SMALL-FARM ISSUES: PROCEEDINGS OF THE ESCS SMALL-FARM WORKSHOP, MAY 1978

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Small farms are vital and a necessary way of life in the United States, according to participants of the May 1978 Small-Farm Workshop sponsored by the U.S. Department of Agriculture's (USDA) Economics, Statistics, and Cooperatives Service. Traditional research and assistance programs offered by universities and USDA have focused on farms as commercial production units. Workshop participants cited the need for a new focus on the farm family as a production, social, and income-earning unit. Small-farm families, in particular, need special attention.

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FOREWORD

There is substantial and growing public interest in the problems of small-scale farm operators and their families. The U.S. Department of Agriculture (USDA) and the Economics, Statistics, and Cooperatives Service (ESCS) of USDA are committed to serving that interest through research and information programs.

The public interest in small farms derives from several perspectives and diverse groups. Some are concerned about the future structure of the farming sector. Their feelings might be summarized in this way: "The system works to the disadvantage of small-scale producers. Our farming sector is gravitating toward fewer and larger farms. This trend is not in the best longrun interest of the country." Some are concerned about the well-being of families who live on small farms and depend primarily on farming for family income. Black and other minority farm operators are especially dependent on small farms for family income. Some are concerned about the quality of our food supply and environment. They feel small-scale farming, using organic gardening techniques, for example, can produce more healthful and better flavored food and, at the same time, be more energy efficient with less risk to the environment. Some feel small-scale farming is a valuable lifestyle. This view is typified by those urban dwellers who have left large cities and migrated to States such as West Virginia and Arkansas and purchased small farms to enjoy a life of subsistence farming and perhaps crafts or other cottage industry.

I don't intend to place any judgments on these views. Rather, these diverse views illustrate the complexity of small-farm issues and the difficult task we have before us in providing useful information for policy decisions. I can say that ESCS, as the major social science research and statistical agency in USDA, must be better prepared to address small-farm issues. It is with this in mind that I directed the ESCS Small-Farm Task Force to undertake the development of a realistic and comprehensive research agenda for ESCS. The future ESCS research agenda will be derived, in part, from this workshop.

It is useful to me to make some distinction between small-farm issues and the concern about the viability of the family farm. A primary focal point of the small-farm issue is the well-being of families living on small farms. As an economist, I tend to translate this into questions of income adequacy, although there are other ramifications. The question of family farm viability, which involves large as well as small farms, is for the most part a concern about the future structure and control of the farming sector. The two sets of concerns are not completely separable, and both may well be considered to some extent in a small-farm research agenda. However, I think it is most important to keep the special problems of small farmers clearly in mind.

I have long felt that research planning must involve researchers, statisticians, program managers, and policymakers. Much of our research in ESCS is planned in a way that limits the contributions of researchers in related subject areas and those responsible for administering Federal and State programs. While such planning processes may produce a research agenda much faster, the outcome is not necessarily the best that could be produced. I believe the workshop process is a means of broadening and improving the research planning process. While some workshop participants do not work directly in small-farm research, their knowledge about related areas contributes to a better research agenda on small farms. I am particularly pleased that individuals from outside ESCS and outside government participated in this workshop. We have benefited from their viewpoints and assistance.

Kenneth R. Farrell
Administrator
Economics, Statistics, and
Cooperatives Service

ACKNOWLEDGMENT

An ESCS task force was formed at the request of Agency Administrator Kenneth R. Farrell to develop an integrated, realistic agency research program focusing on the problems of small farmers and their families. The task force was composed of: Thomas Carlin, chairman, Raymond Bosecker, David Brewster, Philip Brown, Donald Larson, James Lewis, Fred Nelson, and Alan Walter. As part of the research development process, the task force hosted this workshop to bring together a diverse group of professionals whose perspectives would be useful in preparing the research agenda. Janet Coffin, James Carlin, Linda Hatcher, and Deborah Smith assisted in preparing this proceedings publication. The entire project was under the general supervision of Kenneth Deavers.

SMALL-FARM ISSUES: PROCEEDINGS OF THE ESCS SMALL-FARM WORKSHOP, MAY 1978

SUMMARY AND IMPLICATIONS FOR ESCS RESEARCH

Today's small-farm problems are rooted in an agricultural revolution that has transformed the production of food and fiber and hampered the ability of small- and medium-size farms to compete with larger commercial operations. For more than 30 years, most analysts and policymakers have considered small farms to be inefficient and relatively unimportant as food producers. This assumption, particularly since the fifties, has encouraged a search for nonagricultural solutions to small-farm problems. However, interest in small farms has revived, spurred in part by concern over the changing structure of agriculture. This interest is especially keen since small-farm production requires special technological and informational needs.

In light of this attention given small farms, the Economics, Statistics, and Cooperatives Service (ESCS) of the U.S. Department of Agriculture (USDA) sponsored a research workshop held May 3-4, 1978. Workshop participants discussed issues, research, and information needs concerning small farmers and their families.

The small-farm definition used at the ESCS conference was established in the Food and Agriculture Act of 1977: small farms are those operations with gross annual sales from farming of $20,000 or less. According to the 1974 Census of Agriculture, 66 percent of all farms belonged to this group. Conference participants were not totally satisfied with the sales definition, recognizing its limitations in directing assistance to commonly understood target groups. A more satisfactory criterion for describing the small-farm population did not emerge from the conference discussion. Participants did agree that small-farm research should also encompass farms producing more than $20,000 in gross sales; this would include not only part-time farms but smaller full-time farms.

The background papers, the panel, and working groups stressed the diversity of the small-farm population and, for the most part, agreed that the appropriate point of reference for research is the small-farm family rather than simply the farm. Some small-scale operators are old, others are getting started in farming, some combine farming with nonfarm jobs, and some depend entirely on farm income for family living. Small-scale farmers are engaged in all types of agricultural production. Given this variety, research on programs of assistance to small farmers should consider the goals and aspirations of the small-farm family before delineating small-farm problems and suggesting solutions. One participant pointed out that the assumption implicit in most past studies that farmers are employed full time on their farms or that better nonfarm opportunities exist for small operators is inappropriate and tends to bias research and

perhaps skew policies toward large-scale farming. Attention to the goals and aspirations of people may well reveal that small-farm problems cannot be handled with agricultural assistance alone or solved entirely with welfare and rural development programs.

The conference identified three general categories of research. The first dealt with the small farm as an agricultural production unit and a source of family income, perhaps one of several income sources available to the farm family. The second category considered the small farmer and his family as members of rural society who depend largely on nonfarm income for family living and whose presence may affect the availability and demand for goods and services in the community. The third area recognized the impact of agricultural and rural development policies and programs on small farmers and their families.

Data already existed on the relative income of families operating small farms, which agricultural products they produce, the relative importance of their farm output to the food and fiber sector, and the major geographic concentrations of small farmers. Underlying conference concerns, however, was an acute awareness of the deficiency of information regarding the attributes of small farmers and their families.

Available national population and agricultural data do not permit clear identification of the characteristics of small farmers, particularly those with low incomes. The small farmer's economic position and potential are difficult to determine because of the diversity of the small-farm population and the inability to link people and agricultural data. Administrators thus find it difficult to make informed decisions affecting the options open to small farmers and the living standards of small-farm families.

To fill the gaps, a number of research projects may be initiated, either by ESCS, land-grant universities, private institutions, or a joint venture. A comprehensive research agenda on small farms cannot be carried out by the Federal Government alone. The problems that vary substantially by State or locality can best be investigated at those levels. For example, research on farm management issues, farm and nonfarm enterprise combinations for specific areas, and local marketing problems can probably best be undertaken by the land-grant universities and private institutions. A number of these issues are addressed in this report. ESCS should have a national research emphasis focusing its resources on analyzing the characteristics of small-farm families, determining the conditions under which various types of farm and nonfarm assistance should prove beneficial, and assessing the impacts of policy alternatives.

THE ROLE OF ESCS IN SMALL-FARM RESEARCH

The following section provides the touchstone for future ESCS research on small farms.

Characteristics of the Small-Farm Population

The most pressing problem in small-farm research is the lack of information about the characteristics and goals of the small-farm population. Population data bases, such as the Census of Population and the Current Population Survey, provide detailed information on income, employment, and characteristics of families and individuals. Yet, these data bases give only very limited information on farming. Agricultural data bases, of which the Census of Agriculture is foremost, offer detailed information on farms but only limited material on the characteristics of farm families. The USDA data system provides information about farm production, including estimates of output, prices, and incomes, but little about the nonfarm activities of farmers or the general

well-being of rural people. Overall, current data offer a sound base to understand the farm economy, at least in an aggregate sense, but provide only scattered information for monitoring and understanding small farmers. Currently, there is no satisfactory way of combining data from these various sources.

Research should determine the characteristics of the small farmer and his family (that is, race, education, work experience); the resources available to farming operations; the goals of small-farm families; and the attributes of rural communities containing small farms. Linkages between existing bodies of data should be identified, evaluated, and developed as far as possible. Many current data systems could be modified slightly to provide the necessary information.

This information will help determine the degree to which the human and physical resources of small-farm families are underutilized. It also will identify segments of the small-farm population which need particular types of assistance and, thus, will aid policymakers in devising alternative approaches to help specific groups of small-farm families.

Alternative Ways to Assist Small Farmers and Their Families

The central issue in this research is the farm family's ability to realize full benefit from all its resources--both farm and nonfarm. Research should evaluate the competitive positions of small farms compared with larger farms, and determine the extent to which small farmers are earning less than their potential due to inadequate farm management and marketing strategies.

Are small farms actually less efficient than medium or larger units? Are there conditions where small-scale farms have an advantage over larger farms? This research would answer these questions by identifying production practices, buying and selling practices, and other factors that could improve the farm income of small-farm families. The research also would explore the extent to which institutions external to the market (credit, information, and others) serve the needs of small farmers and the factors that may hinder utilization of these institutions by small-scale operations.

Many small-farm families rely primarily on off-farm jobs for their primary source of income. ESCS research would focus on the nature of this dual employment activity of small-farm families and the conditions under which expansion of off-farm jobs in rural areas would be most effective in helping small farmers improve their well-being. The research would identify the characteristics of communities with a large proportion of small-farm families to determine if recent rural economic development has bypassed these areas. The research also would explore the conditions under which public sector employment and direct assistance may benefit small-farm families.

Aggregate Impacts of Alternative Policies to Aid Small Farmers

It is necessary to assess the tradeoffs offered by alternative policies aiding small farmers and to appreciate the traditional role that the small farm has played as both an economic unit and as a factor in the Nation's beliefs and values. For that reason, some research should be devoted to examining the perceptions of small farms in agricultural and nonagricultural circles and the process by which those perceptions have changed over time.

