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RESOURCE DEVELOPMENT AND THE PUBLIC INTEREST: A CHALLENGE FOR RESEARCH

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It seems axiomatic that government cannot in any single fiscal period undertake all of the programs and activities that might be justified as worthwhile. Even where ideological questions as to the scope and direction of government programs do not obtrude, schedules and timetables must be set, since scarcities of money and manpower determine feasibility limits at any particular time. Thus a fundamental problem of government is the allocation of resources, the setting of priorities, the determination of emphasis, the making of choices.

It also seems axiomatic that those who espouse and support new government action generally assert that the course they propose is in the public interest. Obviously, no one is likely to sponsor programs which he admits are against the public interest.

Yet there is widespread disagreement over the general content, scope and direction of government programs, and even more over specific details. There is little consensus as to what government should do or why. There is much disagreement as to when and how government should act. And questions of who should benefit, who should pay, and how benefits would be distributed among various sections of the nation are often ignored or avoided. Typically, the nature of the public interest in some program or activity is assumed or inferred. Rarely is it specifically proved or articulated.

The problem of providing standards for appraising public programs and determining the public interest presents a double challenge—to *administration* to develop mechanisms, procedures and institutions for making more rational choices and for setting wise priorities, and to *scholarship* to probe and analyze public programs in order to determine their consequences and to assess the extent to which they fulfill needs and expectations. With respect to resource programs, these challenges are particularly significant.

A. *The Problem Stated*: A recent headline in the *New York Times* announced

"Walden Pond Saved"

and the story went on to state:

> The final skirmish in a legal war to preserve Walden Pond in its natural state brought victory this week. . . . The dispute arose three years ago when the [county] commissioners leveled an acre of wood-

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> land to provide better access to a public beach area where Red Cross safety programs are conducted in the summer. A group known as the Save Walden Committee took legal action to halt the work. . . .[1]

To those who value America's historic heritage, who regard Walden Pond as a symbol of wilderness solitude, and who yearn for a simpler agrarian America, the saving of Walden Pond from intensive use was a victory for the public interest. Yet what of the interests of those who want to swim, who want to learn Red Cross life-saving techniques, who want a place where they and their families can picnic and play? To them, perhaps, this action was a defeat for the public interest, reflecting typical judicial bias favoring the few against the many.[2]

Although purporting to rest upon determinations of the public interest, more typically than not, legislative enactments reflect mere assertions, the phraseology hiding many problems and obscuring difficult choices that are then left to those who administer the statute. For example, when Congress created the Outdoor Recreation Resources Review Commission the preamble of the statute stated its goals to be:

> To preserve, develop, and secure accessibility to all American people of present and future generations such quality and quantity of outdoor recreation resources as will be necessary and desirable for individual enjoyment, and to assure the spiritual, cultural, and physical benefits that such outdoor recreation provides.[3]

But what does it mean to preserve and develop? How is accessibility to be measured, especially in contemplation of *all* the people now and in the future, a future which within a century could involve a population of 600 million at present growth rates. How take into account the tremendous range in population densities among the various sections of the nation? What about travel and vacation habits and preferences, income and other determinants of recreation patterns? What resources are necessary? Which ones desirable? How are they to be compared? By what criteria? Where should recreation developments be located? How are spiritual, cultural, and physical benefits measured? How assured? What if they conflict, as in the case of Walden Pond where cultural benefits and access benefits apparently cannot be reconciled?

More recently (on February 23rd) President Kennedy sent to Congress proposals for a vast expansion of programs to develop America's natural resources, asserting that the policies of the previous administration had been inadequate

1. N. Y. Times, Mar. 26, 1961, p. 22, col. 1.

2. It might be noted, interestingly, that although Massachusetts, when still a colony, reserved title in the so-called "Great Ponds" in the state, this foresight (obviously not in contemplation of the automobile and the population pressure of 180 million people) did not include provision for public access. As a result in this and many another state, questions of public access to recreation resources are among the most difficult pressing for solution.

3. 72 Stat. 238, 16 U.S.C. 17 (k) note.

and had resulted in the postponement of many necessary and desirable projects. The President's message was remarkable because of the range of proposals after but one month in office. Clearly these were not the result of careful planning and judicious determination of need by the new administration. They could hardly have reflected an integrated and coordinated approach either to the nation's economic or resource problems. There is every reason to suspect, rather, that items listed by the President were the pent-up requests of agencies and interest groups that in the preceding years had not received what they felt was their due. A cynic might perhaps have commented that the message seemed to have in it something for everyone—at least for everyone among those groups and interests which in past decades have been concerned with resources and conservation activities.

Thus, although asserting that the proposals were in the public interest, the President's message, too, raises the question of how the public interest is determined. What standards are available by which to measure the desirability and appropriateness of particular policy and program proposals? How can questions of timing, of costs, of benefits be appraised?

