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AGRICULTURAL ECONOMISTS IN RURAL DEVELOPMENT: RESPONSIBILITIES, OPPORTUNITIES, RISKS, AND PAYOFFS

James R. Nelson and Gerald A. Doeksen

Rural development research and extension activities directly impact approximately 100 million U.S. farm and nonfarm residents; whereas, commercial agricultural programs directly impact about 6 million farm residents (U.S. Department of Commerce, b). Based on this fact, it is difficult to understand why rural development research and extension programs are often listed last when priorities for funding are discussed.

The overall objective of this paper is to substantiate the authorization of rural development research and extension efforts by illustrating their importance and usefulness. More specifically:

1. Rural development authorization in land-grant university related legislation will be summarized;
2. A summary of demographics concerning farm and nonfarm population in relation to rural development support will be presented;
3. A taxonomy for rural development research and extension efforts will be discussed with special consideration for how "what agricultural economists do" fits into the taxonomy; and
4. A discussion of some potential results of agricultural economists working in rural development will be presented.

LEGISLATION IN SUPPORT OF THE LAND-GRANT UNIVERSITY SYSTEM

Several items of federal legislation have been critical to the development of the land-grant university system as we know it today. These are briefly reviewed below.

In 1862, Congress passed the first Morrill Act which gave each state 30,000 acres of land for each senator and representative it had in Congress to endow colleges in agricultural and mechanical arts. In 1890, the second Morrill Act was passed which established land-grant institutions for black citizens in the Southern and border states. There was some previous precedent for use of land to support higher education. The colonies gave land to encourage education. Harvard, Yale, and Dartmouth received state lands. The land-grant colleges included in the Morrill Acts have been major contributors to the scholarly activities of the nation and to the well-being of residents of rural America (Tweeten).

Agricultural Experiment Station Legislation

In 1887, the Congress of the United States passed the Hatch Act to establish agricultural experiment stations to conduct crop and livestock research "*...and such other researches and experiments bearing directly on the agricultural industry of the United States as may ... be deemed advisable, having due regard for varying conditions and needs of the respective states or territories*" (Knoblauch).

Several subsequent acts of Congress have been passed to support and clarify the roles of the agricultural experiment stations. The Purnell Act (1925) provided for more complete endowment of the agricultural experiment stations to conduct investigations on production, manufacture, preparation, distribution, and marketing of agricultural products, "*...and such economic and sociological investigations as have for their purposes the development and improvement of the rural home and rural life...*" (Knoblauch). The Bankhead-Jones Act (1935) provided for more complete endowment of land-grant colleges "*... to conduct research into laws and principles underlying*

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basic problems of agriculture in its broadest aspects; research relating the improvement of the quality of the development of new improved methods of production of, distribution of, and new and extended uses of markets for agricultural commodities and by-products and manufactures thereof; and research relating to the conservation, development and use of land and water resources for agricultural purposes" (Knoblauch). In 1946 Congress passed an amendment to the Bankhead-Jones Act *"... to promote the efficient production and utilization of products of the soil as essential to the health and welfare of our people and to promote a sound and prosperous agricultural and rural life as indispensable to the maintenance of maximum employment and national prosperity"* (Knoblauch).

Cooperative Extension Service Legislation

In 1914, the U.S. Congress passed the Smith-Lever Act to establish the Agricultural Extension Service to "extend" the results and benefits of the teaching of land-grant colleges and the research of experiment stations to farmers. The Smith-Lever Act provided funds to support cooperative extension work in conjunction with the state land-grant universities including *"... the giving of instruction and practical demonstrations in agriculture and home economics and subjects relating thereto, to persons not attending or resident in (land-grant) colleges..., and imparting information on said subjects through demonstrations, publications and otherwise...".*

