



Water, The Community, and Markets in the West

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INTRODUCTION: THE PROBLEMS WITH THE SOLUTIONS

Although many scholars and practitioners of western water policy and law have felt since 1973 that water transfers through markets constituted the best solution to problems associated with maldistribution of water in the West, implementation of this solution has not yet been successful. In 1973 the economics-oriented and economist-dominated National Water Commission (NWC) advised in its *Final Report* that water should be transferred from marginal uses in agriculture (which was using 80 to 90 percent of water supplies in the West) to cities and industry, the modern sources of economic vitality in western states. The Commission's message was not taken seriously, however, until after the Carter and Reagan administrations, when economists and environmentalists made it clear that federal funding would not be made available for construction solutions to new urban water demands. By 1986 the Western Governors' Association (WGA) had accepted the idea that economic efficiency in water resource allocation would "enhance the benefits received from water, make the resource go further, protect the natural environment, assure fairness, and maintain state primacy," as well as lead to "increased income and jobs for westerners and improvement in the quality of life" (Driver, 1986: v, 84).

Unfortunately for those who would like to see policy analysis such as that done by the NWC and the Western Governors' staff applied in the real world, the solution proposed has turned out to have very serious problems. In the parlance of the economically oriented policy analysts who supported the transfer-through-markets solution, the transaction costs of water transfers have been unexpectedly high; witness the following examples of actual or attempted water transfers:

- Lawyers for a client in Nevada recently took 15 months to complete a water transfer of 15,878 acre-feet—an average of one month's transaction time per 1000 acre-feet (personal correspondence with Gary Weatherford, 1990).

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- After ten years and a bill for all participants estimated at \$17 million, the Public Service Board of El Paso, Texas has not received any water from its controversial and so-far unsuccessful proposal to import groundwater from southern New Mexico (*Albuquerque Journal*, Feb. 2, 1989). Although this case is not really a market transfer, El Paso might have tried market mechanisms had the city been able to buy water from elsewhere at a low enough price.
- In Arizona, a proposed water transfer bill—which had been drafted, negotiated and passed in the House over a period of four years—was stalled in a Senate committee after intense lobbying by the residents of rural La Paz County who stood to lose from the proposed transfers (Oggins and Ingram, 1990).
- And finally, in a replay of the events which occurred in New Mexico and Arizona, opponents including the Nevada Department of Wildlife, environmentalists, and the elected officials, businessmen and other residents of three rural counties are lining up in an attempt to stop the city of Las Vegas from transferring 805,000 acre-feet of unappropriated groundwater and 60,000 acre-feet of Virgin River water from rural Nevada (*High Country News*, May 21, 1990, at 1).

The purpose of this paper is to identify why the market solution is not working as efficiently as was predicted in 1973. What makes water transfers so difficult? What evidence and reasoning did the eminent analysts of the NWC and the WGA overlook? Are there too many legal and policy impediments that still need to be removed, as some observers have indicated? Should laws that require public interest or public welfare review of water transfers or that consolidate control of water resources in the hands of local districts and counties be redesigned to facilitate water transfers through markets? The argument presented in this paper is that water transfers must be sensitive to the full range of values associated with water. Most simply stated, the market solution to water transfers misinterprets the many roles that water plays in society, particularly in the arid West.

SOURCES

In assuming that water is simply an economic commodity and that people would act as "rational economic actors" in their perceptions about water by treating water transfer opportunities simply as a source of monetary gain, both the NWC and the WGA ignored the rich store of evidence from a variety of sources. These sources include:

- Creative literature, which displays people's symbolic and emotional attachment to water;
- What community leaders say: leaders of rural and urban communities in the West have formed strong opinions about the important values associated with water and the perceived impacts of water transfers on communities; and

- More scientifically derived statistical analysis of the responses of several hundred community leaders in both areas-of-origin and areas-of-receipt—responses that are reported more fully in the paper "Does Anybody Win? The Community Consequences of Rural-to-Urban Water Transfers: An Arizona Perspective" (Oggins and Ingram, 1990).

Had the policy analysts of the 1970s spent some time reading novels about the West which, not surprisingly, quite often touch upon water, or had they simply asked community representatives what they thought about the importance of water, those analysts might have understood better the numerous impediments to the introduction of water markets that are emerging today.

