



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

KS

90-14

GIANNINI FOUNDATION OF
AGRICULTURAL ECONOMICS
LIBRARY

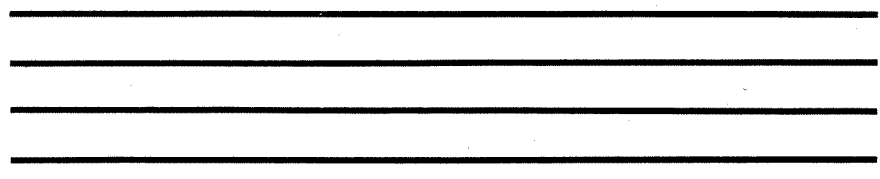
WITHDRAWN
AUG 24 1990

STAFF PAPER

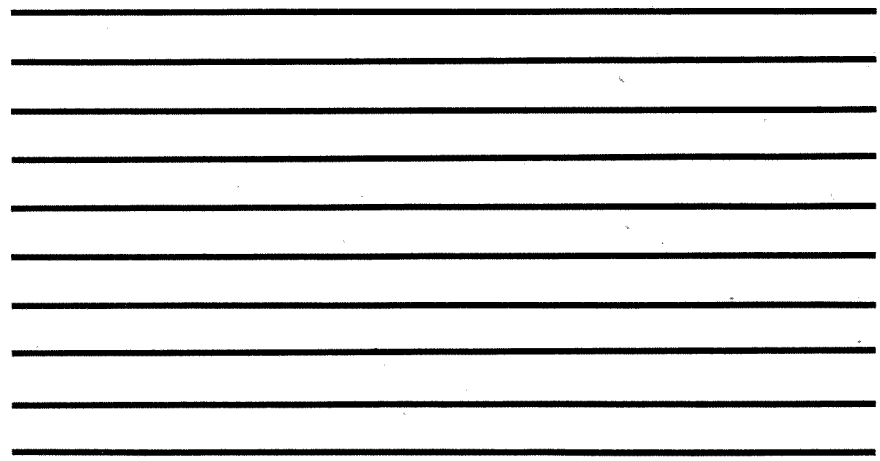
**DEALING WITH DROUGHT
A REVIEW OF OUR PROFESSIONS' RESPONSE
AND IDEAS FOR IMPROVING IT**

WILLIAM I. TIERNEY AND DAVID L. DARLING*

June 1990
No. 90-14



Department of Agricultural Economics
Kansas State University



DEALING WITH DROUGHT
A REVIEW OF OUR PROFESSIONS' RESPONSE
AND IDEAS FOR IMPROVING IT

WILLIAM I. TIERNEY AND DAVID L. DARLING*

June 1990
No. 90-14

*Associate Professors and Extension Specialists, Department of Agricultural Economics, Kansas State University, Manhattan, Kansas.



Department of Agricultural Economics
Kansas State University, Manhattan, Kansas 66506

Publications and public meetings by the Department of Agricultural Economics are available and open to the public regardless of race, color, national origin, sex, or handicap.

DEALING WITH DROUGHT
A REVIEW OF OUR
PROFESSIONS' RESPONSE
and
IDEAS FOR IMPROVING IT

William I. Tierney (First Author)
David L. Darling

June 1990

The authors are both Associate Professors and Extension Specialists in the Agricultural Economics Department at Kansas State University.

DEALING WITH DROUGHT: A REVIEW OF OUR PROFESSIONS' RESPONSE AND IDEAS FOR IMPROVING IT

INTRODUCTION AND OVERVIEW

The droughts of 1988 and 1989 were a challenge and an opportunity for agricultural economists. Agricultural economists have in the past and continue in the present to address the information needs of producers and public policy makers that arise during a drought. Considering the role of the Land Grant Universities and the unique history of our discipline, agricultural economists might be expected by their clientele to develop a variety of programs to address both the micro and macroeconomic consequences of the 1988 and 1989 droughts. This paper addresses three issues. First, it will review and evaluate the drought programs implemented by agricultural economists in 14 states. Second, it will describe the drought programs implemented by agricultural economists at Kansas State University (KSU). The paper will also discuss how KSU's drought impact study helped shape the policy making environment. Finally, it will present ideas for designing future drought programs that will provide timely information to producers and policy makers.

STATES' APPROACH TO DROUGHT PROGRAMMING VARIED WIDELY

Little Cooperation Between Research and Extension.