With the addition of section VIII to the Act in 1955, Congress specifically recognized special rural problems including: (1) concentration of farm families on farms too small or too unproductive or both; (2) some farm operators, because of limited productivity, being unable to make adjustments and investments required to establish profitable operations; (3) the productive capacities of some farm units not permitting profitable employment of available labor; and (4) some farm families, because of limited resources, being unable to make full use of conventional extension programs designed for families operating economic farm units. In the Act, Congress specified that to ameliorate such situations, some cooperative extension programs should include the following: (1) intensive on-the-farm educational assistance to farm families in appraising and resolving their problems; (2) assistance and counseling to local groups in appraising resources for capability of improvements in agriculture or introduction of industry designed to supplement farm income; (3) cooperation with other agencies and groups in furnishing all possible information as to existing employment opportunities, particularly to farm families having underemployed workers; and (4) in cases where the farm family, after analysis of its opportunities and existing resources, finds it advisable to seek a new farming venture, the provision of information, advice, and counsel in connection with making such change.

Rural Development Implications of Land-Grant Legislation

The legislation discussed clearly emphasizes the importance of support for agriculture from the land-grant university system, including agricultural experiment stations and the Cooperative Extension Service. However, even in the early years of the development of this legislation, recognition was given to the importance of research and extension efforts to improve the general quality of rural life. This was specifically pointed out in agricultural experiment station legislation in the Purnell Act (1929) and in the 1946 amendment to the Bankhead-Jones Act. Similarly, the importance of land-grant university sponsored educational programs to assist rural communities with problems of economic development and improvement of rural quality of life is explicit in the Smith-Lever Act.

DEMOGRAPHIC IMPLICATIONS CONCERNING LAND-GRANT SUPPORT FOR RURAL DEVELOPMENT

When the basic land-grant legislation was passed, most rural people lived on farms. In fact, in 1920 about 32 million people lived on farms, and about 61 million lived in places of 10,000 or less or on farms, Table 1. Thus, commercial agriculture is emphasized in the legislation. The number of people living on farms decreased to about 6 million in 1980; whereas, the number of people in places of 10,000 or less or on farms increased to almost 100 million. Farm population has decreased since the legislation was passed while the number of rural residents in nonfarm locations such as places of 10,000 or less has increased. Data in Table 2 further substantiate the changes that are taking place. Farm population as a percentage of population in places of 10,000 or less and rural areas decreased from 52.5 percent in 1920 to 6.2 percent in 1980. Data for the Southern States are presented in tables 3 and 4 and indicate a similar pattern.

Most land-grant university administrators perceive the support base for land-grant programs to be commercial agriculture. Agriculture is a major part of the support base for the land-grant system, but it is not the only aspect of that base. Efforts to maintain and cultivate the agricultural component of the base must con-

TABLE 1. U.S. POPULATION FOR SELECTED YEARS, 1900 TO 1980

Item	Year				
	1900	1920	1940	1960	1980
	-000-				
Total population	75,995	105,711	131,669	178,464	226,546
Population in areas and places of:					
50,000 or less	59,079	73,016	86,336	113,615	149,110
10,000 or less	51,938	60,907	68,954	81,955	97,997
2,500 or less	45,835	51,553	57,246	64,595	73,259
Farm population	29,875	31,974	30,547	15,635	6,051

Source: U.S. Department of Commerce (1975) and U.S. Department of Commerce (b).

TABLE 2. COMPARISON OF U.S. FARM POPULATION TO OTHER CLASSES OF U.S. POPULATION IN SELECTED YEARS, 1900 TO 1980

Item	Year				
	1900	1920	1940	1960	1980
	Percent				
Farm to total population	39.3	30.2	23.2	8.8	2.7
Farm to total population in areas and places of:					
50,000 or less	50.6	43.8	35.4	13.8	4.1
10,000 or less	57.5	52.5	44.3	19.1	6.2
2,500 or less	65.1	62.0	53.3	24.2	8.3

TABLE 3. POPULATION IN SELECTED SOUTHERN STATES,[a] 1980[b]

Item	Number
	-000-
Total population	67,973
Population in areas and places of:	
50,000 or less	46,761
10,000 or less	34,703
2,500 or less	28,278
Farm population	1,693

[a] The South is defined to include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia.
[b] Source: U.S. Department of Commerce(a).

