

UC Irvine

UC Irvine Previously Published Works

Title

National Water Commission Report: A Review

Permalink

<https://escholarship.org/uc/item/6xh4n2sx>

Journal

Water Resources Research, 11(1)

ISSN

0043-1397

Authors

Ingram, Helen M
Roefs, Theodore G
Allee, David J

Publication Date

1975-02-01

Peer reviewed

The National Water Commission Report: A Review

HELEN M. INGRAM

Institute of Government Research, University of Arizona, Tucson, Arizona

THEODORE G. ROEFS

Office of Water Research and Technology, Washington, D. C.

DAVID J. ALLEE

Department of Agricultural Economics, Cornell University, Ithaca, New York

The National Water Commission Report has serious limitations as a professional document judged by analytical criteria including explicit assumptions, conceptual frameworks, and coherent and consistent recommendations. The report is structured by certain value positions rather than analytical concepts. These include rationality, efficiency, equity, faith in dollar measurements, new federalism, and the separation of policy and administration. The report falls short of a blueprint for change of present water policy because it lacks a comprehensive framework and is too discursive over too many unrelated topics.

TERMS OF REVIEW

The National Water Commission Report is reviewed here as a professional document. This perspective is important to scholars in the field of water resources, where the terms of debate and areas of research are likely to be shaped for years to come by the findings of the commission report. A professional frame of reference is also suggested by the task and makeup of the commission. The commission's initial purpose was an objective analysis of water resource problems by a panel of disinterested experts. A large proportion of staff positions were filled by academics, and academics conducted research under commission sponsorship and funding.

The criteria applied in this review are scientific and analytical values. A professional document is judged by the validity of its assumptions, and assumptions should be explicit. The mark of a professional document is an analytical framework that structures what is to be considered and how. The findings and recommendations are weighed for logical consistency and supporting evidence.

The questions addressed in this review evolve from a professional perspective. We are concerned primarily with the overall framework of analysis: whether and how the concept of water was employed to organize and unify the overall effort. How did the commission view its charge, and how did it set boundaries between water problems and other problems? Did the commission pose the major questions in such a way that knowledge and expertise of the various relevant disciplines could be brought to bear? Further, what were the implications of the way the commission approached its task for what it did and did not consider? How are the framework and approach taken by the commission likely to affect the implementation of the recommendations?

In all fairness the National Water Commission Report is also a political document, and without doubt its character as a professional piece of work is partly due to the constraints imposed by politics. The creation of the commission grew out of a compromise between the leadership of the House and Senate Interior and Insular Affairs Committees affecting the

Colorado River Basin Bill of 1968. It can be argued that the commission was set up to postpone as much as to settle problems, and its aggressive attack upon fundamental issues such as cost sharing must be viewed as an assertion of leadership. The commissioners, presidential appointees from diverse backgrounds among whom turnover was high, had to negotiate an agreement upon the contents of the report. The difficulties of staffing included lack of incentives for professionals to join an organization on a short-term basis. There was little time, and compared with other more recent water commissions, very little money. The atmosphere in which the commission worked was laced with stress. Policy making in water underwent some dramatic changes during the 5 years of the commission's duration; thus it was forced to draw conclusions from a moving picture. The four field hearings on the draft report held in 1973 are witness to the lack of agreement among agencies and interest groups about the course national water policy should pursue. Judged from a political perspective, the recommendations of the National Water Commission are surprisingly innovative.

Since the perspective of this review is professional, little attention is paid to political constraints. However important to a comprehensive judgment about the commission, a political review and evaluation is another task. This review is of the final report made available June 1973 [Luce *et al.*, 1973]. The central concern is with the document itself, not with the way the commission handled its research task or the quality of supporting studies. The professional interests pursued here do not involve taking positions on the advisability of specific recommendations.

