

VIEWS FROM THE U. S. SENATE

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It is a great pleasure to participate in the 24th annual conference sponsored by the Water Resources Research Institute. As you may know, I'm a substitute. Tom originally asked Senator Domenici to speak. Senator Domenici has asked me to express his regrets for being unable to attend, but this is becoming a very busy time of the year in the Senate.

However, his interest in water is strong. He stayed on the Committee on Environment and Public Works in this Congress specifically to retain his position as the Ranking Republican on the Senate's Water Resources Subcommittee, which has jurisdiction over the OWRT, EPA, the Corps of Engineers, the WRC, and the SCS. Together with his position on the Energy Committee, which has jurisdiction over the Bureau of Reclamation, he covers virtually all the water programs the government operates.

These, however, are not the best of times for water. Maybe that's why Senator Domenici sent me; it's better to have the messenger's head chopped off than the Senator's.

But if they are not good times, they are exciting ones in water. Despite this year's heavy snows, it wasn't very long ago that the West and the nation faced the danger of severe drought.

Embedded within the \$15 billion in economic loss suffered in the West in the 76-77 drought was a portent of the next century, if our nation fails to address and reform the management of our water resources.

The national water resources development effort is in disarray. If anyone doubts that assertion, just let them look at the program. We aren't building very many projects; we certainly aren't building them very fast, and the ones we build may often be the wrong ones. While water resources are vital to our progress as a nation, we are letting the effort linger. Even when we decide to build a project, it is plagued by slowness.

H. L. Mencken once pointed out that "for every complex problem, there's a simple answer, and it's wrong." We need to look at serious questions, and we need to do it while there is still time.

During the 1976-77 drought, President Carter brought forth his own view of a better water policy. It was a narrow view, one based on attacking federal extravagance and waste. The President chose the height of drought to announce his opposition to 18 allegedly wasteful water resource projects in the West. But the issues we confront go well beyond the merits of a few projects. They extend to the issue of whether the water policies of the first three-quarters of the twentieth century will carry us safely into the next century.

The issues extend to the basic structure of our national response to water needs. We need to restructure our basic water program. We need to do it now, so that we can evolve it into an approach that identifies and funds critical priorities. Water for our future is too important to leave to the whims of our present ad hoc approach.

From the moment that a raindrop hits the ground, civilized man has manipulated water. The issue is not whether we should engage in such manipulation, but rather how well we do it.

Civilization itself arose out of a collective effort to irrigate the Middle East. As W. H. McNeil notes in his classic, The Rise of the West, man's first civilized communities "differed fundamentally from Neolithic village communities, for the simple reason that the water engineering vital to survival required organized community effort. The world's first bureaucrats were priests whose principal expertise was water resource management--laying out canals and keeping accounts, without which effective coordination of community effort would have been impossible."

Five thousand years later, human civilization still remains dependent on the skill with which water is dammed, conveyed, treated, and consumed. Over 97% of the world's water is found in the oceans. Three-fourths of the remainder is frozen into glaciers. A miniscule 3/10 of 1% of the earth's water is readily available to man. It is an obvious truism that water is a scarce resource that must be carefully husbanded for man's survival. Yet, in many cases, we are failing to build the most needed project.

The greatest danger is that we have not perceived the severity of the crisis. We have failed to recognize that present policies may prove wholly inadequate. Because the West has the most at stake, it also has the most to gain from sound policy.

Previous discussions of water policy and water projects have simply lacked any broad perspective. President Carter has targeted on water policy in the context simply of pork-barrel politics, so as the need to fashion a coherent strategy that will meet an emerging crisis. The President has counseled reduced water resource investments, a shortsighted view. What is needed is more efficient projects built to a prompter schedule that meets the nation's needs.