TABLE 4. COMPARISON OF FARM POPULATION TO OTHER CLASSES OF POPULATION, SOUTHERN STATES,[a] 1980

Item	Percent of Total
Farm to total population	2.5
Farm to population in areas and places of:	
50,000 or less	3.6
10,000 or less	4.9
2,500 or less	6.0

[a] The South is defined to include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia.

tinue. However, there is an even larger clientele base that we are authorized to serve. Doing so, and doing it well, better serves all taxpayers by making more productive use of tax dollars and builds an even stronger political base.

Commercial agricultural programs directly serve the 6 million U.S. farm residents. Rural development programs primarily serve the 98 million residents in places of 10,000 or less or in rural areas, including, but not limited to farmers. Farm families need health care just as much as nonfarm families in rural communities. All families, whether they live on farms or in towns, need fire and police protection. The same can be said for other public services. Likewise, farmers have a stake in rural development programs which encourage job formation and small businesses in rural areas. Thus, rural development programs serve all rural residents, and a huge responsibility and clientele base is ignored if rural development programs are "put on the back burner."

A review of land-grant university staffing indicates that rural development is receiving only minimal attention. About 3 percent of experiment station professional staff time is currently allocated to rural development projects, Table 5. Similarly, only about 7 percent of Cooperative Extension professionals are engaged in rural development programs, Table 6.

TABLE 5. ESTIMATED NATIONAL AND SOUTHERN PROFESSIONAL STAFFING FOR RURAL DEVELOPMENT AND OTHER RESEARCH PERFORMED THROUGH STATE AGRICULTURAL EXPERIMENT STATIONS AND OTHER COOPERATING INSTITUTIONS, 1981[a]

Research topic	National	Southern[b]
	Full time equivalents	
Rural development research	247	89
Other research	6,987	2,583
Total research	7,234	2,672
Rural development as a percentage of total	3.4%	3.3%

[a] Based on data from Current Research Information System (CRIS), reported by Eddleman.
[b] The South is defined to include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia.

TABLE 6. COOPERATIVE EXTENSION PROFESSIONALS AND THOSE WITH RURAL DEVELOPMENT ASSIGNMENTS IN THE UNITED STATES AND THE SOUTH, 1983[a]

Professionals by speciality	National	Southern[b]
	Full time equivalents	
Total Cooperative Extension	17,242	7,508
Rural development	1,351	530
Rural development as a percentage of total	7.8%	7.1%

[a] Source: USDA.
[b] The South is defined to include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia.

There can be little doubt that rural development programs which serve about 100 million farm and nonfarm residents should receive more than the current 3 percent of the land-grant resources. Prudent long term management of a dynamic organization based on clientele service must allow for adjustments in the allocation of the organization's resources as the characteristics of the clientele change.

WHAT CAN AGRICULTURAL ECONOMISTS DO IN RURAL DEVELOPMENT?

Rural development problems tend to be public problems rather than private problems. Agricultural economists are among the few professionals in the land-grant system who have formal academic training in dealing with public goods problems.

Problems faced by rural development decisionmakers are often complex. Decisions involve economics, politics, and the requirements of state and federal bureaucracies. Several classification systems have been developed to disaggregate the elements of rural development decisionmakers' decisions (Powers, Stam). An adaptation of a rural development decision taxonomy developed by Powers follows, with the hope that such disaggregation of decision elements will facilitate the identification of rural development decisionmaking needs which can be addressed by agricultural economists within the land grant system.

The rural development decisionmaker is faced with the following (over simplified) situation.

A. *Needs* and/or *requirements* imposed by:
   1. Local people as citizens;
   2. Special interest groups;
   3. State government; and
   4. Federal government.

B. *Monetary resources* available to "solve" the needs and requirements from:
   1. User fees;
   2. Local taxes (property, income and/or sales taxes), which may have limits prescribed by the state; and
   3. State and federal aid.

C. *Questions* about:
   1. The degree of need for a particular service and how to determine that need, and its relationship to other needs;
   2. The economic feasibility of providing various services (Will revenues equal costs?);
   3. The political feasibility of providing the services;
   4. The costs and benefits of a service (Who pays and who benefits?), as well as the question of whether benefits equal or exceed costs; and
   5. The impacts of decisions to invest public funds--on the environment, on jobs, on the demand for other services and on the distribution and level of income.

D. *Information* and *technical assistance* resources from:
   1. Local citizens;
   2. Local leaders;
   3. Special interest groups;
   4. Hired consultants;
   5. Federal agency staff;
   6. State agency staff;
   7. Land grant university staff;
   8. Regional government staff; and
   9. Local agency staff.

Some of the information and technical resources available to the public decisionmakers are aimed at identifying and assessing needs, some at specifying and evaluating alternatives, and others at promoting particular solutions. Some information resources are available as "part of" the service from a public agency. Other information sources and technical services require additional payment for services rendered.

All of the information and technical service groups can and do generate a certain amount of their own information. The web of interrelationships between these groups is very complex, but one central fact emerges. That is, the frequency with which the state and local—as well as some national—information needs come to rest at the doorstep of the university (Powers).

Land-grant university agricultural economists have capabilities to assist rural development decisionmakers as they address many of the problems implied by the taxonomy specified. In some areas of assistance, agricultural economists have capabilities which are unique. In other areas, they share capabilities with other public and private agency personnel, and the answer to the question, "Who provides assistance?" is largely a function of "who" is at hand at the time the question arises.

Land-grant extension economists and other Cooperative Extension professionals through-

out the country have developed considerable expertise in the area of assessing local needs based on citizen input (Beaulieu and Carter and Erickson and Owens). Consequently, many land-grant university organizations in the South and elsewhere are well equipped to assist local decisionmakers with such efforts.

Substate planning districts and state and federal agencies commonly have staff members who have responsibilities for keeping local governments informed about state and federal requirements and regulations relating to economic development, community services and other matters. These personnel are also usually capable of discussing state and federal aid which may be available to local governments for development activities. Provision of such information to local decisionmakers is certainly a legitimate function of agricultural economists and others in Cooperative Extension. However, other agencies may be as well or better equipped to provide similar services. So, in many cases, Cooperative Extension resources may be more efficiently utilized in other applications.

Cities and other large units of local government usually have planning staffs or other technically trained personnel who can collect and analyze local data to evaluate the economics of development activities and of community service delivery alternatives. Results of such analyses can be extremely useful to decisionmakers. Small units of government, however, do not typically have such technically trained people on staff, nor do they generally have well organized local data about development needs and costs. Any individual or organization which attempts to assist small units of government with such problems must have not only expertise at conducting feasibility analyses and communicating results to decisionmakers, but also the research capability to collect local data or estimate local relationships from secondary data. Land-grant university agricultural economists, being well based in both applied research (experiment station) and information dissemination (Cooperative Extension), are well qualified to fill this role.

Land-grant agricultural economists are also well equipped to deliver to local decisionmakers information on total social costs (environmental and other) of services and on distribution of costs and benefits associated with such services. Such questions are conceptually rather difficult, however, and most successful efforts to address them have involved long-term case studies of single problems. Research is needed into specifying and measuring the linkages between specific services and other sectors of the economy and the environment.

Research and extension personnel working with local decisionmakers should be aware that all of the considerations affecting rural development decisions are not either technical or economic. Political realities in a community may completely eliminate from consideration development alternatives which are both technically and economically feasible. Decisions concerning such matters must be made by local decisionmakers with little or no help from "outside experts."

What if They Succeed?

As pointed out with the data reported in the first section of this paper, there is a very substantial clientele for rural development programs in rural America and, more specifically, in the rural South. This clientele is increasing in absolute numbers and is rapidly increasing in relative numbers (as compared to the production agriculture clientele).

Rural demographics suggest a trend toward reduced political power for the traditional supporters of the land-grant system. Farmers simply do not now have the political influence as in the past. This declining political force is evidenced by instability in the agricultural bloc in Congress and by the bickering which is common among farm organizations and commodity groups.

Potential demand for rural development research and extension activities is increasing at a rate even greater than the increase in clientele, as rural population growth is leading to more complex social and governmental systems and thus to more public problems. This is especially true in the rural South where local governments are now more nearly characterized by coalitions than by traditional "governing class elitism" (DuVall).

Successful land-grant university rural development programs fulfill the responsibilities of the system to improve the well-being of the citizens of rural America. Such successful programs also generate political support for the system from a large and growing group of clientele who have been under-served in the past.

What if They Do Not Succeed?

There is some likelihood of failure, or at least of less then total success, associated with any research or extension activity. Such greater than zero likelihoods for non-success exist for rural development activities. However, there is no reason why they should, per se, be any greater than for other types of research or extension activities.

Potential damage to general program credibility associated with the failure of a particular project can be minimized for research and

extension rural development programs by maintaining a close liaison with clientele throughout program development and implementation and by concentrating on practical program activities which address real clientele problems. If these guidelines are followed, clientele will understand the reasons for project non-success, and some practical results will usually be salvageable from even non-successful projects.

Who Cares?

Taxpayers care! State and local policymakers (including state legislators) care! State and local policymakers can have much more influence over the economic development and community services related variables in their jurisdictions than they can have over agricultural economies which are greatly affected by national farm programs and international trade. Such decisionmakers will take notice of solidly subject matter based land-grant university research and extension programs concerning rural development. And opportunities abound for agricultural economists to use the tools of their trade to address rural development problems.

The authors of this paper have directed numerous research projects concerning local impacts of economic development and the economics of rural community services, and have experienced excellent cooperation in this research from state and local elected and appointed officials and relevant state and federal agencies. The authors use this research on a regular basis to assist rural development decisionmakers with real problems. From 100 to 150 individual projects to assist local decisionmakers with problems related to the economics of rural community services and with economic development have been completed each year for the past several years based on results of these research projects.

Clientele support for these research and extension activities is very strong. Considerably more demand for such programs could be generated in Oklahoma if resources were available to meet this demand. Local rural development decisionmakers who have been assisted by these programs are not bashful about supporting the programs and the persons and institutions delivering the programs. Consequently, state level decisionmakers (legislators and agency heads) are aware of the programs and are solidly supportive.

SUMMARY AND CONCLUDING REMARKS

Land-grant university rural development research and extension programs are consistent with the legislated charges of the land-grant university system. Rural America and the rural South abound with potential clientele for land-grant university rural development programs. Agricultural economists have comparative advantages over other professionals, academic and otherwise, in assisting rural decisionmakers with many types of development problems. The potential payoffs for successful rural development programs are substantial in terms of political support for the land-grant university from local rural decisionmakers and, more importantly, from state level policymakers.

Extremely successful, though small, agricultural economics rural development programs are functioning in some states. The successes of these programs demonstrate the potential for agricultural economists working in rural development. However, the authors of this paper do have the following caveats for agricultural economists interested in pursuing rural development activities.

1. Keep it practical. Address real problems of real decisionmakers.

2. Listen carefully to local decisionmakers as they work to specify their problems to you.

3. Concentrate on doing what economists do. Try to work in those areas where you have a comparative advantage based on your training as an agricultural economist.

4. Utilize, as much as possible, methods which can be understood by local decisionmakers (who often have a surprisingly sophisticated understanding of their specific problems).

5. Be imaginative in the cultivation and utilization of non-conventional data sources.

6. Present results as straight forwardly as possible, directing them specifically toward the local problems.

Such efforts need the support of land-grant university administrators. Administrative support may be largely dependent on professional recognition given to persons involved. This recognition may be difficult to generate, but there is evidence that it can be obtained when innovative applications of research tools are made to local problems.

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