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THE NONURBAN ENVIRONMENT, POLLUTION, AND THE QUALITY OF LIFE

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The rubric for this discussion stakes out a large domain. At the outset we need some framework which indicates the relationships among the various areas of concern to help us develop responses that are both consistent and coherent. Often any resource allocation or planning problems arising in rural areas are thought to be manifestations of agricultural activities and events, and the nonurban environment still tends to be regarded as the "agricultural sector" concerned primarily with the production of food and fiber. This framework simply is inadequate. It neither corresponds to contemporary realities, nor does it provide the breadth of scope needed in searching for efficient and equitable responses to the new forces on the rural scene of this country.

Today agriculture represents only one use of the nonurban environment. Demand for nonagricultural goods and services has been growing rapidly and is causing changes in rural land use practices. The demand for such nonagricultural uses as recreation, second homes, and the protection of aesthetic or historical features in the landscape is large, and is growing more rapidly than demand for rural environment use induced by the markets for food and fiber. This fact needs to be reflected in our public ground rules for agriculture and for land management generally. When the promotion of agricultural use is directly competitive with other uses, we can no longer simply invoke a presumption in behalf of agriculture. Its impact on the quality of the nonurban environment from the standpoint of other uses must be assessed, and reflected in the policies and programs of public agencies.

Some of these connections between agricultural practices and the quality of the rural environment are obvious and fairly widely recognized. For example, the adverse side effects of certain pesticides on other claimants to rural resources are well known. Less prominent, but no less pervasive, are subsidized agricultural practices which preempt rural environments from other, nonagricultural uses. For example, recreation and scenic amenities are often eliminated by river impoundments for irrigation water, for which economic rationale would be weakened, if not demolished, were world market commodity prices used in the calculation of irrigation benefits. Another example

of such connections between agriculture and other environmental uses would be the drainage of “potholes” in the Upper Midwest which formerly provided important perching and resting areas for waterfowl in the midcontinental flyways. Here, ironically drainage is subsidized through ACP payments, while the acquisition of additional wetlands—sometimes secured under lease from farmers—is financed by public wildlife or fish-and-game agencies.

What are the consequences of these multiple demands upon the same environmental base; of competitive production interrelationships; and of environmental uses which entail major external costs? While we do not know the full specifics of these consequences, we do know that our rural resources will not be used efficiently unless these consequences are taken into account in some fashion by our agricultural and land use policies.

On the practical level there are several things we can do—even though we must labor under the handicap of highly incomplete information. We can try to identify the principal competing demands for the rural environment. We can try to identify alternatives to current agricultural and other land use practices which might be less pre-empting of the environment for other uses. If this is not possible we at least should be able to identify where major “crunches” are likely to occur and think hard about programs and policies which might be helpful—even though they may take the form of moratoria until we can learn more about these competitive confrontations.

This would represent a substantial accomplishment, for generally we do not perceive problems until they pain us. Even then, we may go through a period during which apologists for the status quo endeavor to convince themselves and others that all is well. Given the increasingly rapid rate at which broad changes in environmental use can occur, time is of the essence in securing the kind of information indicated above and using it as the basis for specific public action when existing allocative mechanisms are found to be inadequate. The story of strip-mining and of chlorinated hydrocarbons provide cases in point.

When once these environmental problems are perceived, we have a great tendency to plunge into programs and policies without an adequate underpinning of fact. This tradition of “ignorance in action” usually entails some energetic experimentation with different kinds of policies, but often establishes precedent and momentum difficult to reverse if we subsequently discover our policies were pointed in the wrong direction. It is the responsibility of agricultural extension and other groups serving our nonmetropolitan communities to identify

significant conflicts in rural land uses—either existing or potential—and to stimulate research on alternative ways in which these situations can be managed. Rarely will we have unequivocal answers, but we can make a systematic effort to be as well informed as possible before lurching into policies.