The President's tunnel vision on "pork" is regrettable. But so is the "I'm-all-right-Jack" attitude that prevails among many water users. The West was built on federal water projects that rival the Roman aqueducts. Subsidized water enabled cities to grow and the desert to bloom. The goal of the 1902 Reclamation Act was the settlement of the West. This has been achieved. Population growth proceeds apace. The Sunbelt, the fastest growing region of the country, continues to experience an extraordinary economic boom. And the nation counts on the West to offer up reserves of coal, oil, gas, and uranium to meet national energy needs.

All this activity requires vast new sources of water, when water already is scarce. The Water Resources Council has found that water shortages already exist in 21 of the 116 subregions of the country.

These subregions lie in the Central Plains and Southwest. By the year 2000, 39 of those 116 subregions are likely to suffer water shortages, including areas in the Northern Plains, Rockies, and California. Thus, by the year 2000, much of the nation west of the Mississippi will be likely to face severe water shortages.

The people in the West recognize that without new sources of water, of more efficient use of water, the economic future may turn cloudy. Many fail to recognize that present policies, based on massive federal expenditures and cheap, subsidized water, long past their original goal of the settling of the West, may have reached the point of diminishing returns.

The Colorado River presents a classic example. Portions of Arizona, Nevada, and California survive on water diverted out of the Colorado. The basis for these diversions is a complex compact drawn up by the affected states. There is just one tiny problem. When the states divvied up the river, it was running about 20% above historic average flows. Thus, while the various states are entitled to 15 million acre-feet of water, only 13 million or so acre-feet are going to be available on a reliable long-term basis. The cornucopia of the Colorado may become exhausted.

The Colorado River is but one example that the easy solutions have vanished. Most rivers are dammed, and most possible diversions are operating. The Colorado would indicate that the growing western economy faces the future on a fixed supply of water; and there is more.

Many areas of the West may have mortgaged their future to pay for the present boom. With most of its surface waters appropriated, the West has aggressively pumped out groundwater, often uncontrolled by water laws. If the annual recharge rate is not exceeded, groundwater proves a valuable, renewable resource. But when that recharge rate is exceeded, groundwater becomes a diminishing resource. In parts of the West, groundwater threatens to become an exhausted resource. The Water Resources Council estimates that the nation's daily overdraft of groundwater is 20 billion gallons, with 60 percent of that overdraft occurring in the Ogallala Aquifer.

The Ogallala is a water problem of vast national significance. The aquifer serves 6 states: Texas, New Mexico, Colorado, Oklahoma, Nebraska, and Kansas. In 1937, 600 wells existed into the Ogallala. By recent years, that number had risen to 55,000, and the aquifer has begun to go dry. The states served by the Ogallala produce 386 million bushels of grain and support 40% of the nation's beef market. It is not difficult to imagine the widespread economic and social dislocations that may occur in the Ogallala in the next decade or two. In 20 years, 4 million acres of irrigated agricultural land may be reduced to as low as 125,000 acres, a drop of 97 percent. The Platte Valley in Nebraska confronts the same situation as the Ogallala, with unrestricted drilling of groundwater. Groundwater exhaustion problems are also occurring in Arizona and California. In Baytown, Texas, reliance on groundwater has produced a subsidence in the land of 17 feet, exposing 400 homes to severe threats from tidal and rainwater floods.

Yet the national program remains an ad hoc one. Let me provide an example. The Congress long ago authorized a project that would make Dallas, Texas, a seaport, at an estimated cost of \$2 billion. Such an idea, while nice, may not be very high on anyone's priority list, except the Mayor of Dallas. Yet, as of today, there is no federal program for meeting the crisis involved in the exhaustion of the Ogallala.

The problems in the West are also apparent when it comes to the issue of price. By keeping the price of water artificially low, the federal government has not encouraged wise use of water. Residents of Philadelphia pay \$13 for the same volume of water that will cost the residents of Salt Lake City \$2.10. Such low prices inevitably lead to a careless approach.