COMMISSION'S INTERPRETATION OF ITS CHARGE

Some information on the way the National Water Commission perceived its charge from Congress is available from the preface to the report, which consists primarily of a short history of the establishment of the commission and the conduct of its work. The preface, section 3(a), of the National Water Commission Act reads:

The Commission shall (1) review present and anticipated national

water resource problems, making such projections of water requirements as may be necessary and identifying alternative ways of meeting these requirements—giving consideration, among other things, to conservation and more efficient use of existing supplies, increased usability by reduction of pollution, innovations to encourage the highest economic use of water, interbasin transfers, and technological advances including, but not limited to, desalting, weather modification, and waste water purification and reuse; (2) consider economic and social consequences of water resource development on regional growth, on institutional arrangements, and on esthetic values affecting the quality of life of the American people; and (3) advise on such specific water resource matters as may be referred to it by the President and the Water Resources Council.

Only slight information about how the commission perceived its responsibilities under the act is explicitly included. It appears in the section within the preface headed 'Role of the National Water Commission':

The Commission is charged with studying virtually all water problems, programs, and policies in the context of their relationship to the total environment, including 'esthetic values affecting the quality of life of the American people.'

The commission's interpretation of its charge seems likely to have influenced its work in three ways: the identification of which problems to approach, the interpretation of what solution behaviors were within an implicitly defined realm of legitimacy, and the definition of what specifically is of interest about results of water policy decisions. The lack of explicit statements concerning any of these areas requires construction of inferential definitions on the part of the reader.

The report is inconsistent in its definition of what a water resource problem is. The need for integration of water and land planning is recognized [*Luce et al.*, 1973, pp. 24, 445-447]. Later the importance of power plant siting is emphasized [*Luce et al.*, 1973, p. 45], seeming to imply that energy provision is a 'water resources problem.' The undesirable effects of disposals are mentioned [*Luce et al.*, 1973, p. 44]. This seems to imply that solid waste disposal is a water resources problem. At other points in the text, transportation planning is the subject under discussion. The commission appears to have fallen into a conceptual trap: that activities involving some use of water are water resources problems. If this is so, it has addressed certain portions of a very wide range of problems but ignored others with no explanation as to why this was done. The general assumption of the report seems to be that if a problem has been discussed as a water resources problem, it is within the commission's purview. In a sense this assumption lets the experience with past programs and agencies determine not only what future programs and agencies are likely to exist, but also the focus of those agencies in terms of purposes and means, as defined by G. F. White in 1960. In a related way the commission seems to have taken the view that its charge was to address a range of issues about which controversies had occurred and to be idealistic about how arrangements to resolve those controversies might be made.

ALTERNATE APPROACHES NOT TAKEN

With any interpretation of its charges the commission faced a formidable task. Its interdisciplinary staff was engaged on a short-term basis. This handicapped communication and commitment. Still, further effort on specific interpretation of its charge and identification of a framework might well have been valuable. It might have adopted (1) a goals framework, (2) a problems framework, (3) an actions framework, or (4) a system framework with actions as a base.

A goals framework would set forth the goals of human endeavor, attempt to define those goals so that they could be measured at some level of information resolution, and determine how well specific endeavors would meet those goals. Whereas this has been the subject of university research by a group headed by Dean F. Peterson, such a framework may not have served the commission very well [*Peterson et al.*, 1971]. Work is really only beginning on definition and measurement goals and objectives.

The commission did seem to adopt a problems framework in part. However, its criteria for study of those problems are not clear. The problems studied seem to be limited to those that have received discussion in the past and that seem to be important to the commissioners or the staff according to some implicit internal model. The criteria for selection of solution strategies for these problems are not clear. Further analysis of these factors is contained hereinafter in the section on values underlying the report.

An actions framework focuses on alternative means available. An action is proposed, studied, and either adopted or discarded according to economic, environmental, or political criteria. Government agencies such as the Army Corps of Engineers, Bureau of Reclamation, or the Soil Conservation Service routinely employ an actions framework. What agencies usually do and what they perceive they have authority to do constrains the complete consideration of action alternatives. The commission, favored by its ad hoc status and not hampered by the responsibilities of implementation, could consider a broad range of alternatives.

Had the commission really exercised its potential latitude, it might have taken a systems analytic approach to a consideration of alternative actions. The systems approach has a natural appeal to reviewers who share with us a professional perspective and value analytical sophistication in frameworks. Systems analysis would have permitted the commission to be clear about which issues were under study, what assumptions about external factors were made, and the joint results of recommendations produced by their deliberations. This would have involved a definition of decision space, effect space, and set of external factors that determine the impact of alternate decisions in the effect space.

