

Federal Water Policy Initiatives: An Evaluation of Presidential Recommendations to Congress

by Warren Viessman, Jr.*

Summary

President Jimmy Carter's Water Policy Initiatives (WPI) announced on June 6, 1978, contain needed improvements in cost-sharing policies and a strengthening of environmental considerations in water resources development. The Water Resources Council (WRC) is directed to improve the Principles and Standards and to establish conservation as a principal component of the national economic development and environmental quality objectives of water resources planning. Many politically sensitive issues were side-stepped, however, and several topics were presented in generalities with no substantive remedial action proposed. The WPI contains no recommendations on water quality, research or planning coordination. The principal features of the WPI are summarized below:

- The Water Policy will not preempt State or local water responsibilities.
- Conservation is added as a specific component of the economic and environmental objectives of the Principles and Standards.
- Consistency is to be achieved in calculating benefits and costs.
- A water project review board within the WRC is to be established.
- Consistency in cost sharing for structural and nonstructural flood control alternatives is proposed (legislation required).

- A greater degree of non-Federal cost sharing for all water projects is proposed (legislation required).
- Water conservation measures would be a condition for receipts of Federal grant and loan funds for various purposes.
- Planning grants to States would be significantly increased.
- A matching grant, water conservation technical assistance program is proposed (legislation required).
- More vigorous enforcement of environmental statutes is being sought.
- More emphasis is to be placed on determining and encouraging allocation of flows for in-stream needs.
- The Federal agencies are to cooperate with States in solving groundwater problems.
- Federal agencies are to inventory and quantify Federal reserved and Indian water rights.

Background

President Carter's May 23, 1977 environmental message to Congress inaugurated a wide-ranging review of national water policy. The objective of that study, conducted by the WRC, the Office of Management and Budget (OMB) and the Council on Environmental Quality (CEQ), was to produce viable options for reform. Topics considered were identified in a set of "issue and option" papers published on July 15 and July 25, 1977 in the *Federal Register*. They were:

- Revision of water resources planning and evaluation criteria and procedures.

Reprinted by special permission from Warren Viessman, Jr Presented at the American Society of Civil Engineers' National Speciality Conference, "Legal, Institutional and Social Aspects of Irrigation and Drainage and Water Resources Planning and Management," July 26, 1978, Blacksburg, VA.

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- Cost sharing.
- Policy considerations and alternatives relative to institutions and institutional arrangements.
- Water conservation
- Research.
- Federal reserved water rights.

In July and August 1977, regional hearings were held in Minneapolis, Denver, Boston, Dallas, Atlanta, Los Angeles, Seattle and Cincinnati. Considerable adverse reaction was voiced, especially from water interests in the western states. Consequently, the Senate passed a resolution, S. Res. 284 (October 1977), expressing its concern about possible interference with the traditional State role in water allocation actions and the need for consultation with the Congress.

On February 3, 1978, Secretary of the Interior, Cecil D. Andrus, met with the Subcommittee on Water Management of the National Governors' Association. The governors were seeking a stronger role in the water resources decisionmaking process; of particular importance to them was the economic viability of their regions. Governors in the East were seeking more help for urban water problems while those in the West were concerned about their State-rooted water rights. It was the consensus of the governors that any national water policy should be the result of a cooperative, national, not primarily Federal, effort. As a result of intense pressures, the President agreed to discuss his water policy proposals with a delegation of governors before announcing his decision.

Following consultations with members of Congress, State, county, city and other local officials and the public, the results of the water policy review were transmitted to the President by Secretary Andrus in May 1978. On June 6, 1978, President Carter presented his federal Water Policy Initiatives to the Congress [1]. He said:

I am today sending to Congress water policy initiatives designed to:

- Improve planning and efficient management of Federal water resource programs to waste and to permit necessary water projects which are cost-effective, safe and environmentally sound to move forward expeditiously.
- Provide a new, national emphasis on water conservation.
- Enhance Federal-State cooperation and improve State water resources planning.

- Increase attention to environmental quality.

He further stipulated that the WPI would not impose any new Federal regulatory program for water management.

The WPI contained positive recommendations on: conservation; cost sharing; planning procedures; and environmental protection, but many controversial subjects were avoided and several important issues were given only cursory treatment. Of particular importance is the fact that the water quality-water quantity interface was not considered, nor was there any proposal relative to the Federal water pollution control program with its massive outlays for capital construction.