B. *The Political Process in America*:[4] It is generally recognized that American political action is pragmatic and expedient, rather than idealistic and principled. The political struggle is typically concerned with urgent problems and immediate solutions, though these may sometimes be portrayed in generalized terms. Government programs thus reflect particularized responses to the demands of those who have access to points of decision. They frequently incorporate practical judgments of men of affairs who project and interpret their often limited personal experiences as operational universals.[5] Usually absent are long-range, comprehensive conceptions resting on systematic appraisal of data, or rigorous analysis of causes, effects, impacts and interrelationships.

This brief characterization of the American political system and the decisions it produces, leads to several corollaries significant to an understanding of governmental processes in the field of natural resources:

(1) The pragmatic emphasis in American politics intensifies the struggle for influence and favor at the points in the governmental structure where decisions are made, and contributes to the importance and strength of lobbies and pressure groups. But the fact of this struggle often encourages a cynical attitude in which the pork barrel takes the place of the cracker barrel as the symbol of grass roots politics.

4. The most significant recent work on the political process remains Truman, The Governmental Process (1951). See also Gross, The Legislative Struggle (1953); and Political Behavior, (Eulau ed. 1956).

5. The pragmatic aspect of administration is trenchantly described by Long, Power and Administration, Public Administration Review 257-64 (1949). This is also a dominant impression of the description of the Roosevelt administration by Burns, Roosevelt: The Lion and the Fox (1956).

(2) This pragmatic emphasis contributes to a fragmentation of the public interest, and inhibits development of meaningful standards, mechanisms and institutions for determining that interest. Undoubtedly, this partially explains why American political parties are not program or issue-oriented, and frequently express only generalities or platitudes on many questions. Responsible programmatic parties can hardly develop so long as the political environment encourages pragmatic, even expedient responses to short-range pressures of special and local interests, and discourages definition and clarification of comprehensive and long range objectives.

(3) This pragmatic emphasis leads to the convenient assumption that the whole public interest is equal to the sum of partial, articulate, individual, local or other special and particularized interests. In the absence of institutions and traditions stressing public interest conceptions, it is probably not surprising that groups or individuals equate their own advantage and prosperity with that of the nation. But it seems logically dubious to assume an automatic and inevitable coincidence among individual, group and national interests.

(4) Finally, this pragmatic emphasis in American politics has led to the assertion that the concept of the public interest is not useful. Since there are so many conflicting interpretations of the public interest, it is argued that the term merely reflects a common tendency to clothe personal preferences in the mantle of high purpose. It is therefore concluded that objective standards are not available and that government programs and policies will ultimately be the net result of interaction among the groups that make up the American polity.

The point of view identified in this last corrollary has recently been comprehensively re-stated in a monograph by Professor Glendon Schubert entitled, simply, *The Public Interest*. After a detailed analysis of discussion and writing about the public interest, Schubert concludes:

> [O]ur investigation has failed to reveal a statement of public-interest theory that offers much promise either as a guide to public officials who are supposed to make decisions in the public interest, or to research scholars who might wish to investigate the extent to which governmental decisions are empirically made in the public interest.[6]

Unquestionably, this conclusion will be disturbing to officials and scholars alike simply because the idea of the public interest is so deeply imbedded in our rationalization of governmental action.

The justification of judicial action in terms of the public interest is common. Many statutes instruct regulatory agencies to act after determining the public interest. And policies followed by executive branch are generally assumed to be in the public interest.[7]

6. Schubert, The Public Interest 220 (1960).

7. The implicit logical dilemma posed by legislative action in which both majority and minority declare that they voted "in the public interest" illustrates well the analytical problem.

In the normal course of everyday life, too, it is generally believed that what is said and done obviously adds up to the general welfare, and here, of course, a century and a half of economic theory bolsters the idea of an unseen hand guiding individual action automatically along a course which coincides with the public interest.

I. PUBLIC INTEREST AND RESOURCE POLICY

Public resource programs and policies rest on inarticulate premises that they are in the public interest. The mere fact of authorization, almost by definition, is believed to prove the point. Through most of the 19th century, even before conservation or resource policies were clearly identified as such, public action with respect to the public domain, timber resources and minerals were *presumed* to be sound, the concern, more often than not, being with the manner in which these policies were administered, rather than with basic objectives or consequences. Neither administration nor scholarship was concerned with appraisal of these policies and programs.

