

REPORT BY THE NATIONAL WATER COMMISSION
A Review

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The duties of the National Water Commission as set forth in Public Law 90-515, 90th Congress, S. 20, September 26, 1968, covered a range of water subjects from a review of present and anticipated national water resources problems to a consideration of economic and social consequences of water resource development and allocation. The National Water Commission faced a monumental task in meeting the charge given it by the Congress. Its task was rendered even more difficult because the Nation is undergoing a period of rapid change in social and environmental preferences, and these preferences have a direct bearing upon the Commission's view of its mission--to determine "what policies the Nation should adopt to ensure that its finite water resources are used in ways which yield the highest measure of welfare to society, now and in the future."

In carrying forward its work, and in the conclusions incorporated in the Review Draft of the Commission's Proposed Report, the Commission has made valuable contributions to the solution of some of the perplexing resource management problems of the Nation, and has addressed some long-needed institutional changes to reflect its view of the proper governmental posture in the light of present conditions.

Particularly significant findings by the Commission include these:

1. The concept of alternative futures as the proper basis for projecting future levels of water use--and the distinction between water "requirements" and water "demands"---is a valid and rational approach to an analysis of the optimal allocation of resources to meet defined social, environmental, and economic goals. This approach, conducted in planning activities at all levels of government, would make possible the presentation of options from which orderly decision-making could then take place.

2. The Commission has made an excellent statement of the proper perspective of the environmental aspects of water resource use and development on page 2-2. The need expressed to "take environmental values and processes into account in selecting among alternatives, so as to accommodate them or, where a conflict of values is necessarily present, to reach an informed and balanced judgment upon what best will serve the public interest" recognizes the dangers in following an either-or kind of evaluation, while at the same time acknowledging the need for realistic and objective environmental impact analysis.

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3. The Commission showed a clear understanding of the causes and effects of some of the intergovernmental conflicts that have arisen as a product of the Nation's increasing concern with the degradation of the quality of its water resources. In part, as the Commission notes, these conflicts have resulted from the attempt to improve water quality controls through implementation of antiquated and inappropriate legal and institutional measures. The proper relationship of the authority and responsibility to be exercised by the several levels of government were not clearly defined in legislation enacted to deal with the problem, and, as a consequence, both underlapping and overlapping activities occurred with less than effective results. In its new concern with environmental quality, the public pressed for instant cures for long-standing problems, and there was not a means for quantifying and presenting the effort and cost that would be involved. As a result, the public became disillusioned, and the Administration and the Congress have yet to demonstrate their willingness to assume the very heavy financial burden of the "instant" cure approach. The Commission's entire analysis of the Nation's alternatives in this situation merits the careful attention not only of governmental entities with responsibility in this field, but of the general public as well.

One section of the Commission report dealing with water quality could, however, be improved and expanded to more clearly identify the problem. The discussion of water quality in relation to the estuaries and the coastal zone treated some aspects of quality in this sensitive environment, but failed to include such critical problems as the effects on quality in the estuaries of land runoff; diminution of fresh water inflows resulting from upstream development and use; the changes in estuarine currents and circulation patterns as the result of dredging, and construction of hurricane protection works; and the effects of such offshore activities as drilling and construction of offshore ports. The estuaries are particularly important from the standpoint of critical environmental concern, and it is therefore especially essential that the complex interdependence of all of the factors affecting the water quality in the coastal zone be identified so that quality management and control programs can be interrelated with total coastal zone management.

4. Probably the Commission's major contribution to the Nation's consideration of the proper use of water resources is the very comprehensive cataloging of the many problems, parameters, limitations, constraints, and effects of various water development and allocation alternatives. All of these things need discussion, and the governmental response to these discussions should be informed and deliberate. It is unfortunate, however, that the Commission did not take the two final steps that would have made its very great effort truly meaningful: in the absence of defined national goals and objectives within which its work should have been conducted, the Commission consistently based its conclusions on rather narrow concepts of economic "good," and made no attempt to articulate the broader social and environmental goals that economic efficiency should serve to attain; and secondly--and perhaps this is in part because the first step was not taken--the Commission's Proposed Report appears as a series of analytical statements, prepared from different viewpoints, unrelated in terms of the effect of their implementation on the achievement of national needs for a secure and dignified quality of life.