Federal projects supply water to a substantial portion of the irrigated lands in the West. And federal water is far cheaper than water from other sources. In California, water from the Federal Central Valley Projects costs between \$3.50-\$7.50 per acre-foot. In contrast, water from a nearby project run by the State of California costs \$22 an acre-foot. It takes little imagination to guess which farmers are most likely to use their water more wisely.

The State of Arizona, which has recently been the nation's fastest growing, epitomizes what some may term profligacy. For example:

- * Arizona, the second driest state in the nation, has a per capita consumption of water double the national average.
- * Arizona has more boats per capita than any other state in the Union.
- * Portions of the water table in Arizona have dropped 150 feet over a 10-year period.
- * Residents of Tuscon water their lawns from unmetered irrigation gates.

While the West comprises half of the nation's land mass, it receives only 14% of the rainfall, and a staggering 85% of the nation's water consumption. The reason, of course, is irrigated agriculture. And just as with early Sumerian civilizations, irrigated agriculture is the basis of much of civilization in the West. Although irrigated agriculture accounts for only one-sixth of the land farmed in the country, it consumes 90% of the water in the West, or over 70% of the water consumed nationally.

The General Accounting Office, in looking at federal irrigation projects, has estimated that from 20 to 50% of the water is wasted. If 20% is a reasonable number, this equals all the water used by urban America. A modest 10% saving (or over 1 trillion gallons a year) would go a long way toward ending the water crisis in the West.

New Mexico has shown that modest water savings are reasonable. By metering water in the Pecos Valley, the state reduced the annual average need for certain crops from five to three acre-feet of water, I understand, with no adverse impact on yield.

Water problems, of course, are not a Western monopoly. In the East, pollution of existing supplies has been the focus of a multi-billion dollar effort to clean up wastes from municipalities and industry. But the problems of the East are not purely those of quality. The East has more than its share of the \$3 billion in flood damages that occur each year. Water consumption in the East is expected to double by the end of the century. Already supply shortages have developed in Boston, Atlanta, and in Washington, D. C. Groundwater overdrafts in New Jersey, New York, and Florida have produced problems. Major urban water supply systems in the East are in disrepair. And New York City, the granddaddy of all problem areas, is expected to have a 390 million-gallon-a-day shortage by the year 2000.

The water crisis shares many of the same features as the environmental and energy crises: neglect, economic ignorance, and lack of timely action have each played a part. But there is one critical difference. Time still exists to solve the water problem. Timely incremental changes, if initiated today, can produce the needed change. Wild crusades are not needed. A sound, blue-chip investment strategy is sufficient.

In the babble of voices over water policy, no one has focused on the principal issue: which is our lack of a sound investment strategy on water development. There is no planning mechanism at the federal level to attack the priority problems first. In a nutshell, there is no strategy for funding; there is no effort to find and solve the most pressing problems.

Of course, there is no lack of effort to throw dollars at the problem. Twenty-five agencies spend close to \$10 billion a year (\$5 billion if EPA's sewage treatment grants are excluded) on water. A backlog of 1,900 projects exists, with a cost of \$34 billion. Between now and the year 2020, some estimate our country will invest \$538 billion in water resources projects; \$250 billion of capital will be in federal tax dollars. But without a priority system, there is no assurance that this investment will be spent to meet the problem.

Slowness plagues so many projects. Construction on the average project now requires something on the order of 26 years just to initiate, according to the General Accounting Office. Even if this figure is inflated by the inclusion of some very major and lengthy projects, the time for implementation is tedious, and it is continuing to lengthen.

Delays, of course, stem from a variety of factors. There is the need for multiple Congressional actions. There is the usual lack of optimum funding during actual construction. There are numerous examples where just the planning on a project stretches years beyond a city's needs for the project.

And the program, such as it is, continues to suffer attacks for its characteristic as "pork barrel." And let me emphasize something-- anti-pork politics is good politics these days. Vetoes of "pork barrel" bills are good vetoes, politically. They play very well in Peoria and on the Evening News.