The authors conducted a survey of extension economists in 14 drought affected states. As a result of this survey, we identified some features which were common to most of these states' drought programs. In all cases, drought programs were the responsibility of those faculty with predominately extension appointments. Only one department called a faculty meeting to identify and coordinate drought programming. This lack of cooperation may be due to a number of factors. First, there is the informal administrative structure of academic departments. Department administrators can rarely order the participation of faculty. Many respondents reported that their research colleagues complained that all

their time was committed to teaching, research, or committee work (and by inference, extension faculty had a more flexible schedule). Several respondents felt that their research associates had an aversion to doing applied, problem solving research. Another respondent theorized that research faculty were reluctant to involve themselves in economic problems for which there was inadequate information. Also, researchers appeared to be more comfortable with time frames which extend over several months to a year. Because of the pressure of public needs and expectations, the time available to conduct an economic impact analysis or implement a drought assistance program was just a few weeks. Finally, one respondent suggested that the trend towards "Reductionism" in our discipline had created a population of agricultural economists which lacked the ability (or the desire) to address such broad problems. The respondent use the word "Reductionism" to convey the thought that no one wants to be a generalist any more and the trend is for everyone to limit their scope of research.

The Role of Extension Ag Economics in Drought Programming.

Drought Task Forces. In many states, top level university administrators were directly involved in drought programming. Drought Task Forces were formed in about two-thirds of the states. These committees consisted of representatives from most of the agricultural departments. Most of these committees issued a publication which was a compilation of drought materials collected from all the participating departments. Respondents indicated that the committees' work was often uncoordinated and piecemeal. Some respondents suggested that these committees were formed as part of a public relations strategy. Often the committees' senior members would accompany Congressmen and state and federal officials on "high profile" drought inspection tours. In other states, the committee would fly around the state and hold their own well-publicized hearings.

Intense Media Attention. Several respondents indicated that they received more media attention during the droughts than at any other time in their careers. The intensity of this "media hype" seemed to be

related to the severity of the drought in each state. For example, ag economists from the corn belt states reported the greatest demand from their extension clientele and the media. On the other hand, respondents in several western states, in which drought is a common phenomena, reported considerably fewer demands from their clientele and relatively less interest from the media.

The "Teachable Moment". Initially, some of these Drought Task Forces were composed entirely of crop and livestock production scientists. Extension ag economists in farm management, marketing, and community development had to insinuate themselves into the team or they were brought in only after the production scientists found that they couldn't make appropriate recommendations without reference to market prices and input costs. Several reasons were given by extension ag economists for why they got involved in drought programming. For most of the respondents, their involvement began as a responses to questions from county agents and area economists. Some respondents used a phrase that is often heard in extension circles: "It was the Teachable Moment."

Those departments which adopted an aggressive approach to drought programming, viewed the work not as an onerous duty but as an opportunity. They saw the drought as an opportunity to demonstrate the contribution that their discipline could make in addressing immediate real-world problems. Several states held teleconferences to update county agents and area staff. One department held a satellite conference. All but two of the states issued special fact sheets, guides, and news releases. These publications addressed such subjects as marketing, financial management, tax strategies, water rights, and applying for drought relief benefits. A large number of inquiries by county and area staff did not always result in a corresponding commitment on the part of state extension economists. For example, in one state (with a large ag economy) a single area economist ended up with the responsibility for all drought programming. Another state did not implement any special drought programs "because there wasn't anything they could do about it." A variation on this "can't do" philosophy was evident in other states, particularly with respect to attempting economic impact studies. One respondent argued that it would

be fruitless to conduct these studies because, at the time, "...there was too much uncertainty about the economic variables. We were waiting for the other shoe to drop".

Economic Impact Studies. Only two states (other than Kansas) released economic impact studies using input-output (I-O) models. The two I-O studies were done by teams of extension economists with specialties in marketing, public policy, and community development. One other department provided input for a study that was released by the state's Secretary of Agriculture. In two other states, a single economist generated a rough estimate of the aggregate drought-induced damage to their state's economies. One state did an ex-post study on the drought's long term impact on farms' financial survival. One respondent reported that extension staff from his department were active in behind the scenes lobbying/education/information activities with state and federal officials. Instead of conducting a drought impact study for their state, another department did a national impact analysis. Drought impact studies received prominent exposure in the regional and national press. In fact, these studies served as the centerpiece for the states' campaigns to influence federal drought relief legislation.

DROUGHT PROGRAMMING AT KANSAS STATE UNIVERSITY

The Drought Impact Study.