An analysis of the President's Federal Water Policy Initiatives of June 6, 1978 follows.

Revision of Water Resources Planning and Evaluation Criteria and Procedures

Planning and evaluation of Federal water projects and programs are hampered by the great number of agencies and departments involved and the inconsistencies and complexities of their procedures.

In consideration of the adequacy of the water resources planning objectives, the President stated that national economic development (NED) and environmental quality (EQ) would be retained and given equal emphasis. In addition, water conservation would be made a specific component of both of these.

The recommendation to include conservation as an element of the principal objectives rather than to assign it separate status appears sound. Conservation is only one of several approaches which might be used singularly or in concert to meet the Nation's water development goals. It seems more logical to consider it as a program than as an objective. Its explicit incorporation into plans for water resources development should result in more innovative and less structure-oriented designs.

Determination of appropriate roles to be played by Federal, State and local governments is considered prevent by many to be a prerequisite to the solution of most critical water problems. The WPI gave this subject little attention but accelerated activity by State and local governments was emphasized. These proposed actions are illustrative:

- Substantially increasing from \$3 million to \$25 million the annual funding of State water planning under the existing 50%-50% matching program administered

by the Water Resources Council (P.L. 89-90).

- Preparation of legislation to provide \$25 million annually in 50%-50% matching grant assistance to States to implement water conservation technical assistance programs.
- Working with State governors to create a Task Force of Federal State county city and other local officials to continue to address water related problems

While increased funding for State water planning is desirable according to most authorities, the size of the increase proposed could be questioned. The concept of water conservation technical assistance programs is also attractive, but a pilot program might be worth considering before setting a funding level.

Economic analysis of water projects was emphasized in the WPI. It was stated that the implementation of the Principles and Standards (P & S) [2] should be improved by instituting consistent procedures for calculating benefits and costs. Such analyses are not uniformly applied by Federal agencies, and in some cases, benefits have been improperly recognized, "double-counted" or included when inconsistent with Federal policy or sound economic rationale. To provide a mechanism to assure the needed consistency, the WRC and its member agencies were directed to:

. . . (1) evaluate current agency practices for making benefit and cost calculations, and (2) publish within 12 months a new planning manual to ensure that benefits and costs are estimated using best current techniques and calculated accurately, consistently, and in compliance with the P & S and other economic evaluation requirements. . .

There can be little argument that there is a need to achieve greater consistency and reliability in economic and other aspects of project analysis. In this respect, the Water Policy Initiatives are a forward step. It is noteworthy, however, that the lack of P&S coverage of federally assisted projects was not addressed. This is a significant omission, particularly when one considers that Federal grants and loans for water projects now exceed direct Federal funding. Attention should be given to the development of a feasible mechanism for subjecting P.L. 92-500 projects to standards analogous to those which other water projects are required to meet.

The discount rate (currently 6-7/8 percent) greatly

influences the outcome of benefit-cost calculations. High rates favor projects with low initial investments while low rates favor capital-intensive projects. Remark - on this subject, the President stated:

. . . After careful consideration of a range of options, I have decided that the currently legislated discount rate formula is reasonable, and I am therefore recommending that no change be made in the current formula. Nor will I recommend retroactive changes in the discount rate for currently authorized projects.

The WPI, by maintaining the status quo, sidestepped this politically volatile issue. The level of the discount rate has been debated intensely for years. Some prominent university economists and many environmentalists favor considerably higher rates based upon an opportunity-cost approach, while many pro-development interests consider that the present discount rate includes provisions for currency depreciation and is therefore too high. There are also many who believe that grandfather clause allowing some projects to use interest rates of a time long past is illogical, uneconomic and inequitable.

The WPI confronted the issue of excessive focus on structural approaches to water resources development. It set forth a requirement that there be an explicit formulation and consideration of a non-structural plan as one alternative whenever structural water projects or programs are planned. Such plans would incorporate a combination of nonstructural or demand-reducing measures which could be employed to achieve the project purpose. Floodplain management techniques (such as zoning), pricing policies and groundwater recharge are representative of these measures.

The June 6 Initiatives also addressed problems of non-uniformity in project planning and evaluation procedures. It was stated:

No entity other than the construction agency itself now effectively monitors water project planning to ensure consistency and accuracy of benefit-cost calculations or compliance with relevant statutes, regulations or procedures.