ESCS should study the causes and consequences of major trends in the structural organization of agriculture and the probable impact of public policies on those trends. Small farms thus cannot be considered apart from larger operations, rural communities, or the economy as a whole. The ultimate objective of this work is to assess feasible

alternative structures and policies for small farming, and increase understanding of the small farmer's role in U.S. agriculture. Special attention should be devoted to the impacts on supplies, marketing systems, and producer and consumer prices after modifying commercial agricultural programs to improve competitiveness of small farms. Attention also should be focused on the impact of program changes on rural communities--specifically on such variables as the nonfarm labor force, employment growth, and secondary and tertiary impacts on nonfarm businesses.

BACKGROUND PAPERS

PERSPECTIVES ON THE SMALL FARM

David Brewster*

The United States had more farms in 1940 than in 1900. Agriculture's productivity was just beginning to increase after decades of stability, and average farm size was actually smaller than 100 years before.

Since 1940, the number of farms has declined by more than half, while agriculture's productivity index has risen nearly twofold. Average farm size has more than doubled. There are fewer, bigger, and more productive farms now than ever before in this century.

The largest operations have come to account for an increasing share of production. The Nation's 103,000 biggest farms produced 26 percent of agriculture's total cash receipts in 1950. Today, a somewhat larger group accounts for more than twice that percentage. The importance of the country's smallest farms as commercial units has declined accordingly.

These changes are the results of an agricultural revolution that began with World War II and has not even now run its entire course. The elements of production and marketing have been profoundly affected, as has the relationship of farmers to the rest of the economy and to the world at large. While more than technology has been involved, the most obvious development has been the unprecedented substitution of new tools and techniques for human and animal muscle. The agricultural work force has fallen 60 percent since 1940, and horses, as a source of power, have become so insignificant that the agricultural census no longer bothers to count them.

Some aspects of rural America have altered slowly, however, notwithstanding the passing of the hired hand and the disappearance of the draft animal. A severe disparity continues between social and economic conditions in the rural sector and conditions in the urban sector. Nonmetropolitan America today contains 40 percent of the Nation's poor families and more than 50 percent of our substandard housing, but only 27 percent of the total population.

Rural regions still lag behind the rest of the country in health and educational benefits and other social services despite the post-war agricultural revolution. It has been argued, for that matter, that the extraordinary transformation of commercial agriculture following the war dealt a near fatal blow to small towns and rural society by forcing people from the countryside. Seen that way, the agricultural revolution has brought added problems instead of prosperity to the people who live beyond the cities and suburbs.

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These elements form the backdrop against which researchers must consider small-farm issues. On one hand is the agricultural revolution which has transformed the way we go about the ancient business of securing food and fiber and, in the process, has made it increasingly difficult for small- and medium-size farmers to compete. Juxtaposed with this is the continuing need of low-income small farmers and other rural residents for higher standards of living.

The precise definition of the small-farm problem varies. As an abstract notion, small farms have become a lightning rod for many of the anxieties people in the United States feel about agriculture and society as a whole. Energy conservation, organic farming, man's relationship to nature, the quality of food, the very quality of life--these issues and more are wrapped up in modern beliefs about the proper role of small-scale agriculture.

The subject has been a mother lode of political debate thanks partly to the high emotions it provokes. In the modern agricultural era--beginning roughly with the New Deal--Democrats, rather than Republicans, have generally associated themselves more successfully with concerns about small farms. Ezra Taft Benson, Secretary of Agriculture in the Eisenhower administration, could never dispel the impression that his dedication to the free-market economy posed a basic threat to the Nation's small-scale producers. Later, Earl Butz's reputation as a no-nonsense agribusiness advocate set the image for the Nixon administration.

By contrast, Agriculture Secretary Bob Bergland comes out of the New Deal tradition. His father lost the family's farm during the Depression, switched from the Republican to the Democratic Party, and later reportedly gave his children an unambiguous piece of advice about size: "everything big is bad" (2). 1/ The Secretary has made his concern for small farms a matter of record; and his concern has helped inspire the renewed interest in small-scale operations evident in USDA since the last election.

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For more than 30 years, analysts and policymakers have usually considered small farms to be outside the mainstream of commercial agriculture. The vogue in the 1940's was to define them as places incapable of adequately supporting a family. Small farms were regarded as subsistence operations, retirement residences, and part-time establishments.

More recently, small farms have been labeled, in terms of sales, as the group of places that accounts for a declining portion of the total agricultural market. A decade ago, when $10,000 in annual sales marked the dividing line between operations that survived and those that died, small farms were considered to be establishments selling less than that amount. Since then; the boundary has moved upward; and today in government circles, small farms are typically defined as places that annually sell less than $20,000 worth of goods.

The assumption that the small-scale producer is a minor part of commercial agriculture--or no part at all--has encouraged a search for nonagricultural solutions to his problems. Given this perspective, his characteristics as a farm operator may be overlooked, and his needs begin to appear like those of the general nonfarm, rural population.

Perhaps for this reason, the Federal Government's main small-farm emphasis since the 1950's has been on programs aimed at the entire rural community of which the small-scale operator is a part--not on measures specifically designed for him as a working farmer. The primary goal has been to create a satisfying environment that will allow

1/ Underscored numbers in parentheses cite references listed at the end of those papers where they appear.

farmers and nonfarmers alike to carry on full lives in nonmetropolitan areas. Official attention has focused on services, nonfarm job opportunities, and the special problems facing low-income citizens outside the cities. The emphasis, in other words, has been on rural development.

The post-war origins of this approach go back to a 1954 address in which President Eisenhower noted the skewed distribution of price support program benefits and directed Secretary Benson "to investigate the problems peculiar to small farms" (6). A year later, the Secretary responded with a report containing the seeds of the modern rural development effort. Farmers have accounted for a steadily declining minority of the nonmetropolitan population since then, and today, most of the funds available for rural development do not even come from the Department of Agriculture.

As researchers, we are now gaining a greater sensitivity to some of the difficulties that arise when agricultural sales are used to portray small-farm population needing primarily nonagricultural assistance. Sales alone do not determine total net income, especially for operators with off-farm jobs. Only about a fifth of the producers who sell less than $20,000 worth of goods have poverty-level incomes, while many with more substantial sales are poor. The $20,000 sales definition, therefore, does not really delineate a group of farm families that may be treated exactly the same as the poverty-level, nonfarm, rural population.

Nevertheless, several reasons remain for considering the small farm within a rural development context. The case favoring that orientation usually makes these points:

First, simple humanity requires us to give priority to those whose needs are greatest--to the poor, the aged, the ill-nourished, the uneducated, to those whose prospects are dim at best and desperate at worst. If measures based upon this principle will aid the nonfarm as well as the farm population, so much the better.

Second, however the small farm is defined, a number of small-scale operators will be unable to realize an adequate standard of living from farm income alone. Their establishments are simply too limited. Help for them must come partially from nonfarm programs.

Third, we need to take steps to attract nonfarm businesses to the countryside if small-scale farmers are to have the benefits of a healthy, diversified rural economy.

Finally, the variety of the small-farm population may mean that the way to aid the greatest number of small-scale operators is not through programs dealing with particular agricultural problems, but with an approach that treats the common needs of the rural community.

Yet no matter how valid these arguments may be, a number of writers remain unconvinced that rural development is sufficient in itself to deal with the problems facing small farmers. What distinguishes the small-scale operator from the rest of the rural population is his farm--a unique package of resources with economic potentials that need to be fully realized no matter how modest. Common sense ought to indicate that a small-farm program which ignores farming is deficient, and if common sense fails us, we have other reminders.

The 1960's and early 1970's spawned several well-publicized groups dedicated to examining and commenting on the agricultural scene. Some are still with us, and their members bring to small-farm matters a point of view different from the one that has traditionally prevailed in the Federal Government. When the new critics speak of the small-farm issue, as often as not, they have in mind structural changes in agriculture. Their primary interest is in the implications of the post-war agricultural revolution--

especially its effects on farm size and organization--and they have not always reacted kindly to the Federal emphasis on rural development.

"Having failed millions of small-scale operators during the past 30 years, USDA now washes its hands of them." So wrote one commentator who was less than pleased following passage of the 1972 Rural Development Act (4). He added:

> Rural development is USDA's answer to their small-farmer "problem." The Department even has a new post that it can point to as evidence of concern--assistant secretary for rural development. But the effort here is not to help the little guy in farming, it's to help him out of farming. The 1972 Rural Development Act could help small farmers shift to crops in which they could be more competitive, it could provide better marketing information, it could help them maximize their efficiency through cooperative practices--it could do as much for the small farmer as it does for the biggest farmer and for corporate agribusiness. But it does not.

The importance that attaches to these critics comes about partly because they are articulate, easily comprehended, and noticed. They appeal directly to the mistrust of bigness and the longing for a simpler way of life, which seem to lie just below the surface of many people today. Under the small-farm rubric, they have also begun to inform a popular audience about subjects that hitherto were of interest mainly to professional agriculturists and a relatively restricted band of analysts--such topics as land use, farming's technological requirements, and the concentration of agricultural resources in a dwindling number of hands.

What may be even more significant to researchers on the Federal payroll is Congress's positive response to the feeling that small farms ought to have a role in contemporary agriculture in the United States.

The Rural Development Act that the Senate and House passed in 1972 treated small farms not as homes, hobbies, or retirement residences but as production operations with special technological and informational needs (5). So did the 1975 GAO report on small farms (1). More recently, the Food and Agriculture Act of 1977 separated small-farm work entirely from rural development and included it under authorizations for agricultural research and extension (3).

Neither Congress nor the Administration has committed much money to investigating small-farm issues so far. However, small-scale operations have generated interest as something more than incidental components of a rural development policy. The momentum of this development appears sufficient to compel some consideration of three broad questions about agriculture today:

--Are there features of American agriculture (not neglecting policy, technology, and research) that prevent small-scale operators from maximizing their farming profits?

--If so, can these features be altered?

--If changes can be made, what will be the cost and how should it be measured?

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Put somewhat simplistically, two schools of thought have emerged concerning the proper approach to small-farm issues. One concentrates on the small farmer as a member of the rural community, maintaining that small farmers stand to benefit most from welfare and rural development programs. The other addresses his role as a farm operator, and holds that basic changes are needed in agriculture itself.

Within ESCS, however, a consensus seems to be growing in favor of a middle course between these extremes. It arises out of our increasing awareness of the small-farm population's extreme diversity. Some small-scale operators are old; others are just starting to farm. Some combine farm and nonfarm jobs; others depend entirely on farm income. Small-scale operators are engaged in all types of agricultural production. Some have substantial acreages or large investments in equipment; many do not. Data deficiences hinder hard conclusions, but it appears that small farmers are a heterogeneous group in their resources and aspirations, which suggests strongly that their needs are also varied.