As the conservation movement became a rallying point for liberals and progressives, Gifford Pinchot, stimulated by his co-worker W. J. McGee, proposed "The greatest good of the greatest number for the longest time" as the standard by which to measure the public interest in conservation.[8] Effective slogan though this may have been, it did not indicate how "the good" was to be measured or determined, how one good might be compared with another, how the greatest number might be identified, whether benefits should be direct or indirect, nor the length of the time span. Pinchot and the conservation leaders at the turn of the century were not particularly concerned with these questions because they felt assured that they knew the answers.[9] The actions they were taking and the programs they were proposing would obviously, in their view, result in the greatest good for the greatest number over time. In any case, Pinchot himself was more concerned with political action than with analytical and philosophical questions. And again neither administrator nor scholar was particularly concerned with program appraisal. It should be noted, however, that in the first decade of the century techniques for analyzing and measuring the consequences of particular programs and data relevant to this purpose were primitive.

A. *Physical or Technical Criteria of Public Interest*: As the role of government with respect to the conservation and development of resources became accepted, particular programs were often justified in physical or technical terms.

Because natural resource programs deal with the physical universe—the stuff of nature—and because program formulation and leadership has often been in the hands of scientists and engineers, physical or engineering criteria have fre-

8. The account of how this principle was developed is recorded in Pinchot, Breaking New Ground 326 (1947).

9. See McConnell, The Conservation Movement—Past and Present, 7 Western Political Q. 463 (1954).

quently been applied as measures of the public interest, with only slight attention to social, economic, or other factors. A brief examination of two areas, in which the development of public resource programs has been extensive, illustrates this tendency to rely on physical standards and suggests some of their limitations as determinants of the public interest. These program areas are soil conservation and flood control.

Although the facts are much more complex, most soil conservation activities are popularly justified in terms of stopping all erosion and saving every ounce of soil.[10] The implied measure of effectiveness is the quantity of soil that is or should be prevented from moving from one place to another. But several qualifying facts should be considered.

A substantial amount of erosion can not and probably should not be stopped. It is a process of nature, essential to productive soils. So long as rains fall and winds blow, mountains and hills will be worn down and valleys filled up.[11] Yet the factor of geologic erosion is often ignored in discussions of soil conservation programs.

It is common, for instance, to deplore that so much of the rich Mississippi Valley is annually being carried to the Gulf of Mexico.[12] But after all, the Mississippi Delta was built up long before white men reached the valley, and the Missouri River, called the "big Muddy" by Indians who used no plows to break the plains and grazed no cattle on the virgin prairie, was dumping its silt load into the Mississippi long before 1492. Scouts and early residents of the Great Plains have also testified to the dust storms which plagued the region when the only land-use was that of the buffalo and the antelope.

No one defends land-use practices which encourage gullying, sheet erosion or soil blowing, *where practicable alternatives exist.* But this is just the point at which the physical measures of erosion and its cures are inadequate, for the tests of practicability are not simply physical but also economic and social.

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10. Soil scientists, speaking professionally, do not make such statements. But much of the pamphlet literature and popular articles suggest this point of view.

11. For a discussion of this topic see Dep't Agriculture, Handbook No. 18, Soil Survey Manual 25 (1951).

12. This point of view is frequently stated. For example, Kenneth D. Morrison, Vice President, National Audubon Society, wrote: "It seems clear that we cannot long maintain our present standard of living if we continue to destroy land as rapidly as we have since 1800. . . . Some 500 thousand acres of crop-land are lost by erosion each year. An average cultivated acre yields from $15 to $50 in newly created wealth each year. Over a century, the return from an acre would be $1500 to $5000—and that acre could still be on the job producing wealth. . . . It has often been said that our civilization rests upon six to nine inches of topsoil. Destroy that layer and we destroy the 'land bank' on which our farm economy depends." From 21 The Voice 1 (March 1956), published by Carlton College.

Contrast this view with that expressed in the Soil Survey Manuel, op. cit. supra note 11, at 268-69: "Erosion by itself . . . means little or nothing. Tons or inches of soil lost through erosion have little general meaning in terms of soil productivity. . . . Many eroded soils were very poor for crops or pasture to begin with. The erosion of such soils does not greatly reduce their capability for use. . . . It cannot be accepted that

In the humid portion of the United States the physically best cover from the point of view of water retention and erosion control would generally be the forest cover which originally blanketed most of this region. Agricultural use, by definition encourages erosion and water losses in some degree, for it means clearing some timber and often also plowing and cropping. Further, commercial agriculture and urban consumption mean depletion of plant nutrients by the quantity in the products that leave the farm. The real problem, thus, is determining just how much erosion and how much mineral and water loss to control at any given place and in any given period. The physical facts must be known, but the criteria that govern are also social and economic.[13]

An oversimplified illustration suggests some questions that require consideration. Imagine a forty acre farm on a steep hillside in the southern Appalachians. On purely physical standards of soil preservation it should have been left in trees. At its highest level of productivity it does little more than feed a mountain family at nutritional standards below those considered desirable. After a number of years of cropping, erosion takes it toll, the farm is abandoned, the family moves to Detroit, and the land returns to trees. How much has been lost from the productive base of American agriculture by this process? Certainly there are complex human costs and social problems involved. But current soil conservation programs neither deal with these, nor are their justifications put forward in these terms. From the point of view of land policy, how much effort, how many public dollars should be spent to conserve the soil on this hypothetical forty acre farm? Should it be kept in farm use or abandoned? Physical data can supply only a small part of the answers to these and similar questions which become critical in relation to allocation of public resources (money and manpower) and setting priorities for public activities.