An entity is needed to provide an impartial review of all water projects during the planning phase to assure technical compliance with the Principles and Standards and related laws and other requirements. . .

To resolve this problem, the President announced that an independent review function would be assigned to WRC. It was also stipulated that the P & S requirements and the independent review process would apply to all authorized projects not yet under construction.

The concept of an independent board to review agency proposals has often been recommended. This mechanism could provide unbiased evaluations of project analyses and be used to address questions of safety and environmental impact as well. On the negative side, it would add another layer to already lengthy review processes and could aggravate problems of delay. Staffing and time requirements would need scrutiny and a determination should be made of the nature and scope of projects to be reviewed. In addition, there is some question of the advisability of assigning a project review function to WRC, an agency intended to play a formative role in guiding U.S. water policy and in developing a national water planning strategy. Assignment of specific project responsibilities could easily divert the talents of WRC away from its principal mission. Further, the review function would place WRC in an adversary position with the States, a counter-productive move relative to its coordinating role.

Planning coordination was not addressed in the WPI, although this long-standing problem is well documented and deserving of attention. Of particular importance is the issue of water quantity-water quality planning and program coordination [3].

Cost Sharing

Cost sharing is a critical element of national water policy. Unfortunately, cost-sharing arrangements are presently inconsistent among programs, purposes and agencies. This disjointed approach favors: structural over nonstructural solutions; capital-heavy construction alternatives over more economical solutions (having a higher proportional cost of operation and maintenance); and high levels of wastewater treatment over other alternatives such as control of urban runoff and dispersed sources of pollution [4].

Cost sharing was given considerable emphasis in the President's Water Policy Initiatives. He stated that the approach proposed would involve the States more heavily in water project decisions and eliminate many of the conflicting rules governing cost sharing for flood control projects. He directed the WRC to prepare, with respect to the programs of the Bureau of Reclamation, Corps of Engineers and TVA, necessary rules, procedures, guidelines or legislation to:

- Require that States provide a legally binding commitment to contribute a 10 percent cash share of the construction costs associated with vendible outputs of water projects within its borders plus 5 percent of the cost of other project purposes. This would be in addition to existing cost-sharing arrangements. The Soil Conservation Service (SCS) would be exempt from this requirement.
- Provide for the sharing of revenues from vendible outputs between the Federal Government and the States in proportion to their respective investments
- Make State cost-sharing requirements mandatory on projects not yet authorized by law, and voluntary on those projects authorized but not yet under construction.
- Include an annual project-by-project "cap" on State contributions of 1/4 of 1 percent of the State's general revenues.
- Modify existing cost-sharing rules to require in addition to the cost-sharing requirements covered above, a 20 percent contribution for either structural or nonstructural Federal flood damage reduction measures. This would equalize structural measure cost sharing with the existing authorized arrangement for nonstructural flood control measures. This requirement would apply to the three agencies covered above, plus the Soil Conservation Service.

The President's recommendations on cost sharing may be considered representative of a cost-sharing floor. By requiring that the States contribute a more substantial portion of project costs, greater care in setting priorities should result, coupled with the tendency to build the best projects. In addition, it is likely that those projects selected will have more expansive benefits and will not be as provincial in their purpose. On the other side of the coin is the possibility that if non-federal cost shares become dominant, the national interest will not be well served.

The cost-sharing proposals, although suggesting greater consistency than the current situation, do not really achieve this. As was pointed out in the "Section 80 C Study," there exists a wide variation in cost-sharing levels among purposes, programs and agencies. For the most part, the President's proposals do not eliminate these; rather they superimpose an additional 5 to 10 percent charge upon existing cost-sharing arrangements. It is difficult to understand why the inconsistency problem was not met head on.

While there are provisions to guard against stiff cost-sharing requirements where larger projects are involved, it is not clear whether these are sufficient. The condition that the State contribution must be cash and legally committed may be difficult for some States to accommodate. Problems could occur due to the amount of funds required, and the State's ability to time its commitment in light of budgeting cycles and possible uncertainty of revenue to cover anticipated costs.