Let us now move on to issues of pollution. This is perhaps the main focal point of contemporary environmental concerns. There is good reason for the central position pollution occupies in our minds and newspapers—it is with us and exacts high costs. Often it is discussed in a partial context, and policy recommendations derived from such discussions generally are less than fully effective. For example, in many public jurisdictions, including the federal, water pollution is recognized and an agency is established to reduce it. Similarly, air pollution is recognized as a scourge to contemporary society and an air pollution control authority is created (at the federal level within an entirely different agency). In a similar fashion an office of solid wastes is studying ways in which pollution in that form may be mitigated. If we recognize pollution as the presence in the environment of certain substances—usually waste materials of some sort—in an objectionable quantity or form, we can see readily that a reduction of pollutants in water may simply shift the pollutants from the water into some other part of the environment.

Public efforts to eliminate air pollution or water pollution may thus simply shift the problems around with little or no net improvement. On the other hand, if the problem is cast as one of managing the generation and disposition of waste materials, new options become apparent. Wastes are created in production and consumption activities and their volume can be reduced by modifying production and consumption processes (for example recycling of material or reduction of packaging), or making the goods produced more durable.

Also, the natural environment does have a limited capacity to assimilate wastes without adverse consequences. It clearly is a resource in the same sense as minerals, timber, or good soil, and should be allocated efficiently to competing production and consumption activities. In some limited instances we can increase the assimilative capacity of the environment—for example, this is done in river systems through augmenting their natural flow so they can handle larger levels of biological oxygen demand. Once the assimilative capacity of the environment has been exceeded, plant and animal life suffer harmful effects, and we have pollution in a practical sense.

Now within this scheme of things we have several options: (1) we can produce and consume in a way that generates less waste ma-

terials; (2) we can manage our waste materials (dispose of them in solid, liquid, or gaseous form) so that the total assimilative capacity of the environment is efficiently utilized; (3) we can geographically isolate waste-producing activities in parts of the environment where nobody is around to be harmed; and (4) we can to a limited extent increase the capacity of the environment to assimilate wastes.

The fact that we have exceeded the assimilative capacity of many parts of our natural environment—especially in our urban areas—raises particular issues for managing and organizing our rural environment. For example:

1. Fertilizer and pesticides are believed to be harmful to the environment. To what extent can they continue to be used without posing a pollution problem? What social control measures could be invoked to mitigate the pollution problem? How can agricultural production processes be adjusted to “compensate” for bans or limitations placed upon pollution-causing agricultural inputs? What will be the impact of such bans, prohibitions, or controls on real production costs of principal U.S. agricultural commodities?
2. The urban environments suffer most from pollution and associated congestion. One alternative response would be to locate in the rural areas highly polluting activities which provide goods or services needed in urban areas—for example electric power generation with its thermal and sulfur dioxide pollution. To what extent would a national trend in this direction require new controls on land and water use in rural areas to prevent simply a “displacement of pollution” to less populated areas?
3. With the length of the work week declining and disposable income and leisure time increasing, many Americans are establishing second homes in rural areas. These communities tend to have peak population during the summer months and often impose on a relatively small, nonaffluent rural community high costs for services to the summer residents. Are policies needed or available to protect these communities from a seasonal cycle of boom-and-bust, and to distribute more equitably the costs of social services?
4. In a more direct and immediate effort to escape the often high-pollution of urban areas, the central city is being abandoned for the suburbs, with a consequent rapid conversion of land from rural to suburban uses. Special problems arise in such situations due to rapid increase in land values. What kinds of

policies will result in the efficient transition of land use to higher valued uses without excessive displacement of rural activities and land use? Associated with this is the whole problem of how rural amenities can be preserved in the subsequent suburban use of presently rural lands. This is especially important when open areas have a potentially high value for park and recreation purposes, or when farm abandonment in the face of property tax increases results in open fields reverting to scrub trees or bushes.

