Research at Work

Our analysis indicates that research has proved essential in several drought-related areas. As examples:

- Research that identified germplasm and dominant genes in naturally occurring drought-tolerant plants has benefitted the production of non-irrigated crops and forages that are totally dependent on rainfall.
- Research has identified characteristics of impacts resulting from changes in weather patterns such as El Niño, La Niña, and the North Atlantic Oscillation.
- Research has provided the technological base needed for long-range weather prediction and the acquisition of improved data on climate and weather phenomena to improve the accuracy of those predictions.
- Research provides information needed by individuals, communities, states, and regions to facilitate more efficient water use. It has been the impetus for numerous technological improvements in irrigation efficiency, desalination, wastewater treatment, and household items such as ultra-low flow toilets and horizontal-axis clothes washers among other technologies. In Florida, more than 100 desalination plants are in operation (*Water International*, December 1999). Communities in California are also using desalination technology, as we learned at our Los Angeles hearing.

Small businesses may also lack access to information about the financial and business management strategies available to them.

Insurance has been a central feature of U.S. agricultural policy for decades. And while farmers and ranchers are also among the first to feel the impacts of drought, the federal crop insurance program, as noted earlier, covers only major field crops, not all vegetable and other crops in all locations or livestock.

A variety of strategies were offered for the Commission's consideration. Some were variations on the crop insurance program but with emphasis on self-help, extended coverage, resource stewardship, and preparedness. Many have been and are being discussed in a variety of forums, including the U.S. Congress. In-depth analysis of these strategies would require much more time and many more resources than were available to the Commission. We therefore endorse none of the approaches but present the following summary.

- One approach called for incorporating all crops and livestock into the crop insurance program and for taking a "whole-farm" approach to insurance. That means losses from one crop or one type of livestock could be offset by gains in a different crop or type of livestock on the same farm.
- Another approach discussed at the Commission's hearings in Austin, Atlanta, and Billings would replace the current crop insurance program with one based on the cost of production. Under this program, all crops and livestock would be included on a whole-farm basis. The federal government would subsidize premiums, but at different rates than under the current program. Payments would be made when income is less than 90% of the documented cost of production. Paid premiums would be maintained in a national trust fund for disbursement.
- A third option was to base crop insurance payments on the same criteria used to make direct payments to farmers for resource conservation measures under the Conservation Security Program proposed in the Administration's 2001 budget. The objective is to recognize stewardship of farm and range lands and water on farms and ranches, which are valuable assets in addition to the crops and livestock raised on those lands.
- In counties of Florida, Michigan, Massachusetts, and several other states where farmers often produce a variety of specialty crops, the Department of Agriculture is testing the Adjusted Gross Revenue model. This