My impression is that the ESCS analysts who have considered ways of dealing with this mixture agree that the family, rather than the farm, is the most satisfactory point of reference. This was the recommendation contained in a briefing paper prepared last July for USDA's Director of Economics, Policy Analysis, and Budget, and the researchers I have talked with seem generally to accept it.

Accordingly, a diversity of programs may be called for. In the case of producers whose operations show promise and who have no viable nonfarm options, the pressing need may be for technologies, marketing and management techniques, and credit facilities that will boost farm income. Operators whose well-being depends almost exclusively on opportunities in the nonfarm sector are at the other end of the spectrum. In between are those who might best benefit from a combination of farm and nonfarm programs. Whatever the specific situation, the goal in each instance should be to capitalize on all of the agricultural and nonagricultural resources available to the family.

Given this objective, the small-farm problem becomes a people problem, but not one that can be solved entirely with welfare and rural development programs, nor one that can be handled with agricultural assistance alone. It becomes a matter of resource adjustment and development. A mature small-farm policy based on such a premise might well mesh with regional and national economic development policy. Such a small-farm policy at least would treat the small-scale producer as a member of the rural community who has particular needs--some of which he shares with his nonfarm neighbors, and some of which are specifically his as the operator of a farm which, though not large, is still an agricultural unit.

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SMALL-FARM PROFILE

Donald K. Larson and James A. Lewis*

Where are the small farms located? What are they like? Small-farm issues are primarily people-centered as David Brewster points out. Most researchers interested in the problems of low-income people rely upon data from the Census of Population, the annual Current Population Survey (CPS), and similar surveys which utilize the individual, family, and household as the basic units of observation. Obviously, the unique characteristic that separates small-farm families from other families is the association with farming. However, data based on population provide little information on farming. The Census of Agriculture, on the other hand, provides considerable information on farm establishments, but relatively little information on the characteristics of farm operators and their families.

The 1974 Census of Agriculture contains various characteristics about farms by value of agricultural products sold in 1974. 1/ Data were available on farm receipts and expenses and off-farm family income for those operators on farms with over $2,500 worth of products sold in 1974. However, reliable off-farm income information for the under-$2,500 group was not available, making it difficult to develop a comprehensive economic profile of small-farm families. This paper includes an accounting for those farms having less than $2,500 in sales based on the 1974 definitions of a farm. 2/ The under-$2,500 group represented almost a third of all those associated with agricultural production in 1974.

Despite these problems, the 1974 Census of Agriculture was the primary source of data for this report. The information contained in this paper should be sufficient to draw some conclusions and research implications, which are discussed in the following sections.

Location of Small Farms

According to the 1974 Census of Agriculture, 2.3 million farms spanned the 50 States. Of these, 1.5 million, or 66 percent, had annual sales of less than $20,000 in 1974 (tables 1 and 2). Located in every State, small farms were most numerous in the South (79 percent) followed by the Northeast (57 percent) and North Central (55 percent). Although West Virginia had the highest incidence of small farms (93 percent), it contained only about 1 percent of all the Nation's small farms. Iowa showed the lowest incidence of small farms (36 percent), and had 3 percent of all the Nation's small farms.

From another perspective, 49 percent of all small farms were located in the South, and 37 percent were in the North Central region. Only 5 percent of the Nation's small farms were located in the Northeast, and the majority of these (83 percent) were in

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1/ The value of sales classes were: Under $2,500; $2,500 to $4,999; $5,000 to $9,999; $10,000 to $19,999; $20,000 to $39,999; $40,000 to $99,999; $100,000 to $199,999; $200,000 to $499,999; and $500,000 or more.

2/ A farm was defined as a place from which $1,000 or more of agricultural products were sold during the census year. Places with under $1,000 sales could qualify as a farm if they could normally be expected to produce agricultural products that would meet the requirements of the definition.

Table 1--Proportion of farms having gross annual sales under $20,000, by State, 1974

State 1/	All farms	Farms with sales under $20,000	Counties having 80 percent or more farms with sales under $20,000	State 1/	All farms	Farms with sales under $20,000	Counties having 80 percent or more farms with sales under $20,000
	Number	Percent			Number	Percent	
West Virginia	16,909	92.6	94.4	New Jersey	7,409	62.7	0
Tennessee	93,659	90.0	89.5	Rhode Island	597	62.3	0
Kentucky	102,053	85.7	80.8	Maryland	15,163	60.9	21.7
Virginia	52,699	82.6	60.0	Connecticut	3,421	60.0	0
Mississippi	53,620	82.5	78.0	California	67,674	52.2	14.3
Alabama	56,678	80.9	64.2	Washington	29,410	59.1	28.2
Texas	174,068	79.2	50.8	Nevada	2,076	58.6	6.3
South Carolina	29,275	78.2	56.5	Arizona	5,803	57.4	7.1
Alaska	291	78.2	75.0	Wisconsin	89,479	57.3	7.0
Oklahoma	69,719	75.8	54.5	New York	43,682	56.0	0
Missouri	115,711	74.5	42.1	Maine	6,436	55.2	12.5
Florida	32,466	74.4	30.8	Kansas	79,188	55.0	1.9
North Carolina	91,280	74.2	44.4	Wyoming	8,018	54.9	0
Louisiana	33,240	73.1	47.6	Colorado	25,501	54.2	13.6
Hawaii	3,020	73.1	25.0	Idaho	23,680	53.9	6.8
Michigan	64,094	72.7	34.6	Minnesota	98,537	51.4	15.1
Utah	12,184	72.7	27.6	Montana	23,324	48.1	10.7
New Mexico	11,282	71.1	41.9	Vermont	5,906	47.5	0
Oregon	26,753	71.0	27.8	Illinois	111,049	47.3	3.9
Arkansas	50,959	70.2	40.0	Delaware	3,400	45.2	0
Ohio	92,158	69.1	31.8	South Dakota	42,825	44.3	0
New Hampshire	2,412	68.2	10.0	Nebraska	67,597	42.3	0
Georgia	54,911	68.0	34.0	North Dakota	42,710	37.8	0
Pennsylvania	53,171	64.5	17.9	Iowa	126,104	36.3	0
Indiana	87,915	64.4	18.5				
Massachusetts	4,497	63.0	8.3	United States	2,314,013	65.5	33.8

1/ States ranked by proportion of farms with sales under $20,000.

Source: U.S. Department of Commerce, 1974 Census of Agriculture, vol. 1, part 51, United States Summary and State Data, Bureau of the Census, 1977.

Table 2--Number of small and other farms, 1974

Census division	All farms 1/	Small farms 2/		Other farms 3/	
		Total	Percentage of all farms	Total	Percentage of all farms
	------Number-------		Percent	Number	Percent
New England	23,201	13,244	57.1	9,957	42.9
Middle Atlantic	104,129	63,329	60.8	40,800	39.2
East North Central	444,496	270,623	60.9	173,873	39.1
West North Central	572,366	289,657	50.6	282,709	49.4
South Atlantic	295,856	221,960	75.0	73,896	25.0
East South Central	305,868	261,773	85.6	44,095	14.4
West South Central	327,771	250,604	76.5	77,167	23.5
Mountain	111,177	63,136	56.8	48,041	43.2
Pacific	126,911	78,769	62.1	48,142	37.9
United States	2,311,775	1,513,095	65.4	798,680	34.6

1/ Excludes abnormal farms, such as correctional institute farms; number of farms is based on the 1974 definition (places with sales of $1,000 or more).
2/ Farms with annual sales less than $20,000 in 1974.
3/ Farms with annual sales of $20,000 or more in 1974.

Source: U.S. Department of Commerce, 1974 Census of Agriculture, vol. 1, part 51, United States Summary and State Data, Bureau of the Census, 1977.

three States--New York, New Jersey, and Pennsylvania. The region probably receives little attention on research and extension activities while the Northeast may have a strong interest in programs of research and extension on its small-farm problems.

A total of 1,013 counties, mainly concentrated in the South, had 80 percent or more farms with sales under $20,000 in 1974 (fig. 1). Many of these counties with a high concentration of small farms had a relatively small number of farms. Assistance on a regular basis may be economically impractical if the target group is widely scattered over a county because of the high costs associated with service or program delivery systems.

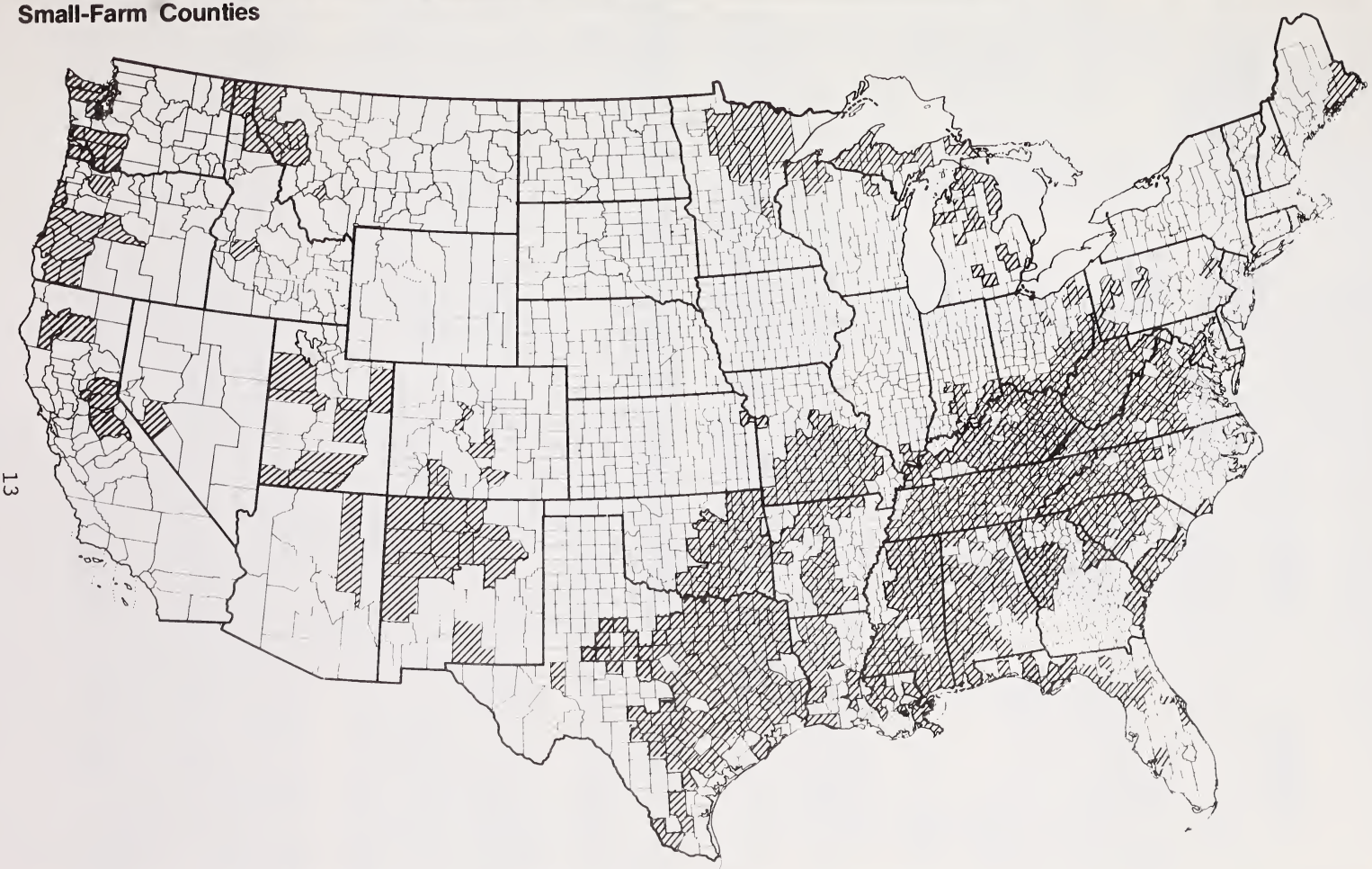
What are the Small Farms Like?