A decision space would set forth the policies to be examined. Decisions not under examination would be treated as a part of the external factor set. The issues under examination would be examined as alternate sets of decisions rather than on an issue-by-issue basis. It is easier to think about aspects of water resources policy on an issue-by-issue basis and to make recommendations on an issue-by-issue basis, as the commission appears to have done. Such a method is not comprehensive. For instance, the recommendations made in chapter 8 about interbasin transfers would probably have very different effects depending on whether or not the recommendations in chapter 7 about groundwater law administration were also implemented. In order to judge results an effect space must be defined. The report never sets forth a set of effects that are perceived as having importance.

In order to be explicit about the relationship between the decision space and the effect space a set of assumptions concerning policy, resource, and institutional constraints not subject to recommendation is needed. An attempt at a systematic analysis of alternative futures is made in one area: that of food and fiber policy [*Luce et al.*, 1973, pp. 121-142]. Several explicit levels of production and some explicit constraints on production are examined. Not all assumptions, however, are

presented. The reader cannot tell whether capital and labor are assumed to be completely mobile or whether regional differentials in productivity are recognized. Nevertheless, the report is reasonably explicit about alternative futures with respect to food and fiber production.

Explicit specifications of alternative futures are notably lacking in three other areas: energy production, population distribution, and water-associated recreation. Although these factors, historically, have not been predominant in creating demands for water in many regions of the nation, each may have some future importance. An analysis of the Southwest Energy Study shows, for example, that 200,000 ac ft per year of cooling water from the Colorado River will be consumed by 1980 [U.S. Department of Interior, 1972]. Even greater development of coal-fired plants is projected for the Colorado plateau after 1980. Oil shale development will require substantial additional water. The commission does recognize the future requirements for cooling water but is not specific either about demands or location of demands [Luce et al., 1973, p. 173]. Further, the commission's report recommends that power plant siting be given consideration in planning studies of the Water Resources Council [Luce et al., 1973, pp. 177 and chap. 6]. The impression is given that energy plant siting can be a part of the water resources decision space. In our opinion there are a number of factors such as fuel location and air pollutant assimilative capacity that will influence siting decisions. Since this is felt to be so, either future energy planning should be taken to be an exogenous decision and not a part of the water resources decision space or the attempt to plan water resources rather than general resources should be reexamined.

The commission's conclusion that water development will probably no longer influence population distribution the way it once did seems supportable. Still, explicit sets of assumptions about future spatial distributions of population might have strengthened the alternative futures section of the report and might have influenced some later recommendations.

The report devotes several pages to a discussion of water-based recreation and makes 10 recommendations on the subject. The report is not explicit about alternative future demands for water-based recreation as it is with respect to food and fiber demand. It is therefore more difficult to tell whether or not recommendations in other sections incorporate the projected effects this demand will have on water management. One value of the alternative futures approach is that it provides a built-in test of consistency.

VALUES UNDERLYING THE REPORT

As a result of avoiding the theoretical and conceptual problems posed above, the commission did not specify its basic assumptions. However, the commission must have been guided by some overriding values. 'A single set of rational principles,' according to the report, should govern the modification of the presently 'inconsistent' and 'anachronistic' water programs [Luce et al., 1973, pp. 111-113]. Although these principles are not explicit, they emerge from a reading of the report as a set of value positions as to how actors in decision making ought to behave. These prescriptive notions have the limitation of not being based on any institutional theory of the political and economic incentives and disincentives to which actors respond. Consequently, as the analysis that follows will show, the commission frequently fails to make recommendations that would realistically change behavior. Further, some of their recommendations are likely to have unintended behavioral consequences if they are implemented. The following overrid-

ing principles or partial principles characterize much of the commission's work.

Rationality. The report has a strong commitment to rationality. The commission's ideal is a detached disinterested stakeless expert who decides on the basis of complete and unbiased information. Numerous suggestions are made to improve the data base for decision making. In order to evaluate the multitudinous possibilities for combinations of water uses within a river basin the commission sees a need for systems analysis. The report strongly disapproves of bias in federal agencies in favor of their own missions. The National Water Commission followed the path set by previous commissions in observing the practice of federal water agencies in underestimating the cost and overestimating the benefits of their project proposals [Luce et al., 1973, p. 407]. In the view of the commission the construction agencies basically are just that: construction oriented. The agencies are basically builders. Fundamentally, they are not managers of either people or resources. The information that agencies generate about projects cannot necessarily be trusted.

