

Introductory Comments
22nd Annual New Mexico Water Conference

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It is a pleasure to welcome you to the 22nd New Mexico Water Conference. We are here to talk about water for the future with special reference to 208 planning. However, it is in the broader context -- that of providing food and fiber for the world -- that I wish to shape my opening comments.

During the past two decades, the environmental awareness movement has been primarily concerned with the "absorptive" capacity of the environment -- in other words, problems of pollution, contamination, waste control and disruption of natural ecosystems. As the energy crisis developed and as new attention was focused on world hunger, the emphasis has changed back again to more concern for the "productive" capacity of the environment.

Appropriate questions are now being asked about the amount of land, water and energy required to produce food and fiber for the people. These limitations in the resource base must be considered as we look at the critical question of "How many people can the earth support?" Also, with this renewed concern for resources, we are observing a more balanced approach to environmental awareness -- an approach which places emphasis on "management" -- management rather than "protection" per se.

Consequently, if we look at the resource base -- and resource management as the key to food production, questions must be raised about our land area, our water resource and our energy supplies. It is becoming more and more apparent that, for the near term at least -- that is, for the next 10-15 years, the availability and cost of energy will be the most critical factor limiting

world food and fiber production. Even in the Less Developed Countries (LDC's), where agriculture is less "energy intensive," the supply of fertilizers and petrochemicals, the food delivery system, and the dependence of mechanization (though limited) are critical to agricultural development. Energy is particularly crucial to the future of irrigated agriculture. Energy costs or perhaps natural gas curtailment in the Western U.S. may lead to a shift from irrigation back to rain-fed agriculture -- another reason for emphasizing rainfall management. President Carter has restated the energy problem -- conservation.

It is my hope that by the year 2000 -- perhaps sooner -- we will have developed alternative sources of cheap energy -- at least we know that there is an abundance of energy in the universe if we can convert it to man's use. On the other hand, water becomes more and more critical with time. Water is a renewable resource, but the supplies are limited. Consequently, over the long term water will likely be the most limiting factor in world food and fiber production. This does not mean that I am not concerned about the amount of land available for agriculture -- because I am concerned -- particularly when the statistics show that in the United States we are losing 1.5 million acres of prime farm land each year to cities, industries, recreation, asphalt and concrete. In the last 8 years alone, the U.S. has lost nearly 10 percent of its top-quality farm land. These statistics are alarming -- but, still, there is more flexibility in the land resource than in the water resource. And, at least a part of the land loss to cultivation over the next 20 years will be associated with lack of water to sustain cultivation. This transition is already taking place in some areas of the west.

Because of unusual weather conditions in the U.S. this year, we are anticipating substantial reduction in food and feed crops in the Western States. Irrigation allotments have been cut drastically in California, Arizona, Colorado and New Mexico. Vast acreages of dryland farms in the mid-west are suffering from severe wind erosion and moisture deficiencies. And, keep in mind, that the rest of the world is dependent upon U.S. agriculture -- to the extent that the production of one acre out of every four in the U.S. goes to supply the export market.

The overall world food situation has improved somewhat since I attended the World Food Conference in Rome. Both the U.S. and the Soviet Union had good grain crops this past year. Nevertheless, the worldwide picture is not healthy due to the continuing population explosion. World grain reserves, as measured in terms of days of world consumption, continue to fall. For example, in 1962, there was enough grain in storage to feed all the world's people for 105 days. In 1976, world grain reserves could only feed the world's people for 31 days. Certainly, grain reserves are a valid measure of food security. The small carry-over supply -- 31 days -- is also an indication of our dependence upon yearly production -- an indication of our vulnerability to weather and other production conditions in a given year. So much of our agricultural technology -- our food production capability -- is dependent upon water supplies. There would not be a "Green Revolution" without adequate water. Complacency about water, complacency about weather, complacency about energy, and complacency about the loss of prime farm land can lead only to world famine. Will we have the foresight, will we have the vision, will we have the research and analysis, will we have the political power to insure an adequate food and fiber future for our people? Well, one reason we are here today is because we are concerned.

Welcome to the conference.