VALUES AND WESTERN WATER

Much of the problem in determining the value of water springs from the separate and partially conflicting roles that water plays in society. Water is considered by many to be a fundamental resource, the qualities of which "can confer benefits on others and make a favorable difference in [people's] lives" (Wilkinson, 1990:1). Charles Wilkinson (1990) lists ten substantive values that societies in the American West have found to be intrinsic in water and important enough to incorporate into law. These values, listed in the chronological order in which they were recognized by society in the West, are:

- 1) Water as a source of sustenance;
- 2) Water as an instrument of agriculture;
- 3) Water as a community good;
- 4) Water as a means of transportation;
- 5) Water as an industrial commodity;
- 6) Water as a clean and pure resource;
- 7) Water as beauty;
- 8) Water as a destructive force to be controlled;
- 9) Water as fuel for urban development;
- 10) Water as a place for recreation and wildlife habitat.

Here we will single out the role of water as a community good, because we believe that it is this role that has been most significant in adding to the transaction costs associated with water transfers.

WATER AS THE LIFEBLOOD OF COMMUNITY

The notion that water has a community or social value that transcends its economic value in terms of tax base, value added, or regional product has been the focus of our research and that of many contemporary writers in the field of western water including Brown, Howe and Lazo, Maass and Anderson, and Nunn. Traditionally, political communities are formed in order to provide certain basic services and to protect certain basic rights that citizens cannot secure by acting alone. In many cases, the citizens of a community are mutually dependent on a limited supply of natural resources. According to Joseph Sax, whose reputation as a knowledgeable authority on water is second to none: "Because the survival of [a community of people] depends upon the continuing ability of their resources to sustain them, their relationship is inevitably one of mutual dependence, common enterprise and joint responsibility" (Sax, 1989:49).

Exactly this same insight is available to those who read Westerns. In the most famous of all Western novels, *Riders of the Purple Sage* (in which the villain is a Mormon Elder who wishes to marry the heroine in order to gain the water right established by her tyrannical father), Zane Grey captured in much more poetic language what Sax, the distinguished water authority, pointed out.

Venters led his comrade to a shady bower and showed him Amber Spring. It was a magnificent outburst of clear, amber water pouring from a dark, stone-lined hole. Lassiter knelt and drank, lingering there to drink again. He made no comment, but Venters did not need words. Next to his horse, a rider of sage loved a spring. And this spring was the most beautiful and remarkable known to the upland riders of southern Utah. It was the spring that made old Withersteen a feudal lord and now enabled his daughter to return the toll which her father had exacted from the toilers of the purple sage (Grey, 1980:30).

While Zane Grey wrote about the importance of water to rural Mormons and the American cowboy, other societies in the West, notably the Native American Indian and the Spanish/Mexican-American, have also been built around water and are dependent on its life-giving flow. Stanley Crawford reinforces this view of water as the lifeblood of community in the sensitive and lovely book *Mayordomo*, which is enjoyable enough to be fiction but which is a true chronicle of a year the author spent as mayordomo of an acequia (irrigation canal) in northern New Mexico. He writes:

Next to blood relationships, which rule the valley, come water relationships. The arteries of ditches and bloodlines cut across each other in patterns of astounding complexity. . . . As mayordomo you become the pump, the heart that moves the vital fluid down the artery to the little plots of land on each of the cells, the parcientes (Crawford, 1988:23-25).

The emotional language of creative literature is also captured in the responses of community leaders to questions concerning water. For example, a farmer in Dona Ana County, New Mexico expressed to an interviewer his idea of the importance of water to communities: "Loss of water in this area would produce gloom, like a death in the family" (Udall Center files).

WATER AND CULTURE

The close ties of water to community show that water is woven into the culture of long-established communities. This attachment of people to water is both spiritual and emotional as well as nonutilitarian; water is often said to take on "a life of its own" (Gottlieb, 1988). Frank Waters captures the association of water and culture in his fictional account *The Man Who Killed the Deer*, which draws heavily on the history of the Taos Indians' Blue Lake.

You will be taught the whole history of our people, of our tribe. How they had their last arising from the deep turquoise lake of life at the center of the world, the blue lake in whose depths gleams a tiny star, our Dawn Lake. How they emerged from a great cave whose lips dripped with water to congeal into perpetual flakes of ice white as eagle-down. You will understand, then, son, why those of our clan are called the Deep Water people: why our kiva, this kiva, is called the eagle-down kiva; the meaning of our masks, our dances, our songs. You will see this cave. You will see this lake—our Dawn Lake (Waters, 1941:80).

