WATER FOR AGRICULTURE IN A COMPETITIVE ENVIRONMENT

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There are some tough resource allocation decisions ahead. We do not have the answers to those questions. Once upon a time the future was left to just take care of itself. And it did. We have that option today. But should we? That is part of our challenge.

This morning Dr. Thomas and Dr. Zink stimulated you to consider other courses of action, rather than to let the future just take care of itself. It is my responsibility to speak on the first of the four topics that will be addressed this afternoon in the workshops -- water for agriculture in a competitive environment.

The future for water in agriculture might be considered both good and bad. Food will always be in demand, and it is a growing demand, so that is good for agriculture. But, based upon remarks made just this morning, unless longer range views of resource allocations are adopted, that future could be bad. Our focus then today is to consider a proper resource allocation for water. How much water should be used by certain economic sectors of the New Mexico economy? This necessarily causes us to consider socio-economic impacts of alternative decisions. Our major problem is to decide how to look at the future. That is, what will the future be? Actually, there is a different future for every set of allocation decisions that could be made. And the larger problem, then, is to agree upon the desirable future.

Each of us has a different concept of what a desirable future is. This creates the big challenge and, I would say, the crisis. To examine various futures so as to select a most favorable one, it is necessary to study past and current trends, to evaluate economic and social consequences of past and short-term actions. It is also necessary to consider -- and I want to stress this -- it is also necessary to consider the rights of each generation.

Just because we have enough water for the next twenty years in Tucson or Albuquerque, or for the next fifty years or, as President Thomas alluded this morning with regard to land and water, for the next indeterminable number of years, is that necessarily the basis for our going ahead with business as usual without concern for some future generation? Further, we need a knowledge of the technology that will be available which will influence the outcomes of the alternative allocation decisions. These are not simple matters. We need such information as: What will be the global prospect, peace or war? Will we need to produce food locally because we cannot ship it in? (Tucson might be in a little bit of difficulty if that were the case.) What will be the technological advances for all industries with regard to saving and protecting water? And what will be the population pressures on the land and water which will influence our ability to feed ourselves?

Crisis is the mother of invention. That is probably the way we will resolve all these problems. We never do much about our shoes until our feet start hurting. And crisis will be the thing that causes us to take the action to clean up the water in the Albuquerque well, etc. Those

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mini-crises will be the stepping stones to solving the longer-term crises. The question is, will solving the mini-crises, without concerning ourselves with the potential major crises, be enough?

At the 13th Annual Water Conference, Lloyd Calhoun, who is a steadfast attender of these conferences and has participated extensively, made a statement in which he said (and he was developing a scenario for the future of water in New Mexico) that "food production for our own and for others outside New Mexico and the United States will be our most critical need by the year 2000."

The Council on Environmental Quality, in its 1979 report, places special emphasis on water as the paramount issue for the nation in the 80s: both quality and quantity of water in surface and underground sources is targeted as the areas of critical concern. Certain areas of the United States are pinpointed as major problem areas. What I wish to highlight is the fact that water is not just a local problem; the use of water will be a critical concern nationwide.

Water use in New Mexico is in pretty good shape, thanks in large part to Steve Reynolds and his able assistants. We have water right laws in this state which make water a marketable commodity. And it is through that market that water will move to alternative uses. I am not so happy about some of the directions it is going to move, but nevertheless it is movable by that mechanism. So agriculture has a protection right now in the fact that it owns much of the water right. But you heard statements this morning that such protection for keeping water in agriculture is not going to mean much, because "water flows uphill to money."

I have appeared on this program several times in the last twenty plus years, and I have basically told you the same story each time. Today I am going to try a little different approach to tell you again what you already know. I might make somebody a little unhappy and I might get some numbers out of order, and I apologize for that.

It has been charged before, and probably will be today by some speakers, that agriculture is really insignificant in New Mexico compared to the United States, or even compared to other sectors within the New Mexico economy; that if we produced nothing, no one in the world would starve because of the loss of our production. That may be true, except that there would be several New Mexicans who might go a little hungry because of the loss of a job.

