

# Government Responsibility for Land and Water: Guardian or Developer?

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Ideas and concepts become obsolete just as do specific techniques. Obsolescence is the inevitable companion of progress; in fact, it is a sign of progress, provided that the obsolescence is recognized.

## CHANGING ROLE OF GOVERNMENT

With the opening of the West, the federal government accepted a stewardship of vast land and water resources. This stewardship was conceived as involving the dual role of guardian and developer. The techniques and implications of this role were long in emerging. By the time the role was formalized—and before its implications were widely appreciated—events had moved around and beyond the original concept of stewardship. It became obsolete before it was fully operative. The inability of the government to adjust quickly to such altered circumstances is the main reason why natural resources problems have been multiplying since World War II faster than government has been able to cope with them.

The word *guardian* implies protection from exploitation. In an earlier day, even very simple exploitations of land and water produced attractive returns, and large-scale exploitation created many personal fortunes. The exploitation of resources during the nineteenth century has been said to have been essential to create the capital needed for development. To a degree at least, this was true, but regardless of the necessity, nearly everyone now seems to agree that it was equally necessary, and certainly proper,

for government to step in as guardian of the long-term public interest.

Hydraulic mining of gold was lucrative to the entrepreneur but ruinous to the land; concomitant downstream sedimentation damaged many miles of stream valley whose welfare was ignored by the exploiters. Protection of the land from such exploitation was an overriding necessity, and hence guardianship became a clear responsibility of government.

The government's role of developer was also a logical outcome of the country's progress, but the actual extent to which that role was fulfilled has been greatly exaggerated. In irrigation agriculture, for example, the larger amount of development in the West has been by private enterprise, not by government project.

Irrigation transformed many parts of the West, spurred the establishment of retail businesses and supporting services, and provided new markets as well as products. Expansion of American enterprise in the West was encouraged by the government, in part, as a direct developer and, in part, by its permitting large returns to individuals and small groups from the development of water for irrigation, homesteading of public land, mineral development, forest harvesting, and similar activities.

The government's role as developer of land and water resources was appropriate when expansion and development were, indeed, keys to economic growth—the "staff of national life," if you will. A classic example in the eastern United States is the Erie Canal. In one decade this canal transformed New York City from a small town to the leading metropolis of the eastern seaboard. Important returns to society from developments like this were the enrichment and expansion of community life.

At the present time, pressure is mounting from many directions for government to increase the scope of its development activities. But now and in the foreseeable future the main need is neither for guardianship nor for development in the traditional sense.

### EMERGENCE OF INCOMPATIBILITIES

Both protection and development were needed in past years, but the need for each occurred in different spheres and for differ-

ent purposes. As the economy expanded, the two functions collided. Purposes that were quite valid for separate functions became contradictory when they were used to support projects or plans dealing with the same resource or the same area.

### **Protection versus development**

Protection of the land by rigid restriction of hydraulic mining was unrelated to, and did not conflict with, encouragement of simultaneous developments elsewhere, such as development of water for irrigation in a nearby area. Similarly, protection of the national interest by strict control of lumbering practices in national forests did not conflict with provisions for the patenting and use of other land resources under the Homestead Act.

In these circumstances the federal government promoted the public interest by controlling exploitation of one resource while simultaneously promoting development of other resources. In each case the national interest seemed clear, and the protective and developmental actions were mutually exclusive and discrete.

As the national community grew, however, such separations became less distinct. Differing actions more and more often affected geographic areas and resources that overlapped or were identical. The national interest became progressively more difficult to define, because specific interest in one aspect of development became contrary to specific interest in another aspect. Protection and development were no longer either exclusive or discrete, and within each function versatility begat incompatibility.

In the development of the Missouri River Basin, for instance, several types of governmental activity were authorized. One obvious need was for flood control. For maximum effectiveness, a flood-control reservoir must be kept at low stage or even empty at critical times in readiness to receive floodwaters. But irrigation projects impose special requirements for water storage and distribution, and these requirements are quite different from those for flood control. In addition, navigation on the Missouri River had fallen to a low ebb. Ease of navigation was improved by channel dredging, but it still imposed certain storage requirements. Controlled releases of water to maintain navigational

stages were necessary. Wildfowl habitats were involved also. Certain watershed lands were undergoing serious erosion, and control of this required range rehabilitation, regulation of grazing, and installation of small structures. Floods in tributaries called for dams on many small streams. Pollution control necessitated maintenance of certain minimum flows. Finally, power-generation needs imposed certain operational requirements for storage and release of water.