Relative to flood damage reduction, it was recommended that both structural and nonstructural measures require 20 percent non-federal cost sharing over and above other requirements. This attempt to eliminate inconsistency is commendable. It might have been better however, if a uniform level had been set for all flood damage reduction measures. As it now stands, any existing cost-sharing provisions would be supplemented with the new proposals. In addition, the exclusion of SCS projects from the 5-percent share for non-vendible outputs results in a new 20 percent non-federal share for these projects as opposed to a 25 percent share for projects constructed by the Corps of Engineers, Bureau of Reclamation and TVA.

Although the cost-sharing requirements are not applicable to projects already authorized, it was noted that expedited consideration would be given those projects for which a State voluntarily guaranteed these cost-sharing contributions. In theory, this is a meritorious proposal, one which suggests that States sincerely interested in water development will be accommodated. There exists the very real possibility, however, that poorer States could not comply with this ideal, thus placing them at a competitive disadvantage.

Legal and institutional aspects of cost sharing deserve attention but were not considered. Practical assessment and collection procedures and mechanisms for identifying principal beneficiaries should be carefully assessed and full cognizance given to Federal laws and regulations, State statutes and financial constraints.

Policy Considerations and Alternatives Relative to Institutions and Institutional Arrangements

The avoidance of impairment of environmental values was stressed in the President's Water Policy initiatives. This is exemplified by the actions proposed:

- A directive to the Secretary of Interior and other Federal agency heads to implement vigorously the Fish and Wildlife Coordination Act, the Historic Preservation Act and other environmental statutes.

- A directive to agency heads requiring them to include designated funds for environmental mitigation in water project appropriation requests to provide for concurrent and proportionate expenditure of mitigation funds.
- Accelerated implementation of Executive Order No. 1 1988 on floodplain management. This Order requires agencies to protect floodplains and to reduce risks of flood losses by not conducting, supporting or allowing actions in flood plains unless there are no practicable alternatives.
- A directive to the Secretaries of the Army, Commerce, Housing and Urban Development and Interior to help reduce flood damages through acquisition of flood-prone land and property, where consistent with primary program purposes.
- A directive to the Secretary of Agriculture to encourage more effective soil and water conservation through watershed programs of the SCS.

The WPI emphasized protection of instream flows for recreation, water quality, aesthetics and fish and wildlife habitats. Though crude, current estimates of instream flow needs suggest substantial conflicts with other water uses, notably irrigation and energy resources development. In general, the amount of water available for storage or for new use will be reduced by about 30 to 60 percent for any one selected storage volume and location if present calculations of instream flow rates are adhered to. Such requirements might well be the most critical water development issue in a river basin.

There is widespread support for additional research to aid in determining the quantities of water needed to satisfy flow requirements. In addition, data needs for determining appropriate instream flows are ill-defined and comprehensive programs to secure basic data are lacking. This suggests a research directive to meet these needs, but the WPI contains none.

Improvements in water management associated with the relationship between ground water and surface water and the relationship between water quantity and water quality are urgently needed. The importance of both issues is well-documented. Relative to ground water, State laws and court decisions have sometimes failed to recognize that surface waters and ground waters are interrelated and often part of the same system. On this issue, the WPI stated the following:

Management of groundwater resources is essentially a State and local function although EPA has certain statutory responsibilities to protect underground water resources in conjunction with the States. However the absence of laws and procedures in many areas has created problems which have resulted in calls for Federal water resource development.

To improve Federal cooperation with States relative to ground water the President directed the following actions be taken:

- Federal water resource agencies are directed to assess groundwater problems as projects are planned.
- Federal water resource agencies are directed to work closely with States and local governments to seek resolution of groundwater problems.

The WPI recognizes the groundwater problem but does not include any substantive remedial actions Federal State partnerships for developing model water codes and programs which set conditions on grants and loans to require cognizance of surface water-ground water linkages could provide guidance and incentives. The recommendations of the National Water Commission on groundwater management deserve further consideration [5].

Problems related to the water supply-water quality interface stem mainly from the fact that federally directed planning under P.L. 92-500 (Water Pollution Control Act Amendments of 1972) is conducted outside the procedures for comprehensive planning developed by the WRC [3]. In addition the Environmental Protection Agency (EPA) guidelines do not fully accommodate the water quantity-water quality interface. Particular consideration should be given to coordination of EPA's 208, 209 and 303e planning processes with those of major direct Federal programs related to water quantity. This important issue was not addressed in the WPI.