The cultural connection of water to community has become popularized in John Nichols' novel *The Milagro Beanfield War*, a factually based, fictional account of how residents of a community in northern New Mexico revolted against state water laws and policies that threatened to destroy their culture. This book, which immortalizes former New Mexico State Engineer Steve Reynolds, depicts vividly the conflict that can arise when different cultures value water differently. With his description of how the acequia ties together different cultures, Stanley Crawford writes about the same Upper Rio Grande Hispanic culture as John Nichols:

A special anxiety hovers over small elections among friends and neighbors and relatives, bound together in this case by a narrow channel of water that flows through everyone's backyard, while yet divided by linguistic and cultural differences, plus those of religion, educational background and so on. . . . [W]hat is remarkable about this gathering may be less a matter of such differences than the fact that we are able to sit down together and . . . conduct business together without our differences overcoming that one small thing we have in common, the acequia (Crawford, 1988:207-08).

Similarly, when a hydrologist based along the Rio Grande in Las Cruces was asked by an interviewer what it would mean to rural areas if an outside entity were to acquire control of the water in the area, he responded in terms of value rather than in scientific terms: "It seems to me the community loses its present, its past, and its future" (Udall Center files). That the courts might eventually be more sympathetic towards cultural values is foreshadowed by an opinion of U.S. District Judge Encinias (who also presided in the Rio Arriba County, New Mexico case *In the Matter of Howard Sleeper*) in a recent decision to restore water to two ancient acequias in Santa Fe, New Mexico. One excerpt from his opinion is particularly pertinent to this discussion:

The urbanized nature of Santa Fe, the virtual disappearance of commercial agriculture in the area and the rise of public utilities as the most common source of water tends to trivialize important water rights. I believe that the preservation of these water rights is important to the vitality of a culture over three centuries old. The people, the land and the water are inextricably bound together

and will be until Santa Fe is entirely paved over. It is this culture which is our greatest pride and not without considerable value, though not measurable directly in dollars ("Anaya v. Public Service Company of New Mexico," *Albuquerque Journal North*, June 23, 1990, at 1 (Dist. Ct. Case No. SF 71-43,347, decided June 22, 1990)).

THE COMMUNITY VALUES OF WATER: SECURITY, OPPORTUNITY, AND SELF-DETERMINATION

Water serves to fortify and protect culture through a number of means, including the provision of security, opportunity, and self-determination. Water transfers provoke such strong emotional reactions because such transfers are perceived to threaten these values. It is helpful to explore each value separately, though in everyday thinking they tend to be lumped together and closely bound to the broad idea of community.

SECURITY

Risk of water shortage is an ever-present and newly reinforced reality in the West. In 1990, for the first time in history, the Colorado River will be unable to meet the demands of California's water users. This particular shortage has arisen from a combination of the four-year drought and the addition of some 300,000 people a year to the population of southern California (*U.S. Water News*, June 1990, at 10).

Fears of a long-term drought similar to the one that is thought to have driven the Anasazi out of the Colorado River basin have historically driven western water law and politics. States have tried to accommodate unlimited growth on a limited water budget by providing ample margins of safety against shortages. The fundamental doctrine of western water law—the rule of "first in time, first in right"—provided security to established beneficial users of water by ensuring that later upstream diversions would not drain the water supply. As development began to outstrip available water supplies, federal legislation involved the federal government in the construction of new dams and water projects designed to reduce the perceptions of aridity or water shortage and to make the desert bloom. Reservoirs, whether they be natural or engineered, have appealed to Westerners because they offer security.

In Western novels, water holes spell the difference between Life and Death. In John Ives' novel *Fear in a Handful of Dust*, for instance, finding water is essential for the survivors stranded in the Arizona desert who use a discarded raincoat and a hole to create drinking water. Similarly in *Last Stand at Papago Wells* Louis L'Amour wrote about diverse travelers—honest, dishonest, brave and cowardly—whose paths through the desert came together at a natural water tank.

All travel in this western Arizona Desert was circumscribed by the necessity for water, and the fact that in several hundred square miles there were only a few widely scattered water holes, and none

of these reliable in a dry season. No matter what route a man wished to take, his trail must at some time touch these water holes, for without them he would die. . . . This was a land of little water and less rain, where trails were indicated by bones of men and animals that had died beside them, and all lines of travel were dictated by the urgency of water (L'Amour, 1981:7).

A principal difficulty for market transfers of water is that they arouse feelings of insecurity among rural populations whose water is being transferred for use in distant locations. Not only do people feel that they have been stripped bare of their margin of safety, they doubt that they will be able to recover water supplies when they need them, even if they have money to pay. Many of the community representatives interviewed in the surveys expressed concern about availability of water supplies affected by drought, by water contamination, by groundwater mining and by water transfers that removed water from the local area. As one state employee in Las Cruces, New Mexico commented:

In a free enterprise system, what guarantees that you would get water? It's better to know that you have water than to speculate that when you need it you might be able to get it. If you know you have the right to it now, that's a security blanket (Udall Center files).