These same factors, with variations, require consideration in the basins of the Colorado, the upper Mississippi, the Arkansas-White-Red, and many other rivers.

Which of these activities dealing with land and water resources are developmental, and which are protective? Flood control protects certain public interests, but land enhancement and development are important corollaries. Is flood control primarily protective or developmental? Wildlife resources usually suffer a net injury from programs of land and water development, even though plans may provide for some local wildlife development benefits. Thus, wildlife resources usually need protection but often are subject to just the opposite.

#### **Unwanted side effects**

Upstream land management and the operation of small reservoirs for flood control are known to decrease the downstream water yield of a river system. In any specific situation, the extent of the decrease is difficult to assess quantitatively, although the nature of the effect can hardly be gainsaid. Similarly, construction of a large reservoir on a main stream sets off a chain of downstream changes that involve river regimen, erosion, and sediment transport and deposition, often with extensive damage, which is costly to counteract. Thus, protection or development at one place may instigate damage elsewhere.

#### **Wilderness—antithesis of development**

Still another example of confusion of interests and roles is wilderness, which is generally considered to be a valuable re-

source. If wilderness has great value to some of the people of the nation, then it has a national value by the same reasoning that justifies government expenditures for local flood control. Wilderness, by its very nature, is the reciprocal of development: its extent is inverse to the geographic extent of economic development. Wilderness is a resource that cannot be created, so it must be protected. It is not subject to development in any accepted sense of the word. In this case, "protection" requires not merely protection from exploitation but prevention of any development at all.

The foregoing examples could be elaborated and others cited. It seems clear, however, that resource protection or development at one point in space or time can, and often does, adversely affect resources at another place or time.

### RECAPITULATION

During the early history of the nation, governmental activity became necessary to protect the interests of society at certain times and places; at others there was a concomitant need to develop land and water resources, as an aid to economic progress. With progress came overlap and conflict between these roles of government. Thus, the concept of government with discrete responsibilities as protector and developer became obsolete.

Despite the obvious conflict, the thinking in terms of two distinct roles has continued to dominate the approach of government to land and water problems. Each activity still has its supporters and apologists. The pillboxes of protection and development continue to hum, although they have been outflanked by the panzers of progress. The conflict is hidden behind the fashionable cloaks of "conservation" and "multiple-purpose development." The shibboleth of conservation connotes in the public mind a Good Thing; everyone is for it because it is all things to all men. So all land- and water-resources activities are called "conservation"—flood control, erosion prevention, pollution abatement, fish and wildlife preservation, drainage of wetlands—in fact, any and all activities, no matter how antithetical they are.

Multiple-purpose development is a hybrid species of the same

genus as conservation. It offers something to everybody, although some of the purposes are diluted to the point of extinction. To show that fish and wildlife benefits are derived from the construction of regulatory reservoirs and the dredging of channels in multiple-purpose river-basin development requires high-class legerdemain, but it is attempted.

What is the basic trouble? If guardianship and development in the old sense are no longer appropriate, what new concept is necessary?

### **BASIC FLAWS OF CONCEPT AND ACTION**

The basic trouble is that traditional concepts of protection and development are naive in relation to the complex nature of land and water problems in a mature society. The approach to these problems has been, and continues to be, a strictly engineering approach. Projects are designed by formula and template. However useful and effective this may have been in an earlier day, it is not sufficiently sophisticated for current problems. Its inadequacies will, in fact, be dangerous in the future, because the unforeseen or ignored "side effects" of engineering manipulations often set off chains of unwanted consequences, which tend more and more to vitiate the whole purpose of development and protection.

