

The Water Management Challenge

Warren Viessman, Jr.

University of Florida

Introduction

Water management is everyone's business. There has too-long been a void between agencies proposing how to manage the nation's waters and those caring about the nature of the management styles proposed. A melding of views must be achieved, the challenge is to bring it about. Some keys to this are enumerated herein.

Commit Totally

Every stakeholder should be involved in planning and decision making processes. Total involvement is required. All of us are stakeholders and we must learn to accept a forum view rather than the traditional parochial one.

Planning and management agencies should seek invitations by other agencies, interest groups, and organizations to enter into cooperative partnerships. Cultivating relationships among stakeholder groups facilitates resolution of disagreements. Establishing networks facilitates the development of programs that can meet the interests of those at the table.

Accept the Institutional Challenge

Entrenched traditions of agencies, rules of law, and social customs resist modification and often constrain good water management. But by exploring alternative ways of solving problems, identifying the pros and cons of implementing various options, and by articulating payoffs that could result from change, reforms can be brought about. The roles of the federal and state water agencies need redefining. Changes in program emphasis announced by the Bureau of Reclamation in 1987 are an example. But it is not enough to say that changes will be made, they must be real, and not just ploys to ensure continued funding for old ventures.

Planners and managers should be sensitive to the impacts their proposals may have on other governments and/or agencies. What is considered best at one vantage point is not necessarily the best at another, and plans for action should be developed in recognition of such differences.

Since the demise of the Water Resources Council (WRC) in 1982, there has been a vacuum at the federal level in providing a water policy and management overview. This missing link needs filling. The WRC provided a forum that no longer exists. It was designing a format for cataloging the

nation's water problems and identifying options for dealing with them. It was recognizing the special problems associated with the protection of natural systems and it was creating an ethic of more reasoned and more conservative water use. It was providing a forum for a state-federal partnership. Furthermore, the Council was taking a look at the "big picture" a look that more parochial agencies could not, or would not, take. The value of having some type of council or water board is widely recognized. But the "turf-protection" attitude that exists in Congress and the Administration impedes its development.

Regional, international, and global water management institutions must also be designed and implemented. Cities, counties, states, and even nations, are often too limited in jurisdiction to deal appropriately with water issues that transcend their boundaries. A broad understanding of the functioning of entire ecosystems must become the basis for unified action.

Finally, we must find a way to overcome the "not in my backyard" (NIMBY), syndrome. Problems associated with water management are often compounded by blocking actions of those who may be in agreement with the need to solve a problem but do not want it solved in their locality. This encourages continued malpractices, and delays even incremental improvements.

Define the Costs and Benefits

Too many believe that water should be provided free, and that they should be able to use it in any way they see fit. But questions must be raised relative to the costs to be incurred by various water management options and the benefits to be gained, and by whom, of implementing them. With federal funding cutbacks, state and local governments will have to bear an increasingly larger share of costs.

We are going to have to take a hard look at our national priorities and reconsider how water management fits in. A reshaping of priorities for allocating the nation's assets is in order. We can't fund additional water management initiatives out of new money when there is none. What must be done is to shift resources from areas of excess indulgence, to those in need, the water environment being a case in point. Untouchables will have to be touched, but there are few other viable options.

Establish Partnerships

Planning and management agencies should aggressively move to strengthen and/or establish partnerships with relevant publics (Environmental Advisory Board, 1991). But this partnering must be based on an understanding that the missions, legislative mandates, and administrative policies among partners may be very different. It requires that differences in view be identified and accepted, and that commonalities in interest be sought as the building blocks for consensus. The goal should be to ensure that there are no real losers, that all receive some spoils in pursuing a common target. Partners must recognize that tradeoffs must be made to improve the collective whole. A necessary condition for establishing mutual trust is that partnering arrangements be open, frank and honest. Unless that condition is met, there will be little incentive for meaningful cooperation.

Educate and Communicate

Education and communication are fundamental elements in shaping the direction of water policy. Every citizen should be taught to accept a moral obligation to protect the earth from abuses by governments and individuals and to strive to bring about a more environmentally conscious electorate. And progress along these lines is being made. For example, in 1983, the Texas Society of Professional Engineers became convinced that an informed citizenry was a prerequisite to solving the state's water problems (Smerdon, 1989). Farsighted leaders saw the value of incorporating information on water resources in the curricula of elementary and secondary schools. It was believed that benefits would extend from students to their parents through a student-parent network.

Capture Society's Views

Planning is for people, and it is their vision of the future that must be captured. They, not the planners should set the specifications. Furthermore, the public should be used as a sounding board for suggesting reformulations of existing water projects and programs. Planners must learn to identify and embrace public views and perceptions at the outset.