The Report, as it now stands, is extremely weak with regard to the economic and social consequences of water resource development. The specific discussions about 1) the importance of water in an economic sense, 2) water for irrigated agriculture, 3) transbasin diversion, 4) water to rescue areas where ground-water mining occurs, 5) financing water programs, and 6) the role of the federal government in future water resources programs are inconsistent, paradoxical, and in some instances obviously prejudiced. The Commission uses terms such as "social welfare" and "social costs" which it does not define. Further, it sidesteps important issues, such as social preferences for water amenities and the final determination of the dollar amount of the proposed compensation to basins-of-origin for opportunity losses that would be suffered because of interbasin transfers, by referring them back to Congress.

The Commission exhibits obvious prejudice against water for irrigation by alluding to agricultural surpluses, and takes an unfounded and unexplained position that "unless it is economically feasible, interbasin transfers should not be undertaken to rescue areas which are mining ground water, that is, which are depleting ground water reserves by pumping in excess of recharge."

The Commission's failure to produce rational recommendations regarding interbasin transfers and water resources development to support regional economies appears to be due to the absence of a conceptual framework or model which states, or otherwise incorporates, the Nation's goals and objectives concerning income, employment, income distribution, population dispersion, stable prices, and, in the case of food and fiber, the goal to keep quantities high and hold prices of these necessary commodities at relatively low levels to serve the interests of low income groups. The view is taken that publicly owned water resources should be developed and distributed to water users in a manner analogous to that which is used by the private sector market place for manufactured goods. Throughout the discussion, economic efficiency criteria, from the national viewpoint, are mentioned as being the guidelines whereby water resources investments would be judged. Transbasin diversions would be judged feasible when diversion benefits exceed diversion costs including compensation to basins of origin of diverted water, but no attention is given the effects of such public policies upon income redistribution among regions: i.e.; why should publicly owned water be traded among regions, or shouldn't the national treasury receive the proposed interregional compensations for use in nationwide public programs, if such compensations are to be made.

The matter of compensating regions of origin of diverted water in the amount of the value of opportunity forgone within these regions adds a new dimension to water resources planning. Heretofore, proposals to move water among regions have implicitly rested upon the assumption that only unemployed or unused surpluses would be tapped for such purposes. The Commission's recommendations would apparently permit more widespread selling of waters among basins or regions if favorable prices could be negotiated. There are at least two major problems inherent in these conditions of transfer. One deals with the problem of valuing water in alternative uses within basins of supply, and the other pertains to "real" versus "apparent" opportunity within basins of supply. Carried to its logical conclusion, this compensa-

tion principle requires "marketplace optimal allocation" of water within and among basins, or to put it another way, this type of water marketing could result in the selling of water presently in use from basins in which uses have been established. On the other hand, a basin of supply may have water which is not being used but which, if other resources were available and water users were present, would have value within the basin of supply. This apparent but unrealized opportunity could unduly burden transbasin diversion costs in the real sense and might preclude use of the water in other areas that could pay diversion costs but could not pay the "apparent" opportunity forgone part of the cost. This position of the interbasin diversion discussion appears to have been included in the report without having had the benefit of thorough investigation and widespread evaluation and review by water resources professionals. It needs further consideration.

The Commission's discussion of "Water and the Economy" suffers from skepticism about the effects of water resources upon regional economic growth. The importance of water is recognized in the opening hypothesis of Chapter 3, and later a number of regional cases in which water projects were major factors associated with regional growth were presented. In all instances the discussion supports the original hypothesis yet the Commission concludes, without supporting evidence, that "while water resources projects have had very significant impacts on regional economic development and population distribution in the past, their role has now greatly diminished." It is to accept this conclusion. Some of the cases cited are as recent as the decade of the 1960's.

The concept of alternative futures was introduced and applied to agriculture. Similar analyses were not applied to municipal and industrial water using activities even though it is stated at the outset that this would be done. From the analyses of alternative futures of agriculture, the Commission concluded that "the agricultural water problem does not appear to be one of water shortage." This conclusion was based on the Heady studies which were predicated upon the assumption that the Nation's agricultural sector could be managed as a single operating unit in which regional reallocation of production could be freely practiced. This, of course, is not the case. The Nation's agriculture is composed of a large number of farms (management units). Each manager makes his cropping decisions based upon his available supply of land, water, capital, climate, other resources, and management abilities. Thus, in a real sense it is extremely doubtful that the conditions underlying the Heady studies shall ever be present. Thus, the Commission's conclusions about the future need for water for agriculture are subject to question. Given that Heady's assumptions are valid, the question remains, what happens to the farmers and the supporting rural economies? Who compensates the losers here? The Commission failed to recognize this problem. Instead, it inferred in its discussion of the problem of regional economies subject to decline due to declining groundwater irrigation supplies, that farm adjustment was rapid anyway and cited as support of its position the four percent annual decline in farm population during the 1960's. This reviewer sees this trend in farm population decline as having occurred while irrigation water development was taking place. What will be the rate of farm population decline as groundwater for irrigation declines? What will be the rate of non-farm rural area decline as the farm population declines? The Commission failed to consider the social and