Although small farms represent nearly two-thirds of all farms, small-scale farms are not a major factor in the output of food and fiber, producing only 10 percent of total farm sales in 1974. Small farms account for 29 percent of total land in farms and average 184 acres per farm (table 3). Small farms may have resource limitations that restrict output, such as marginal quality land for crops or pasture. USDA is concerned about the nature and type of land in small-farm holdings and the factors that limit production.

Small farmers controlled 31 percent of total farm assets (land and buildings) in 1974 (table 4). The average value of these assets was about 12 percent higher per acre for small than for large farms. The location of small farms within a region, such as proximity to metropolitan areas, may help explain why these farms had higher average value of assets in some regions than their larger counterparts. Small-scale farmers

Figure 1

Small-Farm Counties



Shaded areas are counties where 80 percent or more of the farm operators run a small farm. Small farms have annual sales under $20,000. (1974 Census of Agriculture)

Table 3--Land in farms and average size for small and other farms, 1974

Census division	Land in farms 1/	Proportion of land in		Average size of	
		Small farms 2/	Other farms 3/	Small farms 2/	Other farms 3/
	1,000 acres	Percent		Acres	
New England	4,758.9	39.2	60.8	179	291
Middle Atlantic	18,454.4	37.6	62.4	110	282
East North Central	89,860.6	31.6	68.4	105	353
West North Central	265,885.0	23.0	77.0	211	724
South Atlantic	60,548.9	42.4	57.6	116	472
East South Central	53,451.9	56.5	43.5	115	527
West South Central	190,306.6	36.0	64.0	274	1,577
Mountain	210,132.6	19.6	80.4	652	3,517
Pacific	68,565.9	20.1	79.9	175	1,138
United States	961,964.9	28.9	71.1	184	856

1/ Excludes land in abnormal farms.
2/ Farms with annual sales of less than $20,000 in 1974.
3/ Farms with annual sales of $20,000 or more in 1974.

Source: U.S. Department of Commerce, 1974 Census of Agriculture, vol. 1, parts 1-50, State and County Data, Bureau of the Census, 1977.

owned about 32 percent of the $48.4 billion estimated market value of all machinery and equipment on farms. Nationally, the median market value of machinery and equipment among all small-farm operators was about $27,000 less than that of large-farm operators (table 5). Either the small farms in general are not as mechanized as the large farms, or the machinery and equipment are older.

About 7 of 10 small farmers operated only on land which they owned compared with 4 of 10 operators of larger farms in 1974 (table 6). Among the operators of small farms, total ownership was highest in the Middle Atlantic census division, and lowest in the West South Central division. Nationally, about half of the larger farm operators worked land they owned as well as land rented from others. Tenant farming was more prevalent among small farms in the North Central divisions. The tenure arrangement of small farmers probably indicates that they have kept the same land and same ways of farming through generations. Hence, their elasticity of response to changing market conditions may not be as great as that of larger scale operators.

Small-farm operators were somewhat older (median age of 53 years) than operators of large farms (median age of 50 years) (table 7). 3/ More than one in five small-farm operators was 65 years old or older in 1974 (table 8). About one-fourth were in the 55 to 64 age group. Possibly, many of these older small-farm operators would be reluctant to change, having given much of their lives to the same pattern of farming and life-style. This indicates to researchers and policymakers that an effective small-farm program should take into account the differences among small-farm operators. Many older farmers may be interested in programs to help with preretirement planning, inter-

3/ Age of operator was collected from all farms with sales under $2,500 and only for individual-, family-, or partnership-operated farms having sales of $2,500 and over.

Table 4--Value of land and buildings and average value of land and buildings for small and other farms, by census divisions and United States, 1974

Census division	Value of land and buildings 1/	Proportion of value in		Average value per acre	
		Small farms 2/	Other farms 3/	Small farms 2/	Other farms 3/
	Million dollars	-----Percent-----		-----Dollars-----	
New England	2,881.9	37.0	63.0	572	627
Middle Atlantic	12,397.9	35.6	64.4	635	694
East North Central	61,254.7	26.2	73.8	564	736
West North Central	89,070.6	21.0	79.0	305	344
South Atlantic	31,204.1	45.6	54.4	554	487
East South Central	21,877.6	54.5	45.5	395	428
West South Central	53,059.9	42.4	57.6	328	251
Mountain	28,975.8	24.9	75.1	176	129
Pacific	32,623.1	24.5	75.5	579	450
United States	333,345.6	31.2	68.8	374	335

1/ Abnormal farms were excluded. Number of farms is based on the 1974 definition.
2/ Defined as places with annual sales of less than $20,000 in 1974.
3/ Places with annual sales of $20,000 or more in 1974.

Source: U.S. Department of Commerce, 1974 Census of Agriculture, vol. 1, parts 1-50, State and County Data, Bureau of the Census, 1977.

generational transfer of estate, or becoming a successful landlord. In contrast, the younger small farmers may want to expand their present farms.

Small farmers have successfully combined farming with off-farm jobs as a way to improve family income. Seven of 10 small-scale farmers worked 200 or more days off the farm in 1974 compared with 4 of 10 operators of large farms (table 9). Small farms leave more time available for other work. About half of all small-scale farmers considered their principal occupation to be something other than farming (table 10). This proportion varied by region depending on the availability of nonfarm employment opportunities, location of the farm, and characteristics of the operator. Thus, USDA is concerned that either off-farm activities of small farmers take away time from farming, or farming restricts time available for off-farm employment.

The average income of small-farm operators would be relatively low if off-farm income did not supplement realized net farm income (table 11). 4/ The proportion of those reporting off-farm family income varied inversely with the value of farm product sales. Off-farm income accounted for 80 percent of total income for operators with sales between $5,000 and $9,999, compared with 55 percent for those operators between

4/ Table 11 includes an accounting for those who had less than $2,500 value of products sold under the 1959 definition of a farm--the 1959 definition was based on acres and annual sales, and the 1974 definition was based on those with $1,000 or more in sales.

Table 5--Distribution of small and other farms by estimated market value of machinery and equipment, by census divisions and United States, 1974

Census division and size of farm 1/	Farms 2/	Market value of machinery and equipment					Median market value 3/ per farm
		$1-4,999	$5,000-9,999	$10,000-19,999	$20,000-49,999	$50,000 or more	
	Number	Percent					Dollars
New England	22,507	16.8	20.7	22.8	30.8	8.9	18,530
Small farms	12,582	26.6	30.4	25.4	16.4	1.2	8,840
Other farms	9,925	4.3	8.5	19.5	49.0	18.7	30,820
Middle Atlantic	99,977	13.7	19.2	21.8	34.4	10.9	20,320
Small farms	59,543	21.1	28.6	26.4	22.1	1.8	10,130
Other farms	40,434	2.7	5.4	15.0	52.6	24.3	35,330
East North Central	424,507	14.8	18.2	21.6	33.0	12.4	21,030
Small farms	252,030	23.5	27.5	26.8	20.9	1.3	9,810
Other farms	172,477	2.2	4.5	13.9	50.7	28.7	37,420
West North Central	548,895	12.5	15.2	20.5	37.0	14.7	23,680
Small farms	268,988	23.2	25.6	26.3	23.2	1.7	10,450
Other farms	279,907	2.3	5.3	14.9	50.3	27.2	36,390
South Atlantic	267,502	26.2	28.9	21.0	18.4	5.3	12,800
Small farms	196,030	33.2	35.4	21.1	9.7	.5	7,370
Other farms	71,472	7.0	11.2	20.9	42.3	18.5	27,690
East South Central	279,702	29.9	32.9	19.7	13.7	3.8	10,790
Small farms	236,108	34.4	37.2	19.8	8.1	.4	7,100
Other farms	43,594	5.6	9.8	18.9	43.8	21.9	30,760
West South Central	300,202	27.5	26.8	20.2	18.0	7.5	13,880
Small farms	223,959	35.0	32.9	21.1	10.1	.9	7,280
Other farms	76,243	5.3	9.0	17.4	41.5	26.8	33,250
Mountain	106,498	13.4	16.6	20.7	33.7	15.7	22,910
Small farms	59,740	22.0	25.5	26.2	22.9	3.4	10,980
Other farms	46,758	2.4	5.3	13.6	47.4	31.3	38,160
Pacific	118,230	22.0	21.8	21.4	23.0	11.8	17,940
Small farms	70,880	33.1	30.3	23.6	12.1	.9	7,790
Other farms	47,350	5.4	9.2	18.2	39.3	27.9	33,140
United States	2,168,020	19.6	22.1	20.8	27.2	10.3	18,090
Small farms	1,379,860	28.9	30.9	23.6	15.5	1.1	8,320
Other farms	788,160	3.4	6.6	15.9	47.7	26.4	35,190

1/ Small farms are those with annual sales under $20,000, and large farms are those with $20,000 or more sales in 1974. 2/ Represents those farms reporting an estimated market value for all machinery and equipment on the place. 3/ Represents an estimated median market value of all machinery and equipment per farm. All values were rounded to nearest $10.

Source: U.S. Department of Commerce, 1974 Census of Agriculture, vol. 1, parts 1-50, State and County Data, Bureau of the Census, 1977.