Drought programming at Kansas State University took several forms. The Dean of Agriculture appointed a Drought Task Force which held hearings and eventually published a compilation of drought materials. In the department of agricultural economics, individual extension specialists in marketing, farm management, and community development responded to county agents' requests with meetings, publications, and a special call-in radio program. Extension economists also helped crop and livestock production scientists evaluate alternative management strategies. One extension agricultural economist worked very closely with the Congressional Committee that drafted the 1989 drought relief legislation.

Many of the questions that we were getting at the time concerned the drought's impact on the state's economy. After some discussion with the department head and other faculty, the authors decided to undertake an economic impact study which we hoped would quantify the aggregate losses attributable to the drought. The study would have to be done within four weeks. If we waited too long, substantial parts of the study would have to be revised. Furthermore, legislative events were moving rapidly. In order to capture all the drought induced economic costs, we decided to use an I-O model of the Kansas economy which had been designed by faculty in the KSU Department of Economics.

Estimating Crop and Livestock Losses. Estimating drought losses in wheat production was relatively easy. The USDA's May 1989 crop report gave us an "official" estimate of the final crop (202 million bushels) which we compared against production under trend yields (430 million bushels). However, estimating losses in hay production and pasture carrying capacity was difficult. The only data we had to go on was the USDA's weekly reports on range and pasture conditions and information supplied by extension agronomists, range and animal scientists. Based on this data, we estimated that there would be a 20-30 percent loss in hay production and a 30-50 percent loss in the carrying capacity of pastures.

Assessing the drought's impact on the cattle sector was even more troublesome. A survey of sale barns pointed to a significant liquidation of cow herds. There had been a 12 percent increase in the number of cattle placed on feed as of April 1 (particularly in the lighter weight categories). There had also been a large drop in health inspections for cattle trucked into the state for grazing. This suggested that there would be a 20-33 percent drop in stocker and backgrounding operations. The output of some ag related sectors, such as grain marketing and transportation had to be reduced proportionately. Other sectors, such as flour milling, saw the value of their output increase to reflect the increase in the cost of the wheat they purchased. Finally farmers' purchases of ag services and inputs were reviewed and adjusted only if the wheat harvest shortfall suggested either a supply or demand change.

Estimating The Statewide Economic Impact of the Drought. The drought's immediate effects were felt first in the agricultural sector. This resulted in significant losses in farm income which, in turn, reduced economic activity in other sectors (via the I-O model's household consumption sector). Estimating the net change in gross farm income required some bold assumptions on our part. We felt we had a good idea of the changes in farm income due to crop losses, but livestock producers would see an increase in cash incomes due to the forced sale of their inventory. We compromised on the later and limited cattle producers' losses to the income that they would have earned from their cattle enterprises had it not been for the drought. The windfall that farmers' received from higher wheat prices was, in turn, offset by a loss of deficiency payments.

We were uncertain about how to handle two important farm income variables: insurance and disaster payments. We choose not to count insurance payments as income because we were unsure of the extent of the crop damage suffered by insured farmers (Kansas farmers eventually received \$102 million from crop insurers). While no federal drought relief bill had yet been passed, there was a high probability that farmers would eventually receive some payments under the legislation (Kansas farmers received \$170 million). Although we did not include these payments in our estimate of farm income, we did provide a detailed examination of the overall economic effects if farm incomes rose by \$50 million increments.

Assessing the Drought's Impact on Rural Communities. The drought's impact on the rural communities in Kansas varied by region depending on the severity of the drought. The authors chose one north central county to study in detail. This county had suffered significant crop losses and agriculture was the dominant sector of the local economy. Also, a recent household survey of spending patterns in that county was available. Farm income losses were estimated and the ripple effect of these losses was traced through retailers and non-farm households across the county. Out of a total possible 1989 farm income of \$21 million, the drought caused losses of over \$16 million. Although we didn't know exactly how farm families would cope with such a large drop in their incomes, we expected that their

expenditures on luxuries, vacations, and durable goods would be significantly reduced, while consumption of food items, utilities, gasoline and other ordinary needs would continue. We estimated that farm households would probably reduce expenditures by almost \$7 million. This would, in turn, bring on a secondary cut in spending of about \$3 million. The loss of this much retail sales activity would have a severe effect on the community's main street businesses that sold non-essentials.