economic consequence of water shortage except to make the obvious suggestion that more efficient use be made of existing groundwater supplies.

The economic efficiency criteria imposed upon regional economy rescue operations is too severe. The social costs of no rescue should be included in the benefits of rescue.

Perhaps one of the most striking inconsistencies in the report with the Commission's own view of its primary focus is found in the section dealing with interbasin transfers on page 8-6. The report says: "The Commission does not presume to offer suggestions about how much water this should be. The people will decide that question through their elected representatives. It need only be noted that the ultimate authority resides in Congress. . . . Thus, when the economic criteria that should govern an interbasin transfer are discussed . . . water which society has decided should be precluded from developmental activity is not considered. What is considered is water that remains available for producing goods and services in the economic sector."

It would appear that this approach--not unique to this chapter--precisely avoids the key question that was posed to the Commission by the Congress when the Commission was created. That question, clear from even a cursory reading of the National Water Commission Act, is this: What should the Congress consider to be the scope of the water problems facing the Nation, and how can those problems be best resolved in the interests of assuring the quality of life desired for the American people? There is no indication in the Act that the Congress intended that the Commission make its recommendations on the basis of economic efficiency alone, but rather the explicit intent is expressed that the Commission review national water problems in the context of broad national social goals.

It should be noted, indeed, that even on these terms the Commission failed in consistency. "Mining" of ground water is apparently to be regarded as a cardinal sin. However, under any set of criteria for resource management and use, there would appear to be conditions under which such depletion would represent not only a social but an economically desirable decision. The Commission has in its report referenced the Texas High Plains as a region that has unwisely used a depleting ground water resource to the extent that its economic base of irrigated agriculture is now threatened. Irrigation at an intensive level began on the High Plains in the late 1930's as the Nation came out of the horror of the dust bowl years. Production under irrigation increased during World War II and the years following when the Nation's heartland fed the free world and sustained a massive national war effort. Irrigation made possible the production of food and fiber, using substantially less manpower than would have been dreamed possible at the turn of the century. There was not then an awareness of the ultimate consequence to the region if restraints were not imposed. This may have been the result of ignorance, but the Nation as a whole and also the world profited by that ignorance as it resulted in food production.

An interbasin transfer of water surplus to the uses of the Mississippi Basin states has been proposed as a means of bringing a supplemental water supply to the High Plains to sustain the irrigation economy. The Commission has apparently determined in advance of availability of study results that

such a transfer would be undesirable, but appears to have based this judgment solely on the criterion of the ability of irrigation farmers within the High Plains area to repay the full costs of moving the water to their head-gates. The additional considerations of the social cost to the Nation of a major regional economic disaster; the loss of one of the Nation's most productive sources of food and fiber at a time when millions of our own citizens and millions of people throughout the world are existing on inadequate to starvation diet; and the advantages to the Nation of putting to productive use a water resource that would otherwise be unused appear not to have been included in the Commission's thinking. Yet these are just as real factors as the repayment capacity of individual farmers, and may in the long run have profoundly greater influence on the quality of life in this country.

In the chapter of the report dealing with planning, the Commission very properly stresses the need for planning on a broader scale than for water alone. The intimate relationship between water and land use planning is emphasized, as it indeed should be. This makes particularly questionable the Commission's rather adamant view that allocation of water to the various uses should be made on the basis of use where the water occurs. Water is not a fixed resource but a movable good that can be transported with relative ease over long distances. The Romans knew this and implemented striking programs of water resource transfers. As our Nation's population continues to grow--and there is no indication that such growth is going to be reversed--we may come to a situation where land is our truly limited resource, and land is not movable. It would appear, therefore, that our national planning and thinking for the future should be directed toward realizing the fullest potential of the land and water and energy and other resources available to us without preconceived constraints on ownership by the region or state in which such resources may happen to occur.