Another program area which illustrates some of the limitations of physical criteria as guides to public action is flood control, where concepts of engineering

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even dramatic-appearing erosion has destroyed the soil for crop production unless it has been established that the soil was suitable for crops before it was eroded. It may originally have been suited only to forest and may still be well suited to forest with proper management, even after it is eroded. . . ." See also Simonson. The Soil Under Natural and Cultural Environments, 6 J. Soil & Water Cons. 7 (April 1951) who concludes: "Looking broadly at the changes in soils following their shift to a cultural environment, we should be hard pressed to prove that the net result had been either good or bad. . . . We can say that we could have used many of them better, both for our immediate purposes and for the future, had we known more about them. . . . Someone looking back upon our handling of our soils from a vantage point in the distant future may well find that our stewardship on the whole was good."

And see Simonson, Changing Place of Soils in Agricultural Production, 81 Scientific Monthly 173-82 (Oct. 1955); and Kellogg, Conflicting Doctrines About Soils, 66 Scientific Monthly 475-87 (June 1948).

13. Dr. Charles E. Kellogg, U.S. Dep't Agriculture, Chief of the Soil Survey, has stressed that an impoverished, troubled people pass their sufferings on to the land. By this he means that the root causes of most bad land management are social and economic. See Kellogg, Soil and the People, 27 Annals Ass'n Am. Geog. 142-48 (Sept. 1937).

feasibility have tended to dominate public policy decisions, and where the idea of an Engineering Board of Review in the Office of the President is often proposed as a mechanism for resolving policy conflicts.

In the midst of a flood it is easy to resolve that "it shall not happen again" and to trade political support with other communities for more and better flood control appropriations. The analogies of disease prevention, of fire-fighting, of social service are marshalled. And thus stress on the simple problem of eliminating floods by re-engineering the watershed leads to a pattern of policy that says, in effect, everyone is entitled to flood protection, no matter where he lives or works nor how sensible it is for him to be there. The only question is "Do you get flooded"—a physical, engineering standard. In the absence of more discriminating standards, it is not surprising that flood control continues, in the opinion of many, to be the biggest pork barrel operation this country has yet seen.[14]

But like erosion, floods are natural phenomena, and contrary to popular impressions, there is no evidence to suggest that floods are worse today than they were 100 or 200 years ago, except perhaps on small, ocalized watersheds.[15] What has increased, of course, is the economic loss from floods. This reflects the growth of our economy and the fact that cities have been built in flood plains, industries located in flood plains, and railroads and highways constructed in flood plains. Sometimes there have been no alternatives; but often risks have been ignored.[16]

The record of unwise allocation of public resources in the are of urban flood protection is discouraging. But even more serious misallocations may occur under the Watershed Protection and Flood Prevention Act[17] which seems to combine the policy that every ounce of soil should be conserved with the policy

14. For these views see Roos & Maass, The Lobby that Can't be Licked, Harpers Magazine, August, 1949, p. 21; Miller, The Battle That Squanders Billions, The Saturday Evening Post, May 14, 1949, p. 30; Maass, Muddy Waters (1951) and the U. S. Comm. on Org'n of the Exec. Branch of the Govt., 1-2 Task Force Reports (1949) and the Hoover Comm'n—Report on Organization of the Executive Branch of the Government (1949).

15. The most authoritative works on the flood problem are: Leopold & Maddock, The Flood Control Controversy (1954) and Hoyt & Langbein, Floods (1955). Leopold & Maddock state, at 30: "There will always be a flood bigger than the one experienced," and that unless construction costs exactly keep pace with increases in development within the flood-plain, which is not likely, it is but a matter of time till benefits will exceed costs. Then when the flood exceeding the one planned for comes, the damage will be tremendous."

16. Some progress has been made toward eliminating doubtful projects by use of cost-benefit analyses. But the scope of these analyses is in practice severely limited with the result that there is considerable controversy as to who shall do the cost-benefit studies. Leopold & Maddock, op. cit. supra note 15, at 134, discuss some of the limitations of the cost-benefit approach. See also, Wengert, The Politics of River Basin Development, 22 Law & Contemp. Prob. 258-75 (1957).

17. 4 U.S.C. §§ 1001-18 (1959).

that every rural resident is entitled to flood protection. As the promotional literature for this program has asserted: "Wherever you live, you are within a watershed."