In order to provide for more rational decision makers and decision making the commission attempts to suggest various ways to resist unwarranted special pressures. The independent review board that is prescribed to check the bias of federal construction agencies is an example.

The review board should be structured as an independent agency; nominally within the executive branch but insulated from the presidential politics by appointments which extended beyond the term of the President. A provision which would prohibit more than, say, four out of seven members to be selected from one particular political party would be an additional device to secure the board's independence of action. The review board would function free of any entanglements with the special interest of operating departments. By standing apart from the President's Office as an independent organization, there would be less opportunity to question the objectivity of the review boards actions when it is dealing with those water development proposals which the President may have cause to favor for personal or party reasons.

As this excerpt from Luce et al. [1973, p. 409] illustrates, the commission places its faith in the rationality of the detached objective analyst, not in that of the politician or existing political system. The political rationality of an astute President might well dictate that he not expend many resources to support a review board over which he has little influence. By the same sort of calculations of political benefit and cost the Office of Management and Budget (OMB) would be altogether rational in treating the review board as a competitor, the review board performing evaluations that heretofore had been OMB's assignment. Without the support of the President or OMB it is hard to imagine that the review board could survive in our present political scheme.

The commission's vision of rationality excludes the possibility that biased actors pursuing their own self-interest in a bargaining arena may in the end come up with decisions as rational as those of the disinterested objective expert. Rational analysis requires that all alternatives and interests be somehow weighed and taken into account. Where every interest has a watchdog, even if that watchdog is not especially powerful, information and alternatives surface. It can be argued that an advocacy system where agencies fight hard for their particular clientele often assures 'a more comprehensive regard for the values of the whole society than any attempt at intellectual comprehensiveness' [Lindblom, 1959, p. 85].

Efficiency. The National Water Commission favors the most direct, least cost, most efficient solution to problems. It

decries 'inconsistent' and 'in many respects, anachronistic' federal water programs 'when viewed in the light of what has happened since they were established' [Luce *et al.*, 1973, pp. 111]. There can be little quarrel with this assessment. At the same time the commission fails to consider some costs that might render the straightforward economic course of action extremely inefficient.

However much the goals and objectives of the American people have changed in relation to water resources, there is little to indicate that we are more in agreement today than when the major water programs were initiated. Without some sort of consensus the most efficient path toward any one goal or set of goals is bound to create conflicts. The cost of conflict must be included in a realistic assessment of efficiency. There is a cost of change. Organizations must be compelled to alter their practice and procedure; there may be legal, psychological, and other impediments that may render change difficult or impossible [Wildavsky, 1968]. Water development projects, the commission finds, are an inefficient means of stimulating regional economic development [Luce *et al.*, 1973, p. 58]. Long practice, however, has made this kind of economic impetus politically acceptable and negotiable. Whatever the actual economic impact of the Central Arizona Project will be, for example, many citizens in Tucson and Phoenix believe that it will ensure continued prosperity and growth. It is unlikely that they would be willing to accept some other medium, even if one were available.

The effectiveness of a solution ought to have some weight in determining efficiency. The report fails to judge efficiency on the basis of actual experience in several areas. For instance, the Fish and Wildlife Coordinating Act provides that fish and wildlife values be taken into account early in the planning process. The commission did not examine whether this was happening and, if not, why not. Instead, it rested upon the statement that legal authority for enforcement existed [Luce *et al.*, 1973, p. 200].

Equity. One of the notions that underlies the report is equity. Fairness requires that beneficiaries pay, and the report states that direct beneficiaries of water supply projects who can be identified and reached should ordinarily be obliged to pay all project costs that are allocated to that purpose [Luce *et al.*, 1973, p. 497]. The equity tests applied by the commission are similar to those of vendibility. If a project benefit can be sold, it should be sold to recover full cost. If it cannot be sold, the beneficiaries should be taxed to pay the full costs. Numerous instances of inequity exist in navigation, irrigation, flood control, and water supply programs in which beneficiaries do not bear the full financial burden.