OPPORTUNITY

Westerners talk as if a community is done for if it has lost its secure water supply. The vision of a ghost town recurred throughout many of the interviews with community leaders. For instance, as one New Mexico state official in Las Cruces described it: "In the West, when you think of a ghost town . . . you think of [a town] without water" (Udall Center files). Water is often considered to be *the* limiting resource.

On the positive side, if a community has water, its opportunities are boundless. Many cities, for example, dream of growing to the size of Los Angeles on the basis of water—except, of course, without that city's problems. Like the Midas touch, water creates wealth and motivates both investment and new development (Ingram, 1990:33). For instance, Mark Twain tells the story of an eager young engineer looking at the local stream and dreaming of the possibilities: "If deepened, and widened, and straightened and made a little longer, [this stream] would be one of the greatest rivers in our western country" (cited in White, 1969:24-25).

In prescribing water market mechanisms and water transfers as a means to reduce investment in and dependence on traditional construction solutions, the economic analysts on the National Water Commission neglected the converse side that the water purchased has to come from somewhere else. Recent events in Arizona, New Mexico and Nevada show that "somewhere else" very often means rural areas. The NWC also neglected the perception that loss of water stifles opportunity in communities located in actual or potential areas-of-origin. According to the perceptions of community leaders, water transfers are not merely transfers of water, they are also transfers of community opportunity. As one leader remarked, "Businesses won't come into a community where there is

no water, or where there's a question about how much water is available" (Udall Center files). According to another respondent, a resident of southern New Mexico, "[Water transfers mean] drying up your town to create growth for another place. It's saying that El Paso is a better place to live because it's a city, so [they can] take your water away from you" (Udall Center files).

For a community to receive money for its water would also seem to create opportunity, for money can be invested so as to provide a fair return that can be reinvested in projects that increase public welfare. Should water be needed for growth at some future time, economic reasoning suggests that a community or individual can simply purchase any readily available water. However, such reasoning is far from reflecting what leaders in areas-of-origin really think. Not only do these leaders doubt that money gained from water sales will stay in areas-of-origin, they question whether water will be available at a reasonable price when it is needed. Further, money is not so closely linked with perceptions of opportunity as is water. As one civic group leader in La Paz County, Arizona commented: "I don't believe in compensation. I believe a community [must] develop its own potential—which you can't do with just money" (Udall Center files).

PARTICIPATION AND LOCAL CONTROL

To be powerless over the source of water supply in the desert is to be truly powerless. As Mary Austin wrote about the Owens Valley in *The Land of Little Rain*, "whoever controlled the water in that land controlled the destiny of life depending on it" (cited in Worster, 1985:71). The consequences of lack of control are graphically illustrated by the unenviable position of the "tail-ender" on the irrigation ditch. Stanley Crawford explains in *Mayordomo*:

You can argue that the character of a man or woman can be as much formed by genetic and cultural material as by the location of their garden or chile path along the length of a ditch, toward the beginning where water is plentiful or at the tail end where it will always be fitful and scarce. "He's that way because he lives at the bottom of the ditch and never gets any water" is an accepted explanation for even the most aberrant behavior in this valley. The man who lives at the bottom of a ditch is forever expectant, forever disappointed (Crawford, 1988:24).

When residents of the lower Rio Grande in New Mexico thought about the possibility of losing water to El Paso, they believed they were losing not just water, but their voice and their control over the future as well. For instance, one informant said:

The city which buys up rural water rights takes away the rural community's voice. It's forcing the communities out; it lessens their voice in the future. It might be a short-term gain for the farmer, but in the long run, it's cutting the community's throat (Udall Center files).

Another responded to the interviewer: "If they don't have the water anymore, how can they make any decisions? How can they have any say-so? Who's going to listen to you if you don't own any water?" (Udall Center files). Finally, for a third respondent, to lose water meant to lose representative government. He

stated: "If the people in the community lose their water right, if they don't have any say, they might as well move out" (Udall Center files).

THE IMPLICATIONS OF COMMUNITY VALUES TO WATER MARKET TRANSFERS

Are the views expressed throughout this paper hopelessly romantic and wrong-headed? Are community values in any way responsible for the increased transaction costs involved in market transfers of water? Can people be trained to be economic calculators in a monetary sense and made to understand that water is just like any other natural resource, no more or less important? It is apparent that some analysts believe that community values are unimportant. To quote the economist B. Delworth Gardner (1986:167):

If there are [non-economic, non-market values that are affected by transfer negotiations], and they affect the well-being of the negotiating parties, they will be incorporated in the decision if the transaction costs are not prohibitive. . . . There may be circumstances where public goods are significant, but in most cases in water allocation my sense is that they are not very important.

