# THE ECONOMISTS' CONTRIBUTION TO DROUGHT MANAGEMENT STRATEGIES

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Research efforts toward identifying and evaluating drought management strategies must take into account both the level and the time at which policy intervention may occur. Some management strategies are best suited to the firm level in either farm or nonfarm businesses. Other intervention levels include the community, state, regional, and national levels.

Likewise the time frame within which intervention occurs is a major determinant of the kind of policy action required and of the kind of research needed to support policymaking. One might consider intervention between droughts principally to support long-run adjustments. Somewhat different kinds of intervention would be appropriate during drought and depending upon whether the drought was just beginning to be evident, was severe, was catastrophic or was waning and recovery was possible.

A number of policy questions can best be considered prior to the onset of drought. Perhaps the most important among these would be a correct appraisal of the drought hazard. It seems clear that many firms and communities have underestimated their risk exposure to drought. Research designed to better define that risk exposure in terms of frequency, severity, and duration would be useful.

Research can assist in identifying and building appropriate flexibility into economic systems at all levels—firm through national—since flexibility can mitigate drought impact. The desired flexibility may be evidenced by the enterprise organization of the firm or industry—diversification versus specialization. Physical flexibility is also necessary to aid the firm in weathering drought. Practices such as water conservation, grain crop and

forage storage, and water supply augmentation are all examples of physical flexibility. Finally, financial flexibility as measured by credit reserve, flexible repayment plans and investment strategies can be of critical importance.

At a more macro level, state and Federal Government both have roles to play. Development of an early warning system for droughts could be of great value to farmers and to those industries doing business with them. Insurance or loan guarantee programs to protect farmers' cash flows and access to credit could be useful tools to ease the impacts of drought. Policymakers would likely welcome assistance in devising and evaluating such programs.

Private business firms servicing farmers, as well as farmers, may find it useful to develop income sources that are less susceptible to disruption by drought. Perhaps greater integration of regional business and financial firms into the national economy would permit more rapid and more significant adjustments to drought. Certainly research to identify alternatives and to measure the costs and benefits thereof would support responsible policymaking.

When drought is a reality, the needs at all levels are more urgent. This very urgency may often stand in the way of responsible decisionmaking. In past drought situations, both overreaction and delayed reaction to the drought have occurred. Nonetheless, accurate and timely warnings do permit individuals and institutions to better gauge the type and timing of action required. Interdisciplinary research can result in improved monitoring systems. Research to develop optional production and financial management strategies under drought stress could have substantial private and public payoffs, as well.

An increasingly important area of study for economists is that of the

interrelationships between drought impacted industries and areas and the rest of the economy. Localized droughts, for example, may be to the advantage of other producers as farm product prices respond to supply shortfalls. With inelastic demand for agricultural products, producers in drought affected areas may benefit, also. But what are the implications for food prices and rates of price inflation? What about the infrastructure serving agriculture? As U.S. agricultural production becomes more important to foreign consumers, the probable impacts of drought on trade volumes and balances of trade must be better understood and more closely monitored. A wide range of research opportunities are available in this area extending from an understanding of interregional drought impacts to international trade questions.

During periods of catastrophic drought it seems reasonable to expect that "all stops will be pulled out" in dealing with the hardships created. Under such circumstances, little time would be available for analysis. And, mistakes would be made in both private and public actions. However, to the extent that applicable research results are available, drought assistance will be more effective in the short term and the possibly unfavorable secondary effects of assistance may be minimized.

The period of recovery from drought presents unique opportunities for researchers. The hardship of drought is fresh in the minds of private and public policymakers. Hence, support for well thought out economic research related to drought problems may be more readily available. Moreover, factual information on the private and public costs associated with drought will likely be more easily secured. Finally, a favorable opportunity exists for interpreting research results to policymakers. Extension efforts will find

audiences more receptive than usual.

Developing drought management strategies may provide significant research opportunities for economists working individually—but especially as members of interdisciplinary teams. Such joint efforts will likely combine the skills of a wide range of professionals—economists, political scientists, plant and animal scientists, engineers, ecologists, climatologists, and meterologists to name a few. Well planned research, the results of which are effectively communicated to policymakers, holds the promise for substantial payoff. Indeed, it seems possible to develop research that is applicable to more traditional problems in production, marketing, finance, rural development, and international trade while at the same time addressing questions related to drought management.