Articulate Risk

A troublesome issue is that of dealing with risk. There are problems surrounding the quantification of risk, the perception of risk, and the level of risk to be accepted by society (Keith, 1986). Unfortunately, there are not many good models for risk communication to the public. There is a great need for education on the part of both those who understand the likelihood of danger and those who only perceive that danger. Scientists are often not able to converse adequately with the public or to deal with emotion

rather than reason. The policy maker, on the other hand, must be able to operate in an arena of uncertainty and public fear, and at the same time bring some rationality into judgments about levels of risk to accept. There is a need for targeted risk assessments and risk benefit analyses. And the public view must be included, up-front, in policy designs where risk and uncertainty are issues. The costs and benefits of reducing risk must be more clearly articulated.

Foster Technological Awareness

The technologic capability for addressing water management problems is staggering. But exploitation of its potential is constrained by our inability to apply it within the realities of political and social systems. Scientific and technical understanding should be united with the goals of society. Optimal technical approaches may be, and often are, socially unacceptable, and compromises usually have to be struck. And these settlements must be based on a blending of technical understanding and public perception. It is incumbent upon technicians to exercise every measure available to them to ensure that the public view is understood and incorporated in their designs.

Provide the Forum

Formulating water policies which effectively address public views requires providing the right forums for the circumstances. Two types of forums are needed, those related to resolving conflicts (consent building), and those related to solving problems that transcend normal political and/or agency boundaries (system-encompassing). To deal with conflicting interests, the principal stakeholders (publics), must be brought together in an atmosphere that encourages cooperative exchanges of views (Babbitt, 1988). The key is to make negotiation rather than litigation the vehicle for settlement.

Workable strategies are needed to enhance the ability of agencies to deal with the various publics as they address water resources problems. Agencies should work to provide forums in which all of the involved publics can explore mutually acceptable courses of action.

Be Proactive

Water management plans must be proactive. They must be pace-setters in affecting water management decisions. This is important because water management decisions frequently default to regulators and the courts which rarely have the expertise to prescribe appropriate courses of action.

Water management plans should be designed to guide water resources policy making. Adjustments in philosophy and plan definition by planners will be required, and support of a more positive planning role by legislative

bodies and implementing agencies will be needed. There will have to be a more interactive interface between planners and the public. Identification of potential sources of conflict will have to be made an integral part of the planning endeavor so that these conflicts can be dealt with up-front, and options for resolving them sought before combative situations emerge. Because water management is heavily influenced by regulatory requirements, it is crucial that these measures be the result of carefully devised plans and the policies that flow from them. Water management guided by regulatory measures and court actions is destined to be parochial and sub-optimal.

Unfortunately, the adoption of effective planning models has been hampered by the separation of planning and implementing authorities, turf protection attitudes, inadequate and poorly paid planning staffs, short sighted focusing of efforts, lack of objectivity, poor understanding of the planning role, and limited funds. The states, in particular, have been deficient in their ability to sustain comprehensive water resources planning functions. Thinking imaginatively about better ways to plan and manage has not been a strong point in our government.

Take a Holistic View

Water policies of the future must take on broad dimensions. Agencies must begin to adopt holistic problem-solving approaches to planning and management (Sheer, 1989). More emphasis must be placed on regional planning and management, and regional institutions to accommodate this must be devised. In particular, the public must be

acquainted with the efficiencies to be gained by taking a holistic view. If such an awareness can become an identifier of options rather than a reactor to them.

Conclusions

Tomorrow's water management policies and processes must be holistic. And water management institutions must be modernized to accommodate this view. The capability exists, the challenge is to implement it.

References

- Babbitt, B. 1988. "Shifting Roles in Resource Management." Oral presentation, November 1988 Woodlands Conference on *New State Roles: Environment, Resources and the Economy*, Woodlands, Texas.
- Environmental Advisory Board (U.S. Army Corps of Engineers). 1991. "Report to the Chief of Engineers, 50th Meeting, Environmental Advisory Board." Washington, D.C.: HQ, U.S. Army Corps of Engineers, Nov. 5-7.
- Keith, S.J. 1986. "Science/Facts Versus Perception in the Public Decision-Making Process." *Ground Water* 24(3)(May-June):298.
- Sheer, D.P. 1989. "Management of Water Resource Systems." *National Forum* LXLX(1) (Winter): 9,10.
- Smerdon, E.T. 1989. "Education-Key to Dealing With Social and Environmental Objectives." *Journal of Water Resources Planning and Management* 115(1) (January): 44-45.