Some may shrug and say "So what? So every congressional district gets a flood protection project, or two or three?" Because of allocation of public investment funds to flood control, investment in possibly more desirable and more necessary projects may be curtailed. This again raises the issue of policy standards and how these may be determined.[18]

B. *Economic Criteria of Public Interest*: Resource allocation is the fundamental question of economics and a great deal of economic literature deals with this subject. In the private-enterprise sectors of a free economy, allocation decisions tend to be made on a decentralized basis as a result of the working of the price system, the interplay of competitive forces and the assessment of individual advantage. But when allocation decisions are made in the public sector of the economy, price mechanisms, profit motives, automatic selective processes, are of limited significance.[19]

Some writers have suggested that the political process operates analogous to the economic, voting being comparable to the expenditure of money.[20] It is also suggested that the political struggle among diverse interest groups is like competition among buyers and sellers. Such analogies are useful, but only of limited applicability because the subject matter with which the two processes deal is different. The processes are similar; but the end product is not. Politics is not just another way for making the same decisions. It is not enough to say that the interaction and struggle among political groups will result in a reasonable allocation of resources, for after resources are allocated politically, by government, the economic efficiency question remains..

So long as government plays only a minor part in the total economy, questions of the mis-allocation of resources are probably not of major concern. But today it is no longer possible to dismiss this problem as being of small consequence. The role of government is particularly important in relation to investment, and it is at this point that resource programs become significant because they involve substantial capital investments. It is not size alone, but location, type and purpose of the investment that is important. Some, stressing the group struggle, assume a countervailance among those seeking public benefits, and pay little attention to costs and still less to who bears them, in the expectation that somehow, over time, the equities will work themselves out.

18. For an analysis of the objectives of water policy see Fox, National Water Resources Policy Issues, 22 Law & Contemp. Prob. 472-509 (1957).

19. The literature on economic decision-making in monopoly situations is suggestive in this connection. For a summary see Wilcox, Public Policies Toward Business (1955), especially chs. 1, 30 and 31.

20. A somewhat similar point is made in Dahl & Lindblom, Politics, Economics and Welfare (1953), especially in chs. I and II.

In an earlier period, the amount of revenue available from taxation tended to force a kind of *ad hoc* allocation among competing demands. This control still operates at local and state levels. But at the national level, with deficit financing automatic, program decisions tend to be made in response to pressure demands rationalized in terms of *problems* and *needs,* rather than in relation to tax income. The result is a constant pressure to expand public programs, justified, not in terms of their impact upon the total community, but largely in terms of the *problem* or *need* to which they are the response, the reality of which is often beyond cavil.

The emphasis on *need* and on *problem solving* has a great deal of appeal, but it avoids the issues of allocation, of priority among activities and programs, simply because the problems pressing for solution are endless. Where is there a research worker who could not justify expanding his program tenfold? Who can say that we will ever have all the highways, schools, hospitals, etc. that we need, or that those we now have cannot be improved? Where is there a park that could not be bettered, a forest that could not be more effectively managed, a river course that could not be made more beautiful and useful?

It is sometimes argued that other than economic values govern resource policies, and that therefore economic criteria are irrelevant. Objectives of water development, for example, include social and strategic elements as well as short range goals of operating efficiency. A dominant purpose of federal irrigation programs has always been the creation of new homes (family farms) in arid states. Activities labelled "regional development" have been similarly justified not in terms of their contributions to national welfare and economic growth, but on the basis of the stimulus to the particular regional economy.[21] Substantial parts of current agricultural programs are also rationalized as maintaining an essential occupation, providing homes, encouraging redistribution of wealth, and not simply as contributing to national economic growth.

But labeling something as justified for non-economic reasons does not eliminate its cost to the economy, although the argument that benefits or purposes are social or strategic often has the effect, in fact, of precluding an examination of costs or of alternatives. It is important to know what part of the economy bears the cost, and what benefits are foregone in order to absorb such costs. Also relevant is the efficiency question of whether the cost is balanced by the non-economic benefits, and the equitable question whether cost burdens are properly allocated. The criticism here is not with the fact of non-economic goals, nor with the desire to redistribute burdens in a way that may not coincide with benefits, but rather with the fact that the cost issues are often not faced deliberately, if at all, in many resource programs.

21. For example, dramatic appeals are made for expansion of public power facilities in the Northwest. Forgetting the issues of private vs. public power, these appeals miss the fundamental question of national economic policy, i.e., whether and to what extent the Pacific Northwest should be the location for public investment in general, and in power facilities in particular.

C. *Popular Concepts and Political Action*: The popular literature dealing with resource policy abounds in such phrases as "wise resource use," "resource waste," "balance of nature," "multiple purpose use," and many others. Often, too, public policies and government programs have been justified by the assumed criteria implicit in terms like these. Many phrases of this type are, at best, vague and ambiguous, shifting in meaning as the user or hearer desires. And their use, over the years, has rarely given them greater precision and intellectual content.[22] At the same time, many of these terms have strong moral and emotional connotations which may make them effective weapons in the political struggle, but do not add to their analytical usefulness.