In the view of the commission, subsidies are generally unfair: '... subsidies are only justified if they serve some compelling social purpose; where society benefits but where conventional markets and pricing mechanisms do not adequately reflect those benefits' [Luce *et al.*, 1973, p. 495]. With the exception of recreation the commission identified no overriding social purposes. None of the present and emerging water problems is identified as worthy of massive commitments of nonreimbursable federal funds. Some might argue that water quality, adequate urban water supply, preservation of coastal zones, estuaries, and water-based natural areas are national goals that demand nationally funded efforts. The report presents no theory of subsidies with which to judge such claims or to establish amount and means of subsidies if they are indeed justified. The commission only states a preference for explicit

subsidies, preferably in the form of cash payments if they are to be given at all. Such subsidies, of course, are politically very difficult to effect.

The commission treats the question of equity as if it were dealing with a clean ledger. Old programs are judged obsolete in view of today's needs. No account is taken of such informal understandings as those operative in water development in the West. These are formalized somewhat by river basin plans and basin development accounts. The purpose of the informal understanding is to ensure that all needs will eventually be served. Those states able to develop their water first, such as California, were allowed to proceed with water development projects under federal subsidy. The understanding seems to have been that as states or Indian tribes prepare to use local water, similar subsidies will be available to them. Claims of injustice and inequity will no doubt be raised if these informal agreements are abrogated by the termination of water programs.

Faith in dollar measurements. Since the equity notions of the report require costing out of benefits, there is a clear preference in the report in favor of economic efficiency criteria and a reluctance to become enmeshed in quantifying and measuring other values. For instance, one of the recommendations that the commission makes to provide equity to the Indian is to give the right to governing bodies of tribes to lease water appurtenant to a reservation to the United States at fair market value [Luce *et al.*, 1973, p. 48]. Similarly, in the section on interbasin transfers the commission suggests that the losses suffered by the area of origin be calculated in dollar amounts and that amount of money be paid to the area of origin as part of the project costs [Luce *et al.*, 1973, pp. 330-333]. The effect of this faith in dollar measurement is that the report gives little attention to the methodology now becoming available in multi-objective evaluations.

A number of quite possibly false assumptions underlie the commission's preference for economic efficiency and money measurements: (1) that economic analysis is more precise than it is; (2) that in order for information to be expressed in commensurate units those units must be economic ones; (3) that partial information aggregation, say, into six dimensions rather than a thousand, is not useful; and (4) that the use of nonquantified disaggregated information does not impose a severe cost in time and knowledge on decision makers and their staffs.

Consider the first point: that economic information is reasonably precise and in commensurate units. Based upon what is said in the 'green book' and actual practice of water agencies, it clearly is not [Interagency Committee on Water Resources, 1958]. Irrigation benefits are estimated in terms of producer surplus, power benefits in terms of monopoly market price, municipal and industrial benefits in terms of alternative cost, and recreation benefits in terms of consumer surplus. Certainly these are all measured in dollars, but the assumption that they are really commensurate kinds of estimates, in the commission's word 'precise,' is not more than an assumption.

The second assumption is that in order for something to be in commensurate units those units must be economic ones. If one adds apples and oranges, one totals the number of fruit. Why should this be less precise information than estimated accrual of dollars based on different estimation methods and concepts, analytical slight-of-hand made necessary by the lack of a market?

Such literature as exists on social indicators or designs for the aggregation of social and environmental information is not recognized in the report [Bauer, 1966; Peterson et al., 1971]. It would be unreasonable to ask the commission to take into account reports that were not available when they were completing their report. Still, it is reasonable to ask why they did not proceed in a direction that would lead to aggregation of information about, for instance, aesthetics. Others have done so [Brown, 1973].