Table 6--Tenure of operator for small and other farms, 1974

Census division and tenure of operator	Unit	Small farms 1/	Other farms 2/	Census division and tenure of operator	Unit	Small farms 1/	Other farms 2/
New England	No.	13,244	9,957	East South Central	No.	261,773	44,095
Full owner	Pct.	78.1	48.5	Full owner	Pct.	78.6	46.9
Part owner	do.	17.2	45.7	Part owner	do.	14.7	42.7
Tenant	do.	4.7	5.8	Tenant	do.	6.7	10.4
Middle Atlantic	No.	63,329	40,800	West South Central	No.	250,604	77,167
Full owner	Pct.	79.4	43.5	Full owner	Pct.	67.7	33.3
Part owner	do.	15.3	47.9	Part owner	do.	20.9	48.4
Tenant	do.	5.3	8.6	Tenant	do.	11.4	18.3
East North Central	No.	270,623	173,873	Mountain	No.	63,136	48,041
Full owner	Pct.	76.4	34.7	Full owner	Pct.	68.3	37.9
Part owner	do.	17.5	48.3	Part owner	do.	21.8	49.7
Tenant	do.	13.1	17.0	Tenant	do.	9.9	12.4
West North Central	No.	289,657	282,709	Pacific	No.	78,769	48,142
Full owner	Pct.	71.4	33.4	Full owner	Pct.	79.1	50.4
Part owner	do.	16.3	49.7	Part owner	do.	12.6	35.1
Tenant	do.	12.3	16.9	Tenant	do.	8.3	14.5
South Atlantic	No.	221,960	73,896	United States	No.	1,513,095	798,680
Full owner	Pct.	75.9	44.0	Full owner	Pct.	74.3	37.4
Part owner	do.	16.1	42.5	Part owner	do.	16.6	47.2
Tenant	do.	8.0	13.5	Tenant	do.	9.1	15.2

1/ Farms with annual sales less than $20,000 in 1974.
2/ Farms with annual sales of $20,000 or more in 1974.

Source: U.S. Department of Commerce, 1974 Census of Agriculture, vol. 1, parts 1-50, State and County Data, Bureau of the Census, 1977.

Table 7--Estimated median age of farm operators on small and other farms, 1974 1/

Census division	Median age	
	Small farms 2/	Other farms 3/
	Years	
New England	54	49
Middle Atlantic	52	48
East North Central	52	49
West North Central	53	49
South Atlantic	55	50
East South Central	54	50
West South Central	55	50
Mountain	52	51
Pacific	53	52
United States	53	50

1/ Includes abnormal farms.
2/ Farms with annual sales less than $20,000 in 1974.
3/ Farms with annual sales of $20,000 or more in 1974.

Source: U.S. Department of Commerce, 1974 Census of Agriculture, vol. 1, parts 1-50, State and County Data, Bureau of the Census, 1977.

$10,000 and $19,999. Proportionately more operators with lower sales reported off-farm family income in excess of $5,000. A sizable portion of farm operators had more than $10,000 in off-farm income in every sales group where off-farm income information was available.

Farms earning less than $20,000, but more than $2,500, have low average net farm incomes, but the addition of average off-farm income in 1974 clearly lifts these farm families as a group out of a low-income status (table 12). However, averages can be misleading; the personal distribution of income is needed to analyze accurately the well-being of all farm families.

Small-scale farm operators are often viewed as producers of berries, vegetables and melons, tobacco, or horticultural crops. Contrary to this popular notion, small-scale farmers grow all types of crops (table 12). 5/ About 4 of 10 small-scale operators had livestock farms, and 3 of 10 produced cash grains in 1974. Among all farm types, tobacco (77 percent), fruit and tree nut (53 percent), and field crop (52 percent) farms were likely to be small-scale operations. Dairy, poultry, vegetable and melon, and horticultural operations were least likely to be classified as small. Overall, the fact that small farms are scattered across all types of agricultural production is useful to researchers when searching for more effective use of resources.

General Observations on Small Farms

If at least one major conclusion about the small-farm population was made, it would be that it is diverse. Few common problems surfaced from the data--not even low

5/ Farms with less than $2,500 sales were not classified by Standard Industrial Classification (SIC) codes in the 1974 Census of Agriculture.

Table 8--Age of farm operators on small and other farms, 1974

Census division and age group of farm operators 1/	Unit	Small farms 2/	Other farms 3/
New England	Number	13,084	9,301
Under 25	Percent	1.3	1.5
25-34	do.	9.2	12.2
35-44	do.	16.8	20.3
45-54	do.	23.7	29.3
55-64	do.	25.8	25.5
65 and over	do.	23.2	11.2
Middle Atlantic	Number	62,931	39,218
Under 25	Percent	1.5	1.8
25-34	do.	9.9	12.9
35-44	do.	18.0	22.3
45-54	do.	24.8	30.7
55-64	do.	24.4	23.5
65 and over	do.	21.4	8.8
East North Central	Number	269,788	170,555
Under 25	Percent	2.8	2.5
25-34	do.	11.9	12.3
35-44	do.	17.9	20.1
45-54	do.	22.8	29.9
55-64	do.	24.1	26.1
65 and over	do.	20.6	9.1
West North Central	Number	288,665	277,895
Under 25	Percent	3.9	2.6
25-34	do.	11.3	12.0
35-44	do.	15.7	20.3
45-54	do.	21.5	30.0
55-64	do.	24.8	26.2
65 and over	do.	22.7	8.9
South Atlantic	Number	220,787	70,269
Under 25	Percent	1.5	1.8
25-34	do.	8.4	10.1
35-44	do.	15.4	18.9
45-54	do.	23.6	29.8
55-64	do.	26.5	27.5
65 and over	do.	24.6	11.9
East South Central	Number	261,284	42,973
Under 25	Percent	1.9	1.9
25-34	do.	9.9	11.4
35-44	do.	16.2	19.7
45-54	do.	22.5	28.5
55-64	do.	25.7	26.8
65 and over	do.	23.8	11.7

See footnotes at end of table.

Continued--

Table 8--Age of farm operators on small and other farms, 1974--Continued

Census division and age group of farm operators 1/	Unit	Small farms 2/	Other farms 3/
West South Central	Number	249,644	74,568
Under 25	Percent	1.8	2.0
25-34	do.	8.6	11.1
35-44	do.	15.4	19.3
45-54	do.	23.7	28.2
55-64	do.	26.5	26.9
65 and over	do.	23.9	12.5
Mountain	Number	62,410	43,794
Under 25	Percent	2.4	1.5
25-34	do.	6.9	10.4
35-44	do.	17.8	18.7
45-54	do.	24.2	29.8
55-64	do.	25.7	27.6
65 and over	do.	19.9	12.0
Pacific	Number	78,205	43,899
Under 25	Percent	1.3	1.1
25-34	do.	8.7	8.2
35-44	do.	17.6	16.6
45-54	do.	25.3	30.1
55-64	do.	26.1	29.8
65 and over	do.	21.0	14.3
United States	Number	1,506,789	772,472
Under 25	Percent	2.3	2.2
25-34	do.	10.0	11.5
35-44	do.	16.4	19.8
45-54	do.	23.1	29.7
55-64	do.	25.5	26.5
65 and over	do.	22.7	10.2

1/ Age-of-farm operator data were collected only for individual, family, or partnership farms and not for corporation or abnormal farms.
2/ Farms with annual sales less than $20,000 in 1974.
3/ Farms with annual sales of $20,000 or more in 1974.

Source: U.S. Department of Commerce, 1974 Census of Agriculture, vol. 1, parts 1-50, State and County Data, Bureau of the Census, 1977.

family income. The only common characteristic was the low value of farm products sold, which in itself is not symptomatic of problems or needs. The information presented in this paper represents an aggregate picture which glosses over the issue of how diverse small farms are. Extensive study of the farm family is required to provide more insight into its diversity regarding physical and economic resources and the family's attitudes, values, goals, and aspirations. These insights should aid in the development of programs oriented toward unique problem-solving activities.

Table 9--Farm operators on small and other farms reporting days worked off farms, 1974

Census division and size of farms 1/	Farm operators 2/	Days of work off farm				
		1-49	50-99	100-149	150-199	200 or more
	Number	Percent				
New England	9,707	14.4	7.0	7.2	11.7	59.7
Small farms	7,911	10.2	5.9	6.7	11.9	65.2
Other farms	1,796	32.9	11.8	9.2	10.6	35.5
Middle Atlantic	46,961	11.4	5.5	5.9	10.4	66.8
Small farms	38,941	6.8	4.3	5.3	10.4	73.3
Other farms	8,020	34.2	11.4	8.9	10.3	35.2
East North Central	204,711	12.8	5.6	5.5	8.9	67.2
Small farms	106,488	7.7	4.2	4.5	8.7	74.9
Other farms	44,223	31.4	10.8	9.0	9.6	39.2
West North Central	190,498	21.6	7.5	7.0	9.1	54.9
Small farms	135,200	12.2	5.9	6.3	9.7	65.9
Other farms	55,298	44.6	11.3	8.6	7.6	27.8
South Atlantic	137,130	10.4	6.2	5.9	8.9	68.5
Small farms	119,745	9.0	5.6	5.4	8.9	71.0
Other farms	17,385	19.8	10.3	9.3	9.1	51.5
East South Central	155,316	10.3	5.8	5.4	9.2	69.3
Small farms	143,965	9.5	5.5	5.2	9.2	70.6
Other farms	11,351	21.1	8.9	8.0	9.5	52.5
West South Central	161,147	10.0	5.9	6.3	9.6	68.2
Small farms	143,407	8.3	5.5	5.9	9.5	70.8
Other farms	17,740	23.7	9.5	9.0	10.3	47.5
Mountain	44,628	16.6	7.3	7.1	11.4	57.6
Small farms	32,646	11.4	6.6	6.9	12.9	62.3
Other farms	11,982	30.6	9.2	7.5	7.6	45.1
Pacific	61,376	10.3	5.5	6.2	10.3	67.6
Small farms	50,444	7.6	4.8	5.6	10.3	71.8
Other farms	10,932	22.7	9.1	9.4	10.4	48.5
United States	1,011,474	13.3	6.2	6.1	9.4	65.0
Small farms	832,747	9.1	5.3	5.5	9.5	70.6
Other farms	178,727	32.5	10.5	8.8	8.9	39.3

1/ Small farms refer to those with annual sales under $20,000, and large farms to those with $20,000 or more sales in 1974.

2/ Represents those farm operators reporting days worked off their farm in 1974.

Source: U.S. Department of Commerce, 1974 Census of Agriculture, vol. 1, parts 1-50, State and County Data, Bureau of the Census, 1977.

Table 10--Principal occupation of small and other farmers, 1974

Census division	Under $20,000 sales			$20,000 or more sales		
	Farmers	Principal occupation		Farmers	Principal occupation	
		Farming	Other		Farming	Other
	Number 1/	---Percent---		Number 1/	---Percent---	
New England	13,084	44.2	55.8	9,301	93.7	6.3
Middle Atlantic	62,931	42.9	57.1	39,218	93.5	6.5
East North Central	269,788	46.2	53.8	170,555	90.6	9.4
West North Central	288,665	60.9	39.1	277,895	94.7	5.3
South Atlantic	220,787	47.3	52.7	70,269	85.3	14.7
East South Central	261,284	45.9	54.1	42,973	84.5	15.5
West South Central	249,644	42.3	57.7	74,568	86.6	13.4
Mountain	62,410	50.7	49.3	43,794	91.8	8.2
Pacific	78,295	38.7	61.3	43,899	86.8	13.2
United States	1,506,888	48.1	51.9	722,472	90.9	9.1

1/ Represents those operators who reported their principal occupation.