Take as an example the concept "waste." Everyone is against resource waste, but what is waste? Clear cutting of a timber lot, leaving a great quantity of wood in the branches and stumps, failing to salvage bark and sawdust—is this waste? But does it really make any difference if the end product of the harvested timber is a comic book, or even a Sunday newspaper which is read and then cast into the fire? Who in this chain of events committed the waste? Or is it waste to plant corn in contour furrows in order to get bigger yields in order to add to corn surpluses already filling federal storage bins? The point, of course, is that a concept like resource waste by itself is non-operational as a guide for public policy.

Many of these popular phrases are rooted in deep-seated fears and anxieties, related to Malthusian worries about the adequacy of resources. Malthus was, of course, primarily concerned about food, and neo-Malthusians continue to write books with scare titles such as "Food Enough," "Food or Famine," and some, who have broadened their perspective, talk about "Our Plundered Planet" and "The Road to Survival."

In all of this literature there is an immediacy—an urgency—which the facts do not warrant.[23] From the viewpoint of public policy, this urgency has, however, become part of the frame of reference of many pressure groups seeking conservation action.

Problems of resource adequacy cannot be disregarded. But they are far less immediate than many suggest. The world is not going to wake up some morning and, like Mother Hubbard, find the resource cupboard bare.

In this connection, resource and conservation literature stresses preserving resources for future generations. Yet rarely is there any indication of how far into the future such responsibility extends. Skills for looking twenty-five to fifty years into the future have improved, and there is little evidence that resource shortages are going to be a major factor limiting U. S. economic growth in this

22. Some of these terms are analyzed in Wengert, op. cit. supra note 16.

23. Although sometimes cited as supporting the urgency argument, a close reading of The President's Materials Policy Commission, Resources for Freedom (1952), indicates quite clearly that the problem of shortages is a long-range problem. See also the interim report on resources and national growth research in Resources for the Future, Inc., Ann. Rep. 62-70 (1956).

period. But what about 100 or 200 years from now? No techniques now available permit a forecast of the shape of the world that far into the future.

In any case, most proposals for conservation of particular resources would really add only infinitesimal quantities to the long-run future supply. If conservation of a particular mineral would add ten years to its availability, is this significant? The American supply of natural petroleum may run out in fifteen to 100 years. So what to do? Travel less? Increase fuel efficiency of gasoline engines? Cut down horse power and prohibit Lincolns and Cadillacs? Institute a rationing program? How much petroleum would thus be saved? And saved for what end? Where in the picture do synthetic fuels fit and where atomic energy? Would it be better to seek substitutes, developing technology and science, than to spend energy trying to restrict oil use?

Because most resource problems in the United States have *not* been immediate nor pressing, public attention has been low. Hence a perennial question has been how to gain public support for resource programs. The pragmatic character of the political process itself and the fact that the support base for most resource programs is narrow, the size of the groups immediately affected small, and the clientele interest particularized, has intensified this support problem.

It is normal in a democratic society to use generalized and evocative symbols to stimulate group support. In the process of political communication, precise, scientific terms often take on symbolic overtones, and colorful phrases are loosely applied. In the area of resource policy these tendencies may perhaps be exaggerated. But recognizing this situation certainly does not solve the problem of defining the public interest or of program evaluation.

II. WHAT OF THE PUBLIC INTEREST?

The analysis to this point has suggested that the label "public interest" is often loosely used and uncritically applied. In many cases, it merely serves as a rationalization of personal preferences or group advantage. It has also been suggested that many standards and criteria applied to resource programs are inadequate and often partial and over-generalized, serving more to rationalize particular actions than to provide a basis for appraisal and evaluation. Doubts have also been expressed as to the viability and operational validity of concepts of public interest, particularly as applied to natural resources programs and activities.

Should the concept of the public interest, therefore be rejected? Is it impossible to develop standards for choosing between alternatives, for assessing consequences? What is the role of the scholar in this regard?

It is one thing to admit that efforts to date to give meaningful content to concepts of public interest have not been successful. It may be conceded that stand-

ards for appraising resource programs have not been adequate. But to deny that government programs have effects which can be studied, measured and evaluated in terms of advantage and disadvantage to the nation generally, is to deny the possibility of any scholarship.

By means of logical analysis and rational calculation, costs and benefits can, in fact, be identified, and impacts and consequences of particular programs assessed. Sometimes only inferences or approximations are possible. But to deny that there may be better decisions and poorer decisions, that some actions might affect the nation adversely and others favorably, and that these facts can be determined, would seem to leave nothing but a trust in benevolent fate or victimization by inexorable processes of history.