Gardner assumed that public good values encompassed taxes for schools and hospitals and other social services, clients for programs, customers for businesses, and other related items. The community impacts that are of concern to us here are of a different sort. For instance, when water moves out of an area, people believe that security, opportunity and control move with it. To some extent such beliefs are self-fulfilling prophecies; when people behave as if an area lacks a future, few if any investors, entrepreneurs, or leaders emerge to create progress. Instead, when leaders become discouraged with their prospects, they try to sell and move out.

From a cultural perspective, the loss of water often severs cultural and religious ties and cannot adequately be measured in economic terms. In a section of the novel *The River Between*, Lawrence Clark Powell uses the setting of a Congressional subcommittee hearing on a bill to put new dams on the Colorado River to express how different cultures value water differently and why some people believe that the losses associated with dams and water transfers are not compensable. During the hearings, a female Indian archeologist testifies:

"For unrecorded centuries the spring overflow of the river meant life to [the Indians known as Quechans or Yumas]. In its silt their foods were grown—squash and beans and melons—while from the reeds and willows they wove articles of raiment and other usages. . . . Now the dams of an alien people have ended those lifegiving overflows and diverted the water to distant lands. The source of our life and well-being has been dammed and drained off by and for people who have never seen nor ever will see the river, by a people to whom water is merely something that flows from a faucet, by a people who waste far more than they use. To my people and to me, Mr. Senator, this is sinful, for to us desert people water is the most sacred of all elements. . . . I can only ask, Mr. Senator and gentlemen, that you consider this problem and [the conflicting needs of the inhabitants of this ancient land] as more than facts, as more than economics and the hydraulics of languid and turbulent flow. I ask you to think of them also as a matter of religion, and to think of water, as I do, as an element of equal sacredness with air" (cited in Powell, 1979:77-78).

Lastly, to judge by the opinions of leaders from communities that stand to lose from water transfers and leaders from communities that stand to gain, there is a long way to go to make people see water as "rational economic actors." In a recent study conducted in Arizona, New Mexico, and western Texas, researchers measured the extent of community leaders' perceptions of losses associated with water transfers (Oggins and Ingram, 1990). The results of this study show that communities located in areas-of-origin are perceived to suffer significant losses.

- When asked to rank eleven possible competing uses for water within a community, leaders from both water-losing and water-gaining communities gave highest priority to domestic uses, while water to sell to other places to return revenue to the community ranked last;
- Only 35 percent of the leaders surveyed in water-gaining areas agreed that revenues from the sale of water strengthened the rural community. In water-losing areas, only 17 percent of the leaders agreed with this idea while 74 percent disagreed (9 percent were neutral); and finally
- Over 88 percent of the leaders of communities located in areas-of-origin stated that the losses to their communities were *not* compensable.

CONCLUSION

It is clear from our research and our review of western literature that the community value of water as defined here is poorly captured in most economic measures. Yet community values are not only real, they can also be lost in the water transfer process. When expectations of water losses coincide with community value losses, the result may be cultural and community disruption and continued and costly conflict.

If water transfers through markets are to work, analysts must focus on more than removing impediments, lowering transaction costs and assuring flexibility. Attention must be directed to means through which water can be moved while leaving community values of culture, security, opportunity and control in the hands of residents in areas-of-origin. Strategies are not likely to be obvious or easy and are likely to be resisted by importing communities. Areas-of-receipt in transfers will have to share in insecurity, perhaps by agreeing to transfers through short-term leases. Allowing areas-of-origin to have veto power may permit them to retain a desirable degree of control. In many cases it may be preferable to focus more attention upon reducing demand in municipal water-importing areas and agricultural water-exporting areas through such measures as raising water rates to reflect ability to pay and engaging in water conservation efforts.

A need exists for the balancing of equities and values in water transfers, particularly rural-to-urban water transfers. Much more must be done to assess the

"real" value of water in urban uses—such as fountains, ornamental lakes, lawns and swimming pools—in terms of the cost of retaining or restoring such values as culture, security, opportunity and control in rural communities. The design of water transfer policies that are sensitive to the multiple values reflected in water will necessarily be a multidisciplinary effort. Some economists such as Bonnie Colby at the University of Arizona are working to measure values other than those reflected in traditional market transactions. Lawyers such as Charles Wilkinson (1989) are advancing legal doctrines to protect contemporary environmental and social values. We suggest that the insights of other analytical disciplines including philosophy, ethics, history, anthropology and political science need to be brought to bear upon the search for improved solutions. The search for solutions to the maldistribution of water resources in the West did not end with the National Water Commission Report. In fact, it has hardly begun.

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