Source: U.S. Department of Commerce, 1974 Census of Agriculture, vol. 1, parts 1-50, State and County Data, Bureau of the Census, 1977.

Table 11--Selected characteristics of farms by value of agricultural products sold, all U.S. farms, 1974

Selected characteristics	Unit	Sales over $500,000	Sales of $200,000-$499,999	Sales of $100,000-$199,999	Sales of $40,000-$99,999	Sales of $20,000-$39,999	Sales of $10,000-$19,999	Sales of $5,000-$9,999	Sales of $2,500-$4,999	Sales of $1,000-$2,499	Sales under $1,000
Number of farms	No.	11,412	40,034	101,153	324,310	321,771	310,011	296,373	289,983	616,718	152,110
Net farm income (average) 1/	Dol.	209,413	77,228	41,283	20,483	9,716	4,134	1,401	-1,039	-366	-482
Farm-related income (average) 2/	do.	8,819	2,235	1,249	737	515	391	301	277	152	123
Realized net farm income (average)	do.	218,232	79,463	42,532	21,220	10,231	4,525	1,702	-759	-214	-359
Off-farm income (average) 3/	do.	4,837	4,284	3,510	3,239	3,996	5,453	6,772	7,814	NA	NA
Total income all sources (average)	do.	223,067	83,747	46,042	24,459	14,227	9,978	8,474	7,055	NA	NA
Distribution of off-farm income (percentage of farms reporting) 4/	Pct.	21.6	35.6	43.6	48.3	52.9	59.3	67.1	69.6	NA	NA
Reporting under $1,000	do.	11.9	17.9	21.8	22.9	18.3	11.3	7.2	5.3	NA	NA
Reporting $1,000-$4,999	do.	26.7	34.1	37.2	37.5	34.2	29.4	25.6	21.9	NA	NA
Reporting $5,000-$9,999	do.	16.2	19.4	19.8	19.6	21.6	24.1	25.6	25.4	NA	NA
Reporting $10,000-$19,999	do.	17.9	16.3	14.0	14.4	19.3	26.7	31.8	35.3	NA	NA
Reporting $20,000 or more	do.	27.3	12.3	7.2	5.6	6.6	8.5	9.8	12.1	NA	NA
Operators reporting occupation other than farming	do.	3.8	4.8	5.3	6.8	12.6	24.9	43.0	52.2	68.9	73.7

See footnotes at end of table.

Continued--

Table 11--Selected characteristics of farms by value of agricultural products sold, all U.S. farms, 1974--Continued

Selected characteristics	Unit	Sales over $500,000	Sales of $200,000-$499,999	Sales of $100,000-$199,999	Sales of $40,000-$99,999	Sales of $20,000-$39,999	Sales of $10,000-$19,999	Sales of $5,000-$9,999	Sales of $2,500-$4,999	Sales of $1,000-$2,499	Sales under $1,000
Operators reporting off-farm income equal to or greater than value of products sold	do.	--	--	.2	.5	2.3	13.8	40.0	58.2	74.1	44.4
Operators reporting off-farm income less than value of products sold	do.	30.2	46.2	54.5	58.1	58.6	51.4	32.7	15.8	5.4	4.2
Operators reporting no off-farm income or failed to report	do.	27.6	38.6	39.9	39.4	38.0	33.9	27.7	25.4	20.5	51.4

NA = Not available.

1/ Net farm income is total cash receipts from sale of agricultural products less cash costs and depreciation reported in the Census of Agriculture. This does not include return to operator labor, management, entrepreneurship, or opportunity costs for owned capital and resources.

2/ Farm-related income includes Government program payments.

3/ Off-farm income information is not available for those with less than $2,500 value of products sold.

4/ It is not possible to distinguish between those who had zero off-farm income and those who failed to report using these data.

Source: U.S. Department of Commerce, 1974 Census of Agriculture, vol. 1, parts 1-50, State and County Data, Bureau of the Census, 1977.

Table 12--Selected characteristics of farms by type and value of agricultural products sold, 1974 1/

Type of farm and selected characteristics 2/	Unit	Sales over $100,000	Sales of $40,000-$99,999	Sales of $20,000-$39,999	Sales of $10,000-$19,999	Sales of $5,000-$9,999	Sales of $2,500-$4,999
Cash-grain farms:							
Number of farms	No.	50,859	128,647	123,024	112,293	94,313	70,394
Net farm income (average) 3/	Dol.	81,665	28,212	12,523	5,620	2,452	377
Farm-related income (average) 4/	do.	1,658	829	564	402	292	212
Realized net farm income (average)	do.	83,323	29,041	13,087	6,022	2,744	589
Off-farm income (average)	do.	2,946	2,936	3,917	5,208	6,425	7,009
Total income all sources (average)	do.	86,269	31,977	17,004	11,230	9,169	7,598
Distribution of off-farm income (percentage of farms reporting)	Pct.	41.9	50.0	54.7	59.6	66.2	66.9
Reporting under $1,000	do.	22.4	21.5	16.3	10.3	6.9	5.4
Reporting $1,000-$4,999	do.	40.1	40.5	34.9	28.9	24.7	20.6
Reporting $5,000-$9,999	do.	19.5	20.3	22.4	24.5	25.3	25.9
Reporting $10,000-$19,999	do.	11.8	13.3	20.6	28.9	34.8	38.1
Reporting $20,000 or more	do.	6.1	4.4	5.7	7.4	8.3	9.9
Cotton farms:							
Number of farms	No.	3,981	4,641	4,565	4,769	4,579	4,935
Net farm income (average)	Dol.	79,238	13,660	5,110	2,031	676	-534
Farm-related income (average)	do.	4,621	1,604	1,224	920	636	452
Realized net farm income (average)	do.	83,859	15,264	6,334	2,951	6,312	-82
Off-farm income (average)	do.	4,291	3,920	3,635	3,753	4,588	4,718
Total income all sources (average)	do.	88,150	19,184	9,969	6,704	5,900	4,636
Distribution of off-farm income (percentage of farms reporting)	Pct.	35.4	41.7	45.3	48.4	54.2	54.4
Reporting under $1,000	do.	11.8	14.2	13.7	12.3	9.3	9.1
Reporting $1,000-$4,999	do.	31.0	35.2	33.8	35.9	32.2	29.5
Reporting $5,000-$9,999	do.	19.3	22.6	26.4	24.7	26.7	27.0
Reporting $10,000-$19,999	do.	21.4	17.2	18.2	20.9	23.0	26.2
Reporting $20,000 or more	do.	16.5	10.7	7.9	6.2	8.7	8.2

See footnotes at end of table.

Continued--

Table 12--Selected characteristics of farms by type and value of agricultural products sold, 1974 1/--Continued

Type of farm and selected characteristics 2/	Unit	Sales over $100,000	Sales of $40,000-$99,999	Sales of $20,000-$39,999	Sales of $10,000-$19,999	Sales of $5,000-$9,999	Sales of $2,500-$4,999
Tobacco farms:							
Number of farms	No.	1,456	7,142	12,383	20,042	25,131	24,871
Net farm income (average)	Dol.	65,839	27,212	12,728	7,285	3,674	1,451
Farm-related income (average)	do.	1,262	454	299	182	145	82
Realized net farm income (average)	do.	67,101	27,666	14,207	7,467	3,819	1,533
Off-farm income (average)	do.	4,433	2,944	3,216	3,674	4,546	4,900
Total income all sources (average)	do.	71,534	30,610	17,243	11,141	8,365	6,433
Distribution of off-farm income (percentage of farms reporting)	Pct.	37.8	40.6	44.1	47.9	55.6	57.6
Reporting under $1,000	do.	12.9	16.2	14.2	10.9	8.3	7.9
Reporting $1,000-$4,999	do.	29.2	35.7	34.3	33.9	31.0	27.2
Reporting $5,000-$9,999	do.	24.9	25.9	27.3	27.1	29.0	29.9
Reporting $10,000-$19,999	do.	17.2	15.7	18.4	22.1	25.8	28.9
Reporting $20,000 or more	do.	15.8	6.4	5.8	5.9	5.9	6.0
Sugar crop, Irish potatoes, hay, peanuts, and other field crop farms:							
Number of farms	No.	10,684	10,957	9,847	11,114	11,810	10,855
Net farm income (average)	Dol.	147,804	24,841	10,694	4,802	1,906	-153
Farm-related income (average)	do.	5,346	1,177	836	497	335	279
Realized net farm income (average)	do.	153,150	26,018	11,530	5,299	2,241	126
Off-farm income (average)	do.	3,421	3,387	4,889	5,604	6,713	7,748
Total income all sources (average)	do.	156,571	29,405	16,419	10,903	8,954	7,874
Distribution of off-farm income (percentage of farms reporting)	Pct.	35.0	44.2	52.1	54.8	62.9	65.9
Reporting under $1,000	do.	21.6	21.9	14.8	9.4	7.2	5.0
Reporting $1,000-$4,999	do.	35.4	35.0	32.4	27.9	23.6	20.4
Reporting $5,000-$9,999	do.	18.7	19.8	22.5	23.7	26.0	23.3
Reporting $10,000-$19,999	do.	13.9	15.8	21.3	28.4	31.3	38.2
Reporting $20,000 or more	do.	10.4	7.4	9.0	10.6	12.0	13.1

See footnotes at end of table.