To be sure, analyses are only as good as the data on which they are based.[24] Selections and interpretations must be made; and these may be in error. They may be distorted by the values and personality of the analyst. But personality is neither a random factor nor is it uncontrolled. Values involve intensity ranges; some held more firmly than others; some having greater influence than others; some more widely recognized than others. And values too may be altered by reason as well as by propaganda. In varying degrees, of course, analyst and decision-maker both are system bound. There are built-in conditions that set limits to or distort appraisals of government programs. But here, too, we are dealing not with infinity, but with a range of possible alternatives.

Those who argue that the concept of public interest is meaningless have been caught in a nihilistic trap which destroys by implication the value and validity of *any* standards and of knowledge itself. If the public interest is meaningless then the idea of group or individual interest also is meaningless and for similar reasons. There is, of course, a distinction between what an individual thinks is in his interest and what is in fact in his interest, given his values and desires. But the problems of measurement, of data availability, of precision, of foreseeing the future, should not be confused with the viability of the concept, or the necessity of making choices on the best possible (most rational) basis.

The operational definition of the public interest will never be an easy task. It is not something that can be settled once and for all. It is not an idealized concept, the meaning of which can be captured in a few general phrases. Rather, it is a changing concept, for values and goals of society do not remain the same, and the knowledge and ability to analyze programs and policies grow. The concept is nevertheless a conservative one, for it assumes a stable system resting upon generally accepted core values and contemplating only gradual changes, neither drastic nor revolutionary in character. It deals with changes at the margins.

24. See Wengert, Natural Resources and the Political Struggle (1955), especially ch. 3, where the exceptionally difficult problem of projection into the future is discussed.

The usefulness of a concept like the public interest lies perhaps in the search for it,[25] in the effort by administrator and scholar to make explicit the data and the rationale behind particular decisions that are or have been urged as being in the public interest. This permits, among other things, corroboration of the analyses by others, so in place of bald assertions that a course of action is in the public interest, the statement really becomes that a course of action has these impacts (costs and benefits) or those effects, which are consistent with or contrary to the identified aims and expectations. If this view is valid, then the concept of the public interest can be useful to the extent that institutions and agencies are struggling with its identification and specification, and groups and individuals feel it necessary to justify proposed policies and programs in terms of their effects upon the larger public.

Like justice, the public interest is given meaning in the constant striving to achieve it, in the on-going effort to assess the impact of particular facts and to determine effects of particular situations. And similar to justice, the significance of the public interest lies not in the fact that one can state unequivocally the idea of the public interest, but in analysis of programs and appraisals of policies, in critical review of alternatives and systematic assessment of consequences, costs and benefits, causes and effects, so as to permit careful identification and rational weighting of factors considered relevant. In this connection the scholar plays a particularly significant role.

While one may concede that the interplay of power groups is a dominant aspect of the governmental process, it does not seem to follow that the participants in the political struggle are without choice, unable to rise above the narrow limitations of group interests. More reasonable is the assumption that choices for good or ill of the larger society (the nation) and even against the immediate and particular interests of individual, group or community, can be made. No doubt such choices are facilitated by conflicting interests and overlapping memberships. But groups too can respond to reason; they may be persuaded by logical analysis and rational calculation as well as by emotional factors like patriotism. To regard group motivations as solely limited to narrowly conceived interest stimuli is to overlook a great deal of human experience.

Economic welfare is certainly an important element in defining the public interest, and more systematic attention has been given to measuring the economic impact of public programs than to most other factors and elements. Because useful data has been accumulating, and techniques have been developed, it is possible to appraise some economic effects of public programs and thus to decide their advantages and disadvantages, costs and benefits.

Economic assessment is particularly important to resource programs since a dominant objective of such programs is, by definition, economic welfare. In many respects, too, economic costs and benefits provide a kind of common denomina-

25. For a discussion of this approach, see id., ch. 5, The Search for the Public Interest.

tor for program choices. Other dimensions may of course also be significant. For example, esthetic values may be of considerable importance to some resource programs, although esthetic values are difficult to measure.

One can accept the fact that it is not unusual to clothe personal action in the cloak of public interest. But this process of rationalization says nothing as to whether the action may, in fact, be in the public interest. One can recognize that public decisions are the resultant of group interaction and struggle, without settling the question of whether the consequences are good or bad. One need not, however, posit the public interest as some esoteric, eternal principle or set of principles, in order to determine consequences, to assess impacts, to study effects.

Some distinctions may aid in clarifying the problem. One distinction is that of *time*. It is one thing to assess the impact of past action; it is quite another to assess the impact of proposed action. Hindsight is often better than foresight. In both cases the precision of assessment will be influenced by the data available and the technology available for assessment. Both will also be affected by the length of the time span over which assessment is made. Immediate consequences are easier to assess than long-run consequences. Advantages or disadvantages in terms of the day, the year, or the decade may, in the perspective of a century, appear in the opposite light.