The idea that 'plain, textual terms,' which the commission favors for social, environmental, and interregional effects, do not impose a high cost on the decision maker is not entirely defensible [Luce et al., 1973, p. 381]. One of the reasons for the primacy of benefit-cost analysis is that it is represented by a single number readily available and understandable to decision makers. Social and environmental information can frequently be expressed in units not necessarily economic. Non-economic measures, however, can be highly dimensional as to kind, location in space, and occurrence in time. Indices of social and environmental effects might be useful to the political process. The danger is that by allowing aggregation of other kinds of information the unaggregated information will be neglected because it is too unwieldy to be considered. It may not be necessary to point out that various kinds of aggregate indices that are in part misleading, e.g., the gross national product and the crime rate, nevertheless seem useful to at least some decision makers.

The commission report does attempt to look at indirect quantifications in the environmental area:

Values of water for fish, wildlife, and aesthetics cannot now be satisfactorily determined directly by economic evaluation. However, they can be indirectly valued by considering economic values of uses in the hydrologic system with and without these uses. These 'with and without' values would be determined so that informed judgments can be made on balancing of all uses within the hydrologic system.

[from Luce et al., 1973, p. 48]. We should know what market values we give up to have the nonmarket values. However, many environmentalists would point to the fact that again seemingly hard and handy data will be balanced against soft and cumbersome information where the history of judgments so informed has been to the advantage of the market values. One would hope that readers of the report would understand just how limited a measure of the value of, say, a wild river, that is, a commercial enterprise foregone, may be.

New federalism. Recent presidents have displayed a penchant for placing adjectives before federalism, the most recent of which is 'new.' The basic idea is Jeffersonian and calls for a concentration of initiatives and action at the level of government closest to the problem. The National Water Commission strongly supports state responsibility. The commission repeatedly calls for the concentration of activity at the state and local level. These calls recommend placing both the focus for the initiative and the initiative, itself, in the state and local arena. The bias against federal involvement may stem from a presumption that it will result in inequity and irrationality. Students of water politics have long observed that when congressmen and federal officials not involved directly with a problem have the opportunity to participate in designing a solution, log-rolling behavior occurs [Bromley et al., 1971]. The effects of a water project are felt largely on the local level, and decisions to elevate to the national level are often only to share the costs on a broad national scale. The decision is made

largely on the basis of the benefits available to those who are not directly involved.

Accurate though this reasoning may be, it ignores several important considerations. Different interests have quite different access to the state and national governments. The relatively greater influence that polluting and development interests have had upon state governments stalled serious attempts at pollution regulation until the federal government, more responsive to environmental interests, forced action. It is not sufficient to observe, as the commission does, that the state has adequate authority to act in a field. The real question is, will it? Availability of resources—money, expertise and personnel—is no more important than determination. The progress toward creating a water planning staff and implementing a mechanism is at a primitive stage in many states. The report fails to clarify states' capacity to perform functions expected of them.

Policy separate from administration. The report of the National Water Commission follows a historic tradition in public administration that prescribes that policy making ought to be separate from administration. The intellectual underpinnings of this doctrine can be found in the works of Woodrow Wilson, Frank Goodnow, and Luther Gulick. The separation principle was broadly applied by the first Hoover Commission on the Reorganization of the Executive Branch of the Government created in 1947. The position of the report is that only elected officials, particularly congressmen, make policy decisions. The role of the planner is simply to describe alternatives, lay out courses of action, study the probable consequences of choice, and submit the choice to policy makers [Luce et al., 1973, pp. 382-383]. The administrative function, in turn, is to administer policy in an efficient, fair, and unbiased manner. Congress must not be allowed to encroach upon administrative matters but be limited to the realm of general policy making. For this reason the commission recommends that year-by-year allocations for projects by congressional appropriations committees be replaced by long-term agency contract authority. 'By involving Congress in a broad sense and leaving specifics to the agencies that administer Federal assistance programs, the use of contract authority achieves an appropriate division between policy-making and administration' [Luce et al., 1973, p. 391].

The limitations of a prescription that separates policy and administration have been amply discussed elsewhere. Such an argument was lucidly made long ago by Stein [1952]. Recently, Ostrom [1973] critically analyzed all the basic propositions of the classical Wilsonian school of public administration, including the separation of politics and administration. Indeed he covered many of these in a report to the commission [Ostrom, 1971]. Suffice it to note here that a more accurate description of policy making includes a whole process that encompasses all the choices and participants from the time when a problem is identified to the point where the impact of choices is actually felt. Realistic analysis of the policy-making process would focus upon relationships rather than distinctions and separations. For instance, the report recognized that comprehensive basin-wide planning has not always had much effect upon the choice of which projects are actually authorized and funded [Luce et al., 1973, pp. 393-394]. Explanations and solutions must be sought through the positive and negative rewards that operate on all participants in the water policy process, be the participant an agency planner waiting to introduce a 'pet' project at a suitably propitious mo-

ment or a congressman overly sensitive to the vagaries of local pressures.