But from the frustrations and period of confrontation, we of course, have an opportunity for initiatives and new approaches.

In the closing minutes of my talk, I would like to talk of two-- one rather parochial, and one on a broader basis.

The first is Dr. Carruther's topic of desalination. Desalination offers real hope. New Mexico will need, I understand, an estimated 3 million acre-feet of water yearly by the year 2020. Under New Mexico, there are something on the order of 15 billion acre-feet of brackish water--5,000 times the annual need. Thus, it is obvious that even a modest advance in the use of brackish waters will be of great value.

Senator Domenici has urged that the Senate appropriate \$10 million to initiate a program for demonstrating saline water conversion. These demonstrations, authorized by Public Law 95-84, are now being designed under the Office of Water Research and Technology within the Department of the Interior.

Section 2 of that 1977 Saline Water Research and Conversion Act, as amended last year, authorizes construction of five demonstration projects at a cost of \$150 million. The law directed the Secretary of the Interior "to study, design, construct, operate, and maintain desalting plants demonstrating the engineering and economic viability of membrane and phase-change desalting processes at not more than four locations in the United States . . . provided that at least two such plants shall demonstrate desalting of brackish groundwater."

But, unfortunately, the budget for the Office of Water Research and Technology ignores the need to initiate this important effort in F.Y. 1980. And, I might add, that this neglect appears to be a part of a systematic attempt to undercut this 1977 law.

There is a need to focus attention on desalination and to build projects like the one for Alamogordo, which was identified by OWRT as one of the two best prospects in the nation. And, I might add, Senator Domenici intends to do all that he can to see that it is funded for 1980.

But let me close by talking of the broader issue of water policy and a national water resources program.

Great frustration, as I have said, exists in the Senate over water policy. This is not so much because of the President's actions on hit lists and water policy, though that has not helped, but it is more because of the general sense of discredit with which much of the water program is viewed by the general public. The label of "pork barrel" is not a pleasing one, but it is accurate in many senses. Today, we have a program that seeks to give a little bit to everybody, rather than identifying the priority needs and going to work to solve them. It is a political process, and I don't mean that in the best sense of the word.

Senator Domenici believes that it is essential that the Congress confront directly the issue of water policy and to work toward a more effective program to serve the needs of the remainder of this Century.

He does not believe that we can achieve very much by tinkering with cost sharing or other items within the present structure.

Rather, he is convinced that we need new directions, ones that emphasize state responsibility and state priorities.

Frankly, the public will have greater respect for a program where men like Steve Reynolds call the shots, than one that continues to be mired in back-scratching politics. We must work toward a system of priorities. We must encourage local and state governments to take a more active role in the development of projects, to let the States determine to a far greater extent, what is spent, where it's spent, and at what speed, as other Federal-aid grant programs now proceed.

Some cost sharing is the price of more local involvement, and more local control; and better priority setting means a more effective program. We need to move away from total reliance on the tyranny of cost-benefit analysis. No other federal program has become so tied in knots over a single number. Rather than serve as protection against political manipulation, the benefit-cost ratio has become the subject of ever greater political fudging. Its role should be reduced. A financial commitment, built upon a local priority list, serves as a far better protection against poorly conceived projects.

Personally, I believe the nation has too much at stake not to attempt to do a better job. We can no longer afford the present crippled program of ad hoc decisions. The only way we're going to have adequate development is to develop a program, to make that program work, to go after the priority work, and make sure that local people who will benefit offer a reasonable commitment to the work, then move it on to early completion.

Our committee will conduct in June hearings on the issues of water policy--issues far beyond 10% cost sharing. I am hopeful that the thoughts you will take back from this conference will provide ideas that we can use--ideas on how to establish effective priorities, how to move the program ahead faster, and--basically--how to make it a true program, one that no longer will be mired in the ad hoc "pork barrel."

Thank you.