Continued--

Table 12--Selected characteristics of farms by type and value of agricultural products sold, 1974 1/--Continued

Type of farm and selected characteristics 2/	Unit	Sales over $100,000	Sales of $40,000-$99,999	Sales of $20,000-$39,999	Sales of $10,000-$19,999	Sales of $5,000-$9,999	Sales of $2,500-$4,999
Vegetable and melon farms:							
Number of farms	No.	2,277	1,252	1,202	1,462	1,173	699
Net farm income (average)	Dol.	155,417	20,395	10,952	5,845	2,511	332
Farm-related income (average)	do.	3,401	635	435	231	177	279
Realized net farm income (average)	do.	158,818	21,030	11,387	6,076	2,688	611
Off-farm income (average)	do.	4,230	3,658	5,235	6,982	7,499	7,381
Total income all sources (average)	do.	163,048	24,688	16,622	13,057	10,187	7,991
Distribution of off-farm income							
(percentage of farms reporting)	Pct.	33.2	49.1	59.2	68.1	70.8	77.8
Reporting under $1,000	do.	13.3	15.8	12.2	7.9	4.8	5.5
Reporting $1,000-$4,999	do.	31.7	33.8	29.5	27.8	21.8	23.5
Reporting $5,000-$9,999	do.	19.6	20.7	22.1	22.4	23.3	23.2
Reporting $10,000-$19,999	do.	19.6	22.9	26.0	32.9	39.6	41.2
Reporting $20,000 or more	do.	15.9	6.8	10.1	8.9	10.5	6.6
Fruit and tree nut farms:							
Number of farms	No.	4,872	7,474	8,099	8,775	7,946	6,452
Net farm income (average)	Dol.	73,689	18,987	8,794	3,840	1,322	-980
Farm-related income (average)	do.	2,722	984	542	328	223	205
Realized net farm income (average)	do.	76,411	19,971	9,336	4,168	1,545	-775
Off-farm income (average)	do.	7,579	7,834	9,041	10,232	10,989	12,184
Total income all sources (average)	do.	83,990	27,805	18,377	14,400	12,534	11,409
Distribution of off-farm income							
(percentage of farms reporting)	Pct.	38.7	56.9	65.3	71.4	76.2	76.8
Reporting under $1,000	do.	9.0	10.2	7.7	4.8	3.9	3.0
Reporting $1,000-$4,999	do.	25.1	27.7	22.4	19.6	17.8	15.0
Reporting $5,000-$9,999	do.	18.8	19.2	20.3	21.2	21.0	19.4
Reporting $10,000-$19,999	do.	21.3	22.7	29.6	33.5	35.7	37.1
Reporting $20,000 or more	do.	25.9	20.2	19.9	21.0	21.6	25.5

See footnotes at end of table.

Continued--

Table 12--Selected characteristics of farms by type and value of agricultural products sold, 1974 1/--Continued

Type of farm and selected characteristics 2/	Unit	Sales over $100,000	Sales of $40,000-$99,999	Sales of $20,000-$39,999	Sales of $10,000-$19,999	Sales of $5,000-$9,999	Sales of $2,500-$4,999
Horticultural specialty farms:							
Number of farms	No.	2,235	2,051	1,793	1,793	1,851	1,693
Net farm income (average)	Dol.	81,229	17,869	8,952	4,799	1,885	341
Farm-related income (average)	do.	706	309	334	224	276	212
Realized net farm income (average)	do.	81,935	18,188	9,286	5,023	2,161	553
Off-farm income (average)	do.	2,633	3,789	4,952	7,723	8,402	9,207
Total income all sources (average)	do.	84,568	21,967	14,238	12,745	10,563	9,760
Distribution of off-farm income							
(percentage of farms reporting)	Pct.	20.5	36.3	48.6	55.7	66.8	71.6
Reporting under $1,000	do.	12.5	16.4	10.7	8.2	6.2	4.1
Reporting $1,000-$4,999	do.	29.3	32.5	29.5	23.8	18.4	15.6
Reporting $5,000-$9,999	do.	19.0	16.8	19.4	21.6	21.6	23.6
Reporting $10,000-$19,999	do.	20.4	20.8	28.1	29.6	36.6	39.8
Reporting $20,000 or more	do.	18.8	13.4	12.3	16.7	17.2	16.8
General farms, primarily crop:							
Number of farms	No.	1,290	3,456	4,491	4,883	3,543	2,122
Net farm income (average)	Dol.	58,594	21,631	10,441	4,789	2,190	389
Farm-related income (average)	do.	2,225	974	670	429	219	174
Realized net farm income (average)	do.	60,819	22,605	11,111	5,218	2,409	563
Off-farm income (average)	do.	3,760	3,131	3,278	4,647	5,605	5,842
Total income all sources (average)	do.	64,579	25,736	14,389	9,865	8,014	6,405
Distribution of off-farm income							
(percentage of farms reporting)	Pct.	41.6	48.1	52.8	60.1	65.9	67.7
Reporting under $1,000	do.	19.2	22.5	20.4	12.8	9.9	6.7
Reporting $1,000-$4,999	do.	36.5	38.2	37.8	33.6	29.4	27.6
Reporting $5,000-$9,999	do.	21.6	20.4	21.6	24.4	25.9	26.5
Reporting $10,000-$19,999	do.	13.2	13.9	15.3	22.4	27.9	33.6
Reporting $20,000 or more	do.	9.5	4.9	4.9	6.7	6.8	5.6

See footnotes at end of table.

Continued--

Table 12--Selected characteristics of farms by type and value of agricultural products sold, 1974 1/--Continued

Type of farm and selected characteristics 2/	Unit	Sales over $100,000	Sales of $40,000-$99,999	Sales of $20,000-$39,999	Sales of $10,000-$19,999	Sales of $5,000-$9,999	Sales of $2,500-$4,999
Livestock, except dairy, poultry, and animal specialty farms:							
Number of farms	No.	34,664	65,129	69,756	83,789	105,184	133,337
Net farm income (average)	Dol.	25,766	12,408	4,989	1,401	-177	-2,084
Farm-related income (average)	do.	2,157	870	616	476	357	285
Realized net farm income (average)	do.	27,923	13,278	5,605	1,877	180	-1,799
Off-farm income (average)	do.	4,562	3,833	4,935	6,553	7,697	8,611
Total income all sources (average)	do.	32,485	17,111	10,540	8,430	7,877	6,812
Distribution of off-farm income							
(percentage of farms reporting)	Pct.	40.1	48.3	55.0	63.5	71.2	73.8
Reporting under $1,000	do.	23.7	24.1	16.9	10.4	6.5	4.8
Reporting $1,000-$4,999	do.	36.7	36.3	32.5	27.6	24.5	21.5
Reporting $5,000-$9,999	do.	16.7	18.2	21.4	23.9	25.7	25.3
Reporting $10,000-$19,999	do.	12.5	14.3	20.6	27.8	32.2	35.4
Reporting $20,000 or more	do.	10.4	7.1	8.6	10.2	11.1	13.0
Dairy farms:							
Number of farms	No.	15,536	62,061	62,726	36,272	14,178	4,513
Net farm income (average)	Dol.	35,605	16,899	8,769	4,243	1,513	-279
Farm-related income (average)	do.	893	370	220	150	103	99
Realized net farm income (average)	do.	36,498	17,269	8,989	4,393	1,616	-180
Off-farm income (average)	do.	2,599	1,913	2,126	2,919	3,640	3,987
Total income all sources (average)	do.	39,097	19,182	11,115	7,312	5,256	3,807
Distribution of off-farm income							
(percentage of farms reporting)	Pct.	37.0	43.7	47.2	52.9	61.5	65.3
Reporting under $1,000	do.	24.8	33.8	30.2	20.9	15.2	11.2
Reporting $1,000-$4,999	do.	36.7	38.6	38.6	37.7	39.1	41.6
Reporting $5,000-$9,999	do.	18.6	15.4	18.1	23.1	25.7	26.8
Reporting $10,000-$19,999	do.	13.3	9.5	11.1	15.9	17.7	18.1
Reporting $20,000 or more	do.	6.6	2.7	2.1	2.4	2.4	2.3

See footnotes at end of table.

Continued--

Table 12--Selected characteristics of farms by type and value of agricultural products sold, 1974 1/--Continued

Type of farm and selected characteristics 2/	Unit	Sales over $100,000	Sales of $40,000-$99,999	Sales of $20,000-$39,999	Sales of $10,000-$19,999	Sales of $5,000-$9,999	Sales of $2,500-$4,999
Poultry and egg farms:							
Number of farms	No.	15,459	15,704	5,095	1,961	1,232	1,212
Net farm income (average)	Dol.	32,645	2,713	-513	-1,382	-943	-1,581
Farm-related income (average)	do.	631	195	129	139	132	255
Realized net farm income (average)	do.	33,276	2,908	-384	-1,243	-811	-1,326
Off-farm income (average)	do.	4,063	4,770	4,901	5,228	5,808	5,813
Total income all sources (average)	do.	37,339	7,678	4,517	3,985	4,997	4,487
Distribution of off-farm income							
(percentage of farms reporting)	Pct.	46.1	56.6	58.2	60.0	64.8	65.7
Reporting under $1,000	do.	12.5	8.7	7.6	8.2	6.9	7.5
Reporting $1,000-$4,999	do.	28.9	26.2	28.5	30.1	29.8	30.8
Reporting $5,000-$9,999	do.	25.9	30.6	29.6	25.8	24.8	26.4
Reporting $10,000-$19,999	do.	24.2	29.4	29.6	29.2	30.5	28.1
Reporting $20,000 or more	do.	8.5	5.2	5.2	6.6	8.0	7.2
General farms, primarily livestock:							
Number of farms	No.	330	1,157	1,011	581	341	214
Net farm income (average)	Dol.	49,836	22,046	10,463	4,719	1,176	-1,215
Farm-related income (average)	do.	967	462	319	134	220	280
Realized net farm income (average)	do.	50,803	22,508	10,782	4,854	1,396	-935
Off-farm income (average)	do.	2,209	1,587	1,744	3,141	4,279	6,070
Total income all sources (average)	do.	53,012	24,095	12,526	7,995	5,675	5,135
Distribution of off-farm income							
(percentage of farms reporting)	Pct.	44.9	43.3	44.2	57.3	68.0	77.1
Reporting under $1,000	do.	28.4	35.9	32.7	23.1	12.1	12.7
Reporting $1,000-$4,999	do.	38.5	41.5	41.8	40.2	46.1	28.5
Reporting $5,000-$9,999	do.	22.9	13.4	14.9	20.1	17.7	22.4
Reporting $10,000-$19,999	do.	7.4	7.6	8.1	14.4	21.6	33.3
Reporting $20,000 or more	do.	2.7	1.6	2.5	2.1	2.6	3.0

1/ SIC classifications and off-farm income statistics are available only for those with $2,500 or more sales in 1974. 2/ Information in this table will not equal national totals, averages, or percentages because data were not available on all 12 types of farm classifications in several State and county volumes. 3/ Net farm income is total cash receipts from sale of agricultural products less cash costs and depreciation reported in the Census of Agriculture. This does not include return to operator labor, management, entrepreneurship, or opportunity costs for owned capital and resources. 4/ Farm-related income includes Government program payments.

Source: U.S. Department of Commerce, 1974 Census of Agriculture, vol. 1, parts 1-50, State and County Data, Bureau of the Census, 1977.

PANEL DISCUSSION PRESENTATIONS

THE RESEARCH NEEDS OF SMALL FARMERS

Steven T. Sonka*

The data presented earlier strongly indicate that small farms are not nearly as concentrated in the Midwest, such as Illinois, Iowa, or Indiana, as they are in other regions. However, I wish to stress that small farms are a significant part of midwestern agriculture. For example, Illinois and Indiana both had more than 50,000 farms with sales of less than $20,000, and Iowa had more than 45,000 farms in this category in 1974.