THE COMMISSION'S RECOMMENDATIONS

Four major criticisms of the report's recommendations can be made: They are not consistent; they are not cross referenced; they vary greatly in specificity, from the very general on some topics to the detailed on others; and they assume the existence of analytic and organizational resources that have not been shown to exist.

On page 161 the report states:

From the earliest days of the Nation, cities and industries have provided their own water supplies. In general, there is no reason why they should not continue to do so.

On page 441 the report states:

Increasingly, cities are obliged to go outside their immediate metropolitan areas for sources of supply, even beyond the river basins in which such cities are located.

On page 456, recommendation 12-4a proposes:

States, with the cooperation of metropolitan areas, should prepare state water resources plans that account for metropolitan area needs and that require the head of the appropriate planning agency of the state government to encourage, assist, and advise metropolitan and local government agencies responsible for planning metropolitan area water programs, particularly with respect to preparation and updating of regional metropolitan water resources plans.

Certainly, not all interbasin diversions managed by cities, such as the Owens Valley diversion in California or the Avra Valley diversion in Arizona, have been considered to be successful and appropriate by all parties concerned. Undoubtedly, coordination with a state planning agency would have ameliorated problems. But such coordination would require a competent water resource planning staff in each political jurisdiction. Should this be regarded as more efficient than to require only one staff charged with planning at the state or regional level? Although California now has a large and competent water planning staff at the state level, such a staff is only now emerging in Arizona and does not exist in some states. A realistic appraisal of the organizational resources of states and cities might change the recommendations made.

A realistic appraisal of interstate agencies also is missing. Among such interstate institutions the Delaware River Basin Commission and its copies are, for an unstated reason, the favorite, although river basin commissions are concluded to be unique and interesting; river basin commissions, the report recommends, should be allowed to go on doing whatever they do, which is nowhere discussed and criticized [*Luce et al.*, 1973, p. 418]. The continuing problems of regional institutions, whatever their particular form, ought to have been specified. Simply stated, whatever their authority, regional institutions have lacked the continued support needed to act vigorously. Individual states lack the incentive to expend staff, funds, and energy on regional water planning and management. Where federal agencies are not able to dominate regional institutions, they, like the state, evidence no real commitment. The National Water Commission might have made a contribution by devising and recommending ways in which the pattern of incentives for the existing participants in regional institutions might have been altered or new supportive participants identified.

The underlying tenor of the report seems to be that their recommendations should be implemented on an 'all or none' basis. If this is so, it should be so stated. If this is not so, where a recommendation is independent of other recommendations, this should be stated, and it should be stated when a recommendation is dependent on others. Although it is true that policy changes in an incremental fashion, it is important that increments be defined so that no disasters result. In not carefully defining the decision space and in not considering sets of decisions the commission runs the risk, if recommendations are implemented, of producing unanticipated and untoward results. Such considerations lead to the question of what overall impact the draft report and the final report will have.

IMPACT OF THE REPORT

Presidential commissions established to evaluate policy in a specific area suffer from certain common difficulties. *Jones* [1970] has outlined the conditions for optimum effect of a presidential evaluation commission: (1) a report coincident with other supporting events, (2) commission members from public service who are in important positions of authority in government and are committed to the recommendations, (3) commissions staff who return to positions in government in which they will influence the acceptance of recommendations, and (4) a report that supports the president's policy preferences in the issue area under consideration. According to the above criteria, the National Water Commission Report does not have a strong possibility of implementation. Events have not served to reinforce commission recommendations. Food shortages and increased food prices have strengthened the demand for irrigation. The energy crisis has prompted the serious consideration of resource development such as oil shale, which is highly water consumptive. There is an increased impetus for development schemes that will increase water supply to the Southwest and Rocky Mountain areas. Neither commissioners nor staff are among the career policy actors who can implement recommendations. Few of the members of the commission are active in water policy and the chairman, Charles F. Luce, though forceful and influential, is at present outside government. By law there were no congressmen on the commission, and in operation, continuous contact with legislators was not maintained. The top-ranking commission staff was purposely chosen to be men close to or at retirement in order to avoid the dangers of construction agency bias. Some of the report, especially that part related to equity and new federalism, may be favorably received by the president. At the same time, presidents have seldom demonstrated a real commitment to alter the politics of water.