Another distinction concerns the *purpose* of appraisal. Analysis of consequences in an action or decision-making context may be different from analysis in a scholarly or research context.

The policy maker, the government employee, is daily confronted with the necessities for decision. Problems of all kinds converge on him, and while he may at times engage in program research, more often than not he must act before all the facts are in or can be gathered. And his frame of reference for decision must include the culture and organization of which he is a part, its history and traditions, and the political and other pressures that have grown up around the programs he is administering. Although he may be dedicated to wise decision-making, rationality for him must include the context within which he operates. Among the important factors in that context is survival for him and his agency. His own personal heredity and environment, values and beliefs, may also be relevant.

The scholar and researcher, in contrast, seeks through research to contribute to the potential rationality of governmental decision. The scholar studying governmental natural resource programs and activities is particularly interested in accounting for existing conditions and events and in suggesting relationships between thought and action, means and ends, causes and effects, conditions and consequences. From such effort may come greater insight with respect to the nature of the political-governmental process and perhaps a basis for understanding, if not predicting, the course of future events. The concern of the scholar is

thus, to use the words of Thomas Hobbes, to impart "knowledge of consequences, and dependence of one fact upon another."[26]

To be sure, the scholar and researcher also have values; they have commitments which shape their views and determine their approaches. This is the perennial dilemma of social science research. Yet, in part, the scholar is dedicated to overcoming or controlling these biases by explicitly stating his premises and forthrightly identifying the problems with which he seeks to deal. The study of politics must thus be conceived of as a question-posing and question-answering activity. Scholarship not dedicated to improving the rational basis for action is dilletantism or nonsense.

What has, perhaps, misled some of those who despair of determining the public interest is implicit in the principle stated by F. C. S. Schiller in his work on logic:

> Whenever an attempt is made to point out that in every step in actual thinking a person intervenes and directs the course of thought in accordance with his interests and ideas, and that therefore to understand the sequence and connection of thought this fact must be taken into account, the cry is raised that this is psychology, and an attack upon the dignity and integrity of logic. It may be so, but it does not follow that the fact can therefore be disregarded.[27]

And one might add that it does not follow that it cannot be studied.

III. THE RESEARCH CHALLENGE

The premises of this article are that operationally useful standards for program evaluation, for setting priorities, for choosing desirable rather than less desirable courses of action theoretically can be developed. At the same time, it has been suggested that, to date, only a start in developing a methodology for evaluating resource programs has been made, and this largely with respect to resource economics. This is the challenge to those interested in research in this field.

Space does not permit the development of a comprehensive scheme for such research, but several significant factors may be identified and a few caveats expressed.

The person studying resource programs has a major responsibility to lay bare the objectives of the programs and to identify the values, motives and motivations of those supporting them. In addition to analyzing costs and benefits, those who pay and those who gain should be considered. Attention should also be paid to alternative ways of attaining the same or similar objectives. Care must be taken to consider actual consequences as well as simply stated consequences.

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26. As quoted in Van Dyke, Political Science: A Philosophical Analysis, at 4 (1960).
27. As quoted on the fly leaf of Frank, Law and the Modern Mind (1936).

In many cases, a decision-making framework of analysis might prove useful, consideration being given to the actors in the particular decision, the environment of the decision including the occasion which gave rise to it, the values involved, the alternatives available, the status of knowledge and information, and the general context within which the decision was made. While such analysis obviously will not determine whether particular decisions or programs are good or bad, it will provide data essential to the analysis of consequences and impacts of the decisions or programs and of appraising results against expectations.

Finally, research needs to be directed to identifying values and articulating goals. In this connection, the easy distinction between facts and values must be avoided. More realistic and useful is the concept of the means-end chain which recognizes that particular ends "are often merely instruments to more final objectives."[28] In this connection Herbert Simon has stated: "The function of knowledge in the decision-making process is to determine which consequences follow upon which of the alternative strategies. . . ."[29] He has emphasized, moreover,

> The fact that consequences usually form "isolated" systems provides both scientist and practitioner with a powerful aid to rationality, for the scientist can isolate these closed systems in his experimental laboratory, and study their behavior, while the practitioner may use the laws discovered by the scientist to vary certain environmental conditions without significantly disturbing the remainder of the situation.[30]

Too often, perhaps, research into resource programs has involved advocacy and persuasion, the participant observer too readily forgetting that to remain an observer he must not become a committed participant. Yet, if the goal of scholarship is to contribute ultimately to more rational decision, research that deals with resource programs and policies must avoid mere promotion. It must develop effective techniques for programmatic research which in turn will permit the application of useful standards for program evaluation and appraisal.

28. Simon, Administrative Behavior 62 (1949).
29. Id. at 68.
30. Id. at 70.