONCLUSION

Present institutions are being asked to implement policies and solve problems their designers never envisioned. The need for land resource management is a result of problems which were rather rare only a few decades ago. To properly manage the land so as to achieve a balance between land resources and the demands of the citizens of Texas requires new understanding of the effects of governmental action on the part of the citizen who will benefit by improved management. This understanding will bring forth a need for policies which cut across existing geographic and functional divisions of governmental entities at state and local levels. The need to implement thoughtful policies of land resource management presents an opportunity for state, local and private decision-makers to engage in a creative reordering of institutional arrangements to serve the public interest of the citizens of Texas.