How important is agriculture in New Mexico? We say it is a billion dollar plus cash receipts industry, and if we apply a multiplier, it is a 2 1/2 to 3 billion dollar industry. The value of agricultural production in New Mexico compared to the United States would make up about 8/10 of 1 percent of U.S. agricultural value. Cotton contributes only about 1.14 percent of the cotton value in the United States. Wheat is about 0.3 percent of the wheat value in the United States; beef, 1.1 percent; livestock 1.8 percent. On a commodity-by-commodity basis agriculture is not very important. Some would say it is insignificant! On a sector-by-sector comparison within the state, it goes something like this: mining, oil, gas, and minerals, government spending, and recreation, and somewhere down the line comes agriculture. Therefore, agriculture seems not very significant! Since this type of comparison

would lead us to conclude that there may be a basis for the "insignificant" argument, I would like you to consider the other economic activities to draw a similar comparison.

These other economic activities are the kinds that are touted as the heroes in the New Mexico economy; and are considered the places to which we might better transfer our water for more money, more economic impact. Look at government spending. If we took all of the New Mexico budget and compared it to the United States government budget we find it to be only 0.31 percent. Housing starts 0.77 percent; mining 3.76; construction 1.03; manufacturing 0.12; and we cannot even find numbers for recreation for comparison. We simply cannot put a value on it for New Mexico versus the United States. I want to point out very quickly too, that our population only makes up 1/2 of 1 percent of the United States population. We are not very important. Folks, we are insignificant by those measures as well.

Now before somebody claims foul, I do not proclaim to have reported all, or even necessarily the proper sectors. But what I have tried to do is to indicate how improper it is to use the "insignificant" argument in taking the resources out of one sector, in this case agriculture, for the use in the short-run higher and better economic return activities we commonly have proclaimed as better for New Mexico.

I am not talking about taking all the water out of agriculture, but the impact is better when I allude that it is. An important question to address is, does the United States have enough land and water to maintain the level of food abundance to support our own food needs and export

needs? What is New Mexico's role in that effort? Insignificant, you say? President Thomas talked a little bit about the importance of water this morning and I have a little different approach. Without water there is no plant life, no animal life, no human existance. With water there is a little plant life and animal life. With more water you start getting some industry and affluence associated with a higher standard of living. Are we allocating our limited water in the proper mix of uses to yield the highest economic and social returns over the long haul, or are we making allocation decisions for short-run economic gains without considering the long-haul social and economic consequences? This is our dilemma.

I want to give you a forecast of the future of the next 20 to 40 years. These are some of the things I would like you to consider as you enter the workshop sessions this afternoon.

Short-run economic returns will continually guide the resource allocation decisions. Two speakers have already said that this morning. Agriculture will be the low bidder for water and nonagriculturalists will purchase the water out of agriculture. Our agricultural base will decline because of population pressures and the loss of water. The demand for food will continue to increase. The nation will shift from a food surplus to a more balanced supply-demand situation, to a possible deficit. Food costs will likewise increase in real terms. Increasing pressure for food exports will strain our land and water resources. All-out production will then be called for. Population growth in New Mexico will at least triple the rate for the United States, (and I think

that is conservative after what I heard this morning). Irrigated acreage will decline to less than 750,000 acres from over one million today. There will be fewer and larger farms, with an increase in small part-time farms. Water will be the principal limiting factor in our efforts to increase production to meet increasing world needs. Water-saving technologies will be the major research focus (and research effort has never been more critically needed). Water will be significantly more expensive, like oil, production inputs will be more scarce and expensive. Agriculture will be the residual economic user of water.

My basic point today is that allocation decisions cannot -- that is, should not -- be made on the basis of the short-run economics alone. There are long-run social and economic costs and returns which we are apparently unable or unwilling to consider. Economic efficiency criteria provide a necessary set of guidelines. They, however, often ignore the legitimate long-term social issues and consequences which, in turn, have economic consequences. We do not know how to measure them. That is why we as economists fail to do a better job. The short-run economic value of water is higher in uses other than agriculture. And my challenge to you today is to consider the longer run in the decisions you help make with regard to the allocation and conservation decisions. How are we going to have water for agriculture in the future?

Like Lee Zink, I am not only an economist, but I am somewhat of a humanist. So I would like to close with a quote of Abraham Lincoln's in which he said, "A child is a person who is going to carry on what you have started. He is going to sit where you are sitting, and when you are

gone, attend to those things which you think are important. You may adopt all the policies you please, but how they are carried out depends on him. He will assume control of your cities, states, and nations. He is going to move in and take over your churches, schools, universities, and corporations. All of your books are going to be judged, praised, or condemned by him. The fate of humanity is in his hands."