The best chance the National Water Commission Report might have had for impact was through the force of its quality as a professional document upon the students of water policy who are oriented toward innovation. It is very unlikely that the report itself will or could ever be used as a platform for reorganization of water policy. It is too discursive over too many separate unrelated topics. As we have already illustrated, the report essentially has no comprehensive framework to indicate what is important and what relates to what. The usefulness of the commission report as a blueprint for change is also severely limited by the lack of any theory that explains how we got where we are in water policy and how to go about changing. The commission needed to identify the incentives and disincentives that operate upon current participants in making water policy and the means by which and extent to which they might be changed.

The National Water Commission Report is a kaleidoscopic assembly of findings and recommendations. It is left to the policy makers to pick and choose recommendations while gambling on the practical consequences. Without question the National Water Commission Report's authors meant to change the costly fragmented distributive politics of water in which a variety of interests, even contradictory ones, are served. Instead, the report, itself fragmented and disjointed, is likely to become a part of and reinforce the existing decision-making process.

Acknowledgments. The authors wish to thank Richard K. Moore, University of Arizona, for research assistance in preparing this review.

REFERENCES

- Bauer, R. A. (Ed.), *Social Indicators*, MIT Press, Cambridge, Mass., 1966.
- Bromley, D. W., A. A. Schmid, and W. B. Lord, Public water resource project planning and evaluation: Impacts, incidence and institutions, *Working Pap. 1*, 57 pp., Center for Resour. Policy and Programs, Univ. of Wisc., Madison, 1971.
- Brown, P. J. (Ed.), Toward a technique for quantifying aesthetic quality of resources, *PRWG 120-21*, Utah State Univ., Logan, Feb. 1973.
- Interagency Committee on Water Resources, Proposed practices for economic analysis of river basin projects, revised report, pp. 35-45, Washington, D. C., 1958.
- Jones, C. O., *An Introduction to the Study of Public Policy*, Wadsworth, Belmont, Calif., 1970.
- Lindblom, C. E., The science of muddling through, *Public Admin. Rev.*, 19(2), 79-88, 1959.
- Luce, C. F., H. Appling, Jr., J. R. Ellis, R. C. Ernst, R. K. Linsley, J. E. Murphy, and J. Wheat, Water policies for the future, Final Report to the President and to the Congress of the United States, Govt. Print. Office, Washington, D. C., June 1973.
- Ostrom, V., Institutional arrangements for water resource development, report, Univ. of Indiana, Bloomington, 1971.
- Ostrom, V., *The Intellectual Crisis in American Public Administration*, University of Alabama Press, University, Ala., 1973.
- Peterson, D. F., R. d'Arge, C. D. Gordon, M. Marts, T. G. Roefs, R. Roelofs, and H. Caulfield, Water resources planning and social goals: Conceptualization toward a new methodology, *PRWG 94-1*, 89 pp., Utah State Univ., Logan, Sept. 1971.
- Stein, H., *Public Administration and Policy Development*, Harcourt, Brace, and World, New York, 1952.
- U.S. Department of Interior, Energy Task Force, *Southwest Energy Study*, 14 vols., U.S. Government Printing Office, Washington, D. C., 1972.
- White, G. F., *Strategies of American Water Management*, University of Michigan Press, Ann Arbor, Mich., 1969.
- Wildavsky, A. B., The political economy of efficiency: Cost-benefit analysis, systems analysis, and program budgeting, in *Political Science and Public Policy*, edited by Austin Ranney, pp. 55-82, Markham, Chicago, Ill., 1968.

(Received May 8, 1973;
revised September 5, 1974;
accepted October 4, 1974.)