We have touched very briefly upon two of the three topics suggested in my assignment—namely, the relationship between agricultural and nonagricultural uses of the rural environment, and problems of pollution which create a need for policies in the rural environment. Questions of the quality of life are directly related to these two topics, and perhaps pose a more direct challenge to agricultural extension.

The term “quality” signals a dramatic shift in the type of problems with which contemporary America is faced. Previously, we tended to think of the environment as providing inputs for the production of goods and services, and much research effort was focused upon questions relating to the adequacy of their supply. Now a far subtler and more pervasive set of environmental problems are confronting the country—namely, those affecting the quality of life. The phrase enjoys broad popularity; its place in news media and political platforms seems well established. Clearly it suggests a condition of life or a context for living (as distinct from a “living style”) which the public values highly yet which traditional planning and management have not adequately provided. In some way our old notions of resource management and environmental planning have not embraced what we now refer to as the “quality of life.”

The very words suggest ambiguity and a lack of specificity. This in itself poses a challenge to discover or develop local institutions through which communities can determine the actual conditions of their life, the quality standard they would like to achieve, and how much they are willing to spend to improve the quality of their immediate environment. These decisions are very difficult to reach, but cannot be avoided if a community is to plan for an environmental setting it wishes.

The most important aspect about these questions is that with the exception of measuring existing conditions, these questions cannot be answered by an expert's analysis. In the past many community environmental problems—for example, those relating to developing an

adequate water supply or even recreation systems—could be analyzed by an expert and a reasonably efficient program prescribed on the basis of such analysis. Questions involving the quality of living can only be answered by the community which perceives its own existing environmental conditions and can assign a value to their improvement. In short, any institutional and organizational effort for coping with quality of the environment or quality of life issues must at the outset arrange for direct participation of all parties concerned in prescribing desirable programs of environmental management.

That we are not familiar with problems of this sort may explain some of our frustration with existing institutions which were designed initially to execute environmental programs devised by experts outside the community. The term “participatory democracy” is more than an idle political slogan; it reflects the very direct and acute need for community institutions which provide forums where perceptions of the quality of environment can be discussed and debated by members of that community. Such a process may well entail the modification over time of early perceptions, but it should lead toward a common understanding of what elements of quality are important to that particular community.

A similar type of forum is needed if the community is to decide upon its quality targets. If the immediate issue is a river with low levels of dissolved oxygen, how many parts per million of dissolved oxygen does the community wish its river to have—three, four, or five? The community, of course, needs to know what these different “qualitative levels” really mean in terms of activities each level would make possible. Recently the Philadelphia municipal area made such decisions about the Delaware River. In that particular instance a referendum was held to establish a water quality target—and at the same time determine how much the community was willing to spend in order to achieve the higher level of water quality. The levels of boating, fishing, and other water-based recreation which would be possible at different levels of quality were presented together with the price tags of achieving those levels of quality.

I submit that communities throughout the country will face an increasing number of important questions relating to the quality of life, and will require ways of meeting together for discussion to reach consensus about the kind of environment the community has, the sort of environment it wants, and what it can do to bridge the gap. I think the Agricultural Extension Service can help these communities, though I am not sure that a traditional extension specialist or county agent can fill the bill. The situation calls for a person who can implant ques-

tions and facilitate debate and rational discussion, rather than a person who can supply the “answers.” Herein lies a major challenge and opportunity for the land-grant university and for agricultural extension. Certainly qualitative problems—how they are perceived and how we respond to them—pose a research challenge.

The growing prominence of “quality” problems suggests quite strongly that extension personnel need skills which can help them elicit from individuals and the community their perceptions of environmental conditions. In short, I think we need to review and possibly redesign some of our curricula in order to produce expertise of this type. Without it we will find ourselves trying to address qualitative problems with obsolete ideas and institutions. If these aspirations for a better quality life in America are stifled, and if we fail to adequately reflect them in public policies and programs, those who hold these aspirations likely will seek relief through confrontation and direct action. Such tactics may produce change, but they too easily can escalate into chaos.