### **PREVISION, NOT HINDSIGHT, IS NEEDED**

Prevision—vision into the future—is an unescapable requisite to better planning. This need goes far beyond mere qualitative prediction of specific consequences of management, such as increased mineralization of water or salinization of soils in irrigated areas. Rather, there is urgent need for prevision of all the significant effects and their ramifying interplay—not only of a single possible management action, but of a variety of alternative actions among which a choice may be made. Further, this analysis must be applied to effects that are regional as well as local, upstream as well as downstream, direct and indirect, desirable and undesir-

able, physical and chemical, hydrologic and biologic, economic and sociologic. Only when there is prevision of the potential consequences of alternative actions can we exert any real choice or control over our own destiny. This is a far cry from the present situation, in which the legislator or executive is confronted with a single "multiple-purpose" proposal and must, in effect, take it or leave it.

### FAILURE OF THE YARDSTICK

Economic need often is cited as justifying governmental assistance in development projects. In our opinion, "economic need" often is less a need than a desire. A local group, for example, desires development by government in order to increase the flow of economic goods through the local economy. This desire may stem from a very real local need; but such a need should be weighed from the national standpoint, and in relation to alternatives. Weighing implies estimation of effects.

In order to develop more sophisticated concepts, we must re-appraise the nature of government responsibility and squarely face the question: What should be the real purpose and philosophy behind government activity in land and water?

It seems to us that a first step toward answering this question would be to reevaluate the criteria for determining what is in the public interest—what is, in fact, the public good. Monetary value is not the total substance of public worth, nor is financial gain the whole measure of the social good. The fiscal yardstick could lead us into a cultural desert where all the signposts are dollar signs.

We still have no uniformly accepted guides for assessing esthetic or spiritual values. These values do exist, and they are the most subtle, the most sensitive, and certainly the most easily lost of all values. The value of a park, whether it be a Yosemite, the patch of grass and trees comprising a New England common, or the plaza of a western village, cannot be measured solely by its assessment as real estate. Or, if a park is evaluated in terms of goods sold and services rendered—hotdogs, soft drinks, plastic water toys, fishing tackle, gasoline—then its true value is overlooked en-

tirely. The true value can be expressed only in terms of the national life and national spirit, and therefore it can be maintained and protected only at governmental levels.

### STEPS TOWARD NEW HORIZONS

The dual government role of developer and guardian is well established, if not thoroughly entrenched. But there is an overwhelming need to revise the whole philosophy that governs these roles. Governmental actions in the past were aimed at maintaining monetary value for the public good as against the pecuniary gain of private interests. Government, however, has now entered a situation in which it must guard the public interest against its own activities—especially by maintaining nonmonetary values for the public good against inroads of government activity in the name of development for quasi-public monetary gain.

Two things are needed to establish this new role. First, increased research is necessary to link a sophisticated level of economic theory with the hard facts of physical and biological science. The science of resources management has yet to be defined, let alone practiced. Second, more and better knowledge is needed about the environment itself—its interactions, its internal workings, and its varied responses to the multitudinous activities of man. Present knowledge of the environment is insufficient to enable us to forecast and estimate the long-term effects of alternative actions. The overriding responsibility of government is to assure that society will obtain maximum cultural and material benefits from resources over the long-term future.

As techniques in economics and in environmental sciences are being developed, it is imperative that we make up our national mind about the kind of world in which we choose to live. If esthetic, ethical, and nonmonetary values are worthless to us, then the task is easy. In all probability, however, Americans will not be satisfied with a financially lucrative economy in an environmental desert. Therefore, let us raise our eyes from the ground at our feet to the horizon of the nation. Let us look up from the intensive cultivation of flowerbeds in our suburban house lots and turn some energy to cultivation of our national backyard.



As a people, let us assert that the role of government is to protect those resources that otherwise will fall before the bulldozer of governmental development. Development will pay its own way in dollars; the flowerbeds of the national homestead will pay their way in values that no amount of dollars can buy.

### SUMMARY

The historic role of government as both developer and guardian of land and water resources has been changed by events and by the reaction of the environment to man's activities.

There are at present two salient needs. (i) Government must guard the general public interest against the activities of government itself. Particular attention must be devoted to the maintenance of nonmonetary values, which presently are being sacrificed in the name of development for quasi-public monetary gain.

(ii) There is a need for facts and knowledge sufficient to permit us to foresee the short, and long-term environmental effects of alternative developmental programs or projects.