It has long been recognized that the varied nature of States' water rights and the manner in which they are administered have created problems. Both intrastate and interstate problems have resulted and inefficiencies in water use have been a by-product. Greater emphasis could be placed on total water management. To accommodate this some modification of States water rights and/or administrative procedures seems inevitable. Pricing and cost-sharing mechanisms could be used to provide incentives.

The States should review their water law doctrines and consider removing legal impediments to water saving practices. The Federal Government working through the river basin commissions or other regional authorities could play a useful role in assisting States to develop statutes that recognize the interrelationship of surface water and ground water and provide for integrated management and conjunctive use of water supplies.

Although the WPI explicitly avoids imposing any new Federal regulatory programs positive steps by the Federal Government to aid the States in resolving tough water management issues should be encouraged. The Congress could explore this subject and devise cooperative measures to facilitate identification and implementation of needed changes. It could also review the nature of water subsidies a sensitive issue avoided in the WPI.

Water Conservation

It has long been recognized that the exercise of conservation practices can stretch water supplies and protect water quality. The difficulty has been in getting people to accept and employ known technology. The prevailing attitude that more will be provided when the well runs dry combined with a widespread lack of concern for the future makes voluntary conservation more wishful than realistic. The common-property character of water also constrains implementation of conservation practices. Thus hard-to-make changes in deeply-rooted institutions such as water rights organizational structures and long-standing social customs appear needed. Fortunately timely incremental action could bring about revisions in new water development endeavors and set the strategy for modifying existing operations.

Methods for combating inefficient water use were stressed in the WPI. The President set forth several initiatives to encourage conservation including pricing technical assistance and Federal program reforms designed to help alleviate the problems. These include directing:

- Agriculture Commerce and EPA to modify financial assistance programs for municipal water supply and sewer systems to require appropriate community water conservation programs as a condition of loans and grants.
- HUD Agriculture and VA to modify housing assistance programs to require use of water reducing technologies in new buildings as a condition of receiving assistance.
- GSA in consultation with affected agencies to implement measures to

encourage water conservation at Federal facilities.

- All Federal water agencies to require development of water conservation programs as a condition of contracts for storage or delivery of municipal and industrial water supplies from Federal projects.
- All Federal departments to review programs and policies for consistency with water conservation principles.

In addition special emphasis was placed on improvement of irrigation repayment and water service contract procedures under existing authorities of the Bureau of Reclamation.

There are many who subscribe to obtaining water conservation through pricing systems rather than by regulation or statute. This is an over-generalization however and in some instances it may be more feasible to obtain the needed changes by regulatory authority. There is also merit in conditioning grant and loan programs by requiring establishment of conservation programs. Determining the nature of these and how they can be implemented is another matter. The president's water policy does not clarify this point. Well intentioned as his proposals may seem great hardships and expense could result if the conditions imposed are ill-devised. Caution should be exercised in determining their explicit nature. In any event regional State and local differences argue against a uniform national policy.

The payoff from conservation practices will depend heavily on development of incentives to: (1) incorporate conservation practices into new development and (2) modify existing systems to incorporate the best available conservation technology.

Because large-scale reductions in water use will not be realized unless existing systems (especially those used in irrigation) are modified every effort should be made to determine practical options for generating such changes. New systems can be designed according to revised procedures but the treatment of old systems will require great care since the cost of their revision may far exceed the owner's ability to pay.

Relative to groundwater depletion the water policy directed the Departments of Agriculture and Interior:

... through a variety of approaches to encourage conservation and discourage overextension and groundwater depletion in their agricultural assistance programs which affect water consumption in water-short areas.

The problem of groundwater management is of national importance. It is complicated by: nonexistent varied and ill-advised laws; spotty regulation; lack of data; political sensitivity; and development programs oblivious of critical groundwater-surface water interrelationships. The WPI gives this important issue only scant attention.

Total water management and water reuse were not confronted in the June 6 message. Both of these topics are important and should be given priority consideration. The resolution of many critical water problems awaits the ultimate implementation of comprehensive, authoritative water management programs.

Water Quality

Municipalities and local governments cannot be expected to undertake a pollution control program of the scale envisioned by P. L. 92-500 without Federal assistance [4]. Aside from the large costs involved complications arise due to the relationships between water quality and land use, water resource development and use, maintenance of instream flows and environmental protection.