These numbers emphasize that small farms are important in midwestern agriculture and, therefore, should be important to the USDA and university researchers concerned with this segment of agriculture. These 150,000 farms represent a considerable number of farmers and farm families with at least some characteristics different from those of the larger farmers in these States. These small farmers have characteristics different from those of urban residents, even though many of them also work in urban occupations.

Following are research results to serve as background material for investigating small farms. However, these concerns should not be construed as a shopping list of priority topics for small-farm research. Rather, I hope, they will be illustrative of concepts that deserve consideration when researching needs of small farmers.

Results of Recent Research

The first set of these research results addresses my overriding question, "Why do we want small farms?" This would be an irrelevant question if discussion was limited to specifying the problems associated with small farmers and research associated with alleviating some of these problems. However, there is also a need to discuss the general notion of the benefits and costs concerning the existence of small farms. Farm size influences two important variables--net farm income per farmer and economic activity in rural communities (fig. 1). 1/ The horizontal axis represents average farm size and serves as a proxy for differing farm-size structures. An index value appears on the vertical axis which shows the relative effects of the different structures. This index value achieves a value of 100 for both variables at a level of about 600 acres per farm.

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1/ S. T. Sonka and E. O. Heady. American Farm-Size Structure in Relation to Income and Employment Opportunities of Farms, Rural Communities, and Other Sectors. Ctr. for Agr. and Rural Dev. Rpt. 48. Iowa State Univ., Ames, Iowa, 1974.

Net income per farm varies directly with average farm size. Therefore, when considering an agricultural system composed of all small farms, we imply steep costs in terms of low levels of income per farmer. Net income per farmer increases very sharply--for those farmers remaining in agriculture--when the average size of the farm increases. The graph illustrates the pressures that face the individual farmer in terms of expansion or contraction of the farming unit.

The second curve in figure 1 represents economic activity in rural communities. This variable is inversely related to average farm size. Less economic activity is generated in those rural communities serving agriculture as farms grow larger and fewer people remain in the farming sector (fig. 1). As farmers adjust to pressures to expand and improve their economic well-being, they simultaneously tend to reduce the economic well-being of people in the rural communities surrounding them. That is, there is a tradeoff between improved well-being of farmers and reduced economic activity in rural communities as farms grow larger.

A more vital area, and possibly a current researchable topic, would be an evaluation of the effect of policies which would retard the demise of small farms. With this framework, one also could try to evaluate the impact of specific policies or programs which purport to slow the current trend of farm-size expansion. One would need, of course, to have definitions of viable policies which might be utilized before that evaluation could occur.

The second set of research results deals with the pressure for farm-size expansion. I have highlighted the relationship between production costs for corn and size of farm in east-central Illinois to illustrate these pressures and their continued existence (fig. 2). 2/ These data are taken from actual farm records in this predominately cash grain region of Illinois. In that graph, we see that as farm size expands, the nonland costs of production per bushel decrease rather sharply, until a minimum occurs at approximately 1,100 acres. These data indicate that the economies of size in crop production occurring over the past 3 or 4 decades in U.S. agriculture are likely to continue exerting pressure for farm-size expansion.

A second reason for presenting these research results is to illustrate the need for farm level data for small farms. The smallest farms were approximately 150 acres in the sample of farm records utilized in this study. One would expect production on 100 acres of corn to generate a greater value of production than the $20,000 worth of sales used as an upper limit for small farms. The question still remains as to what costs are associated with crop production on smaller farms, particularly those with less than 150-200 acres.

A third reason for presenting these data is to emphasize a concern for the continued feasibility of moderate-sized farms. Moderate-sized farms, which in this region might range from 200 to 500 acres, will suffer intense pressure either to expand or to be consolidated with expanding units as the present farm operator leaves the farm enterprise. In fact, these moderate-sized farms may be under more pressure to expand or be consolidated than are small farms, particularly the smaller, part-time farm. Moderate-sized farms may not allow the opportunity for part-time jobs.

Another major implication of these results is the question of diseconomies of size and the farm size at which they become crucial. There is a range of farm sizes for which cost is nearly constant as the graph shows. This range of equivalent costs indicates the major reason farmers expand--not so much to gain the advantages of economies of size, but to gain the advantages resulting from increased production. Two farms with fairly equal costs of production but different volumes will take much different

2/ S. T. Sonka. "Optimum Farm Size." Paper presented at the 1978 Rural Policy Forum, Dept. of Agr. Econ., Univ. of Ill. at Champaign-Urbana, Mar. 1978.

Figure 1

Comparison of Average Farm Size to Net Income per Farmer and Economic Activity in Rural Areas

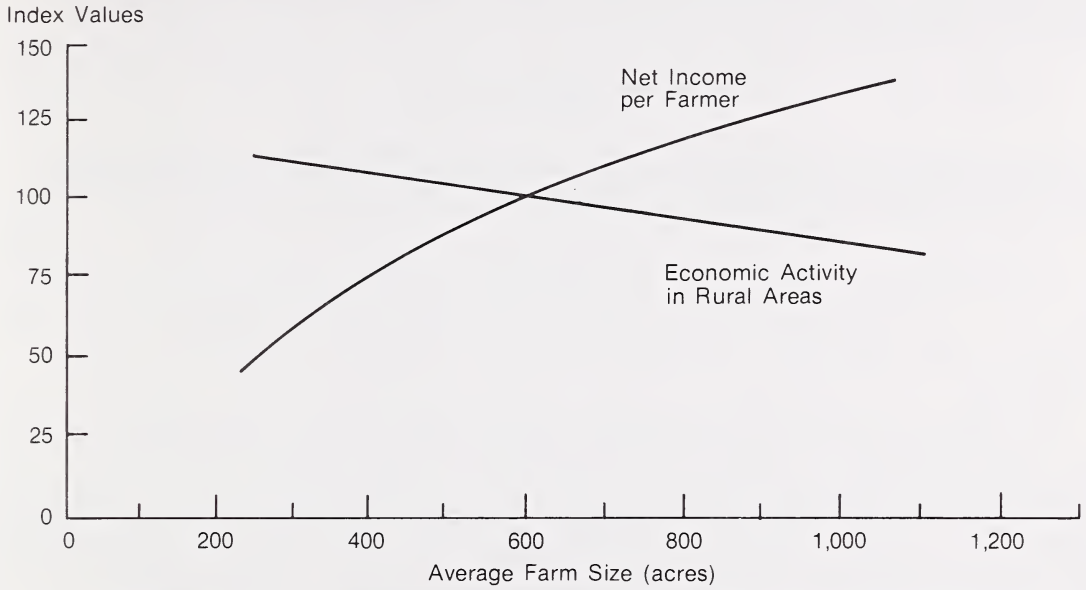
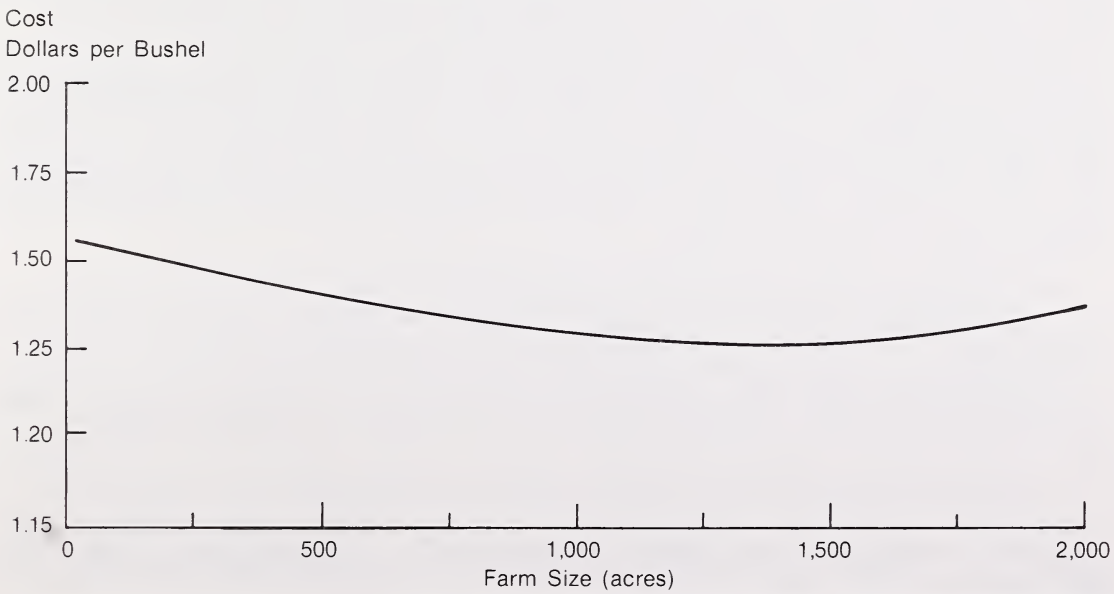


Figure 2

Nonland Costs for Corn Production in East Central Illinois, 1976



competitive positions when it comes to acquiring control of land. The larger farmer will have a significant bidding advantage simply because of the larger scale of operation and corresponding volume of output. This advantage may be translated into a superior ability to compete for the control of land in the farming sector, which has significant implications for the future structure of agriculture and the future viability of small farms.

Questions for Researchers

Most important, researchers must learn more about small farmers. Information is available on some of the parameters relative to the size, number, and resources under the control of small-farm operations. However, it is imperative to explore the needs and way of life of the small farmer and his family.

In considering the small farmer and the family, it seems to me that a most important topic would have to involve the goals of the operators and families on such farms. This is not a new idea, and it has been mentioned at other similar conferences. 3/ However, it needs restating. I do think this is a concern not satisfactorily addressed at this time.

To illustrate, let me draw an example from the senior-level farm-management course I am currently teaching. All the approximately 100 students taking this course are very much interested in farming as an industry and as a way of life. Some of these students come from moderate or large farms and have very good opportunities to return to these farms. Other students in the class do not have similar opportunities. However, they too are interested in farming and a rural lifestyle. These students realize that starting a commercial farming operation without assistance from an existing operation is very difficult, if not impossible. Yet they are interested in beginning some sort of farming operation.

The students are probably going to fit into the category of part-time farmers if they do start a farming operation. And, if they are farmers at all, they are going to be small farmers. They will and do have research needs and problems which are agricultural in nature. However, before we can consider their agricultural problems, we need to have a better feel for the small farmer's motivations and goals.

At this point, it must be understood that no one set of goals can be found which is truly representative of all small farmers. Indeed, among my students, there are those who aspire to be part-time farmers because of the perceived higher quality of rural life. However, their main career emphasis will focus on their nonfarm activities. They would have aspirations and concerns very different from those of the other students who look on a small or part-time farm as an initial phase in development of a larger commercial farming enterprise.

A second research concern that should be considered involves the family of this small farmer and the consumption/investment tradeoff caused by the