Communication: The Most Important Component of Drought Programs The Economic Impact report was completed and ready for release on June 7, 1989. The Department of Extension Communications prepared several different news stories for distribution to weeklies and small newspapers. Already calls were coming in from the New York Times, wire services, major metropolitan and regional papers. The wire services and some of the papers claimed that they needed the report prior to the release date so they would have time to prepare their stories. Consequently, we distributed the report to all the media that requested an advance copy but an embargo was put on it which prevented them from publishing their stories prior to the release date. We also provided advance copies of the report to members of the university's own Drought Task Force, appropriate state and national officials, as well as the members of the Kansas Congressional delegation.

We took particular caution to inform public officials of our on-going study and the date when we would release the study. We were sensitive to public officials need for advance information. If there is one thing that a politician hates, it is not having a prepared and informed opinion on an issue that is important to his constituents. A recent article by Reicheldefer hypothesized that a continual concern of politicians is either getting re-elected or qualifying for higher office. To do this, politicians must take steps to: (1) maximize benefits to their own constituents; and (2) meet the rent-seeking or broader desires of supportive interest groups, without: (1) reducing the wealth of their political peers' constituents; or (2) creating strong opposition from other interest groups.

The drought report helped elected officials in Kansas to estimate the loss in state 1989 tax revenues. It also helped members of the Kansas Congressional delegation since it provided them with data they could use to document the state's drought losses. It helped them back drought relief legislation that would put money back into the hands of Kansans. No Kansas group would lose money directly as a result of the drought relief legislation. Also, no opposition group existed in Kansas to the drought relief legislation. The only possible negative reaction could be from those who saw an opportunity to diminish the budget deficit by allowing the 1985 Farm Bill to function in a way that diminished government payments to farmers.

IDEAS FOR DROUGHT PROGRAMMING

There have been three major droughts in the last 10 years (1980, 1983, and 1988-89). Each of these droughts had a significant impact on farm incomes, regional economies and the federal budget. Based on the experience of ag economists in Kansas and other states, the authors propose the following model for future drought programming. First, research and extension faculty should share the work. The benefits would be a quicker response, higher quality, greater depth and a broader scope in drought programs. Second, in order to achieve the needed coordination, to ensure adequate resources, and to provide sufficient incentives, the department's head (or chairman) should lead the effort. Third, programming should be proactive rather than reactive. Don't wait for the crop and livestock scientists to call for help, approach them first. The department should enlist the interest and support of the area staff as well as county agents. Fourth, don't limit drought programming to just a few areas. Consider the broadest possible approach to drought programming (resources permitting). Likely areas for special programs are: financial and tax management, marketing, crop selection on failed acreage, livestock management, understanding and qualifying for government programs, community development, local government, local-state-regional-national economic impact analysis, and public policy. You may have to cut corners. Some audiences may need programs which present material which may seem self-evident to

you. Droughts bring out all kinds of clientele groups, some of which have limited or no prior experience with the principles of economics or management.

Fifth, timing is everything. Droughts truly are "teachable moments" because they offer us the best opportunity to reach audiences we have never served before. However, the "moments" don't last very long. Sixth, take advantage of the efficiencies offered by mass media delivery vehicles. Focus on press releases, teleconferences, call-in radio and satellite programs, bulletins, and fact sheets. Take the time to carefully orchestrate your use of the media. Extension communication specialists can help set up press conferences and schedule TV, radio, and press interviews. Don't be afraid to "prep" the media and let them know that major drought reports will be released on a future date. Finally droughts are an excellent opportunity to improve communication and relations with: state and national administrators, the leadership of farm organizations, members of Congress.

CONCLUSION

In her recently published article, Reicheldefer discussed the role of the policy-relevant analyst. It's her opinion, that ag economists that did this kind of work have "...a much harder job than the strict disciplinarian. [They] must: (1) be aware of and understand the motivations of political decision makers; (2) use broadly acceptable assumptions to underlie analyses; (3) translate findings into lay language; and (4) have perfect timing....On top of all this, the policy-relevant analysts must be as rigorous and precise as their narrowly focused peers." This was part of the challenge that agriculture economics departments were faced with during the past two years. Some departments met and mastered this challenge. Some departments accepted the challenge but their efforts were unequal to the task. And some departments didn't even notice the challenge.

References

Reichelderfer, Katherine. "Roles of the Economist in the Policy Process." CWAEA. Fall Issue, 1989.

Tierney, William I., Jr., David L. Darling and Mark A. Willard. "The Effects of the 1989 Drought on the Kansas Economy." Dept. Agr. Econ. Staff Pap. No. 89-12, Kansas State University, 1989.