The Carter Administration has been supporting the position that money spent on wastewater treatment should be used to build projects covering the highest priority needs. These are to be the most cost effective and ones which will not lead to greater environmental assaults on the air, water and land. Commitment of heavy public funding to this program is to be predicated on an environmental focus. On this issue the EPA has noted: "If the program . . . loses sight of its environmental objective the Federal Water Pollution Control Program will be in danger..." According to the National Commission on Water Quality however meeting the 1983 goals would cost far more than the Nation could afford (in excess of \$501 billion). Consequently it seems clear that priorities will have to be set and choices made accordingly.

Considering the importance of water quality to the Nation and the portion of the Federal water budget devoted to this area (over 50 percent) it is notable that the President's WPI does not confront this matter. The reality that water quantity-water quality issues must be dealt with jointly will have to take hold if efficient water management and development are to occur. In this respect the recommendations of the National Water Commission [5] and

the National Commission on Water Quality [6] are worth reviewing. The goals of water quality management might well be considered in the context of a comprehensive policy for total water management.

Water Resources Research

Unless coordination, planning and implementation of Federal water research programs are improved, little change from the current situation can be expected. It also seems that a close, balanced relationship should be sought between water research and water resources planning processes. Determination of funding levels to permit effective research on priority issues and provision of mechanisms for translating this information into budget processes should be given top consideration. While President Carter's emphasis on better water management suggests the need for a responsive water research program, the WPI is barren of any pertinent recommendations

Federal Reserved and Indian Water Rights

The President has instructed Federal agencies to work promptly and expeditiously to inventory and quantify Federal reserved and Indian water rights. In some areas, States have been unable to allocate water because these rights have not been determined. The quantification effort is to focus first on high priority areas, and is expected to involve close consultation with the States and affected water users. Negotiation rather than litigation is to be emphasized

The issue of Federal reserved water rights is especially significant in the public land States. The problem is that the uncertainty created in attempting to strike a water budget where there is no quantification of Federal reserved rights makes planning and development difficult at best.

Special consideration could be given to integrating Federal reserved rights into existing State water rights systems. Thereafter, these rights could be subject to court decrees, interstate compacts or other institutional developments affecting the source of water involved. Establishing a forum outside the judicial system to resolve Federal reserved rights questions deserves full consideration.

There are many who believe that the Federal Government should pay compensation to the holders of established water rights that are destroyed or impaired by the exercise of Federal reserved water rights. It can be argued that water-related investment has been made with full knowledge of the possible consequences of the exercise of such rights, yet Congress may wish to guarantee that any disruption caused be ameliorated by adoption of a compensation mechanism.

The competition between Indian and non-Indian water rights poses some extraordinary problems. Most Indian reservations predate extensive water development projects in the western U.S., although the use of water in significant quantities by the Indians has generally developed in recent years.

The tribes are concerned that water used for energy and other non-Indian development will adversely affect their water rights and lead to a depletion of supplies critical for sustaining future economic development on their reservations. They seek assurances that their water requirements will be properly considered in all planning scenarios.

In the President's Water Policy Initiatives, it was stated that:

- The Bureau of Indian Affairs, through the Department of Interior, is being directed to develop and submit a plan for the review of Indian water claims to be conducted within the next ten years
- All Federal water development agencies are being directed to develop procedures to be used in evaluating projects for the development of Indian water resources and to increase Indian water development in conjunction with quantification of rights ...

The quantification of Indian water requirements for both short- and long-range planning horizons is urgently needed and should be given high priority. The negotiation approach suggested in the water policy is considered superior by most authorities on Indian water rights. If it can be accommodated it should shorten the time span for resolution of many problems. The ten-year time frame proposed for the Bureau of Indian Affairs to submit a plan for, and conduct a review of, Indian water claims does not seem in keeping with the President's instruction to Federal agencies to ". . . work promptly and expeditiously to inventory and quantify Federal reserved and Indian water rights." Problems associated with these rights are already of critical proportions in some areas and timely action seems warranted. The statement that Federal agencies should develop procedures ". . . to increase Indian water development . . ." is not consistent with the general tenor of the President's WPI which is to conserve water and to seek non-development alternatives whenever practical. To encourage water development on Indian lands is to invite more trouble in many

water-short regions. This is not to say that Indian waters should not be developed, but rather that other options for solving Indian problems should be considered in planning processes

A final note of caution is in order. Care must be exercised in any quantification scheme to assure that "reasonable," not "inflated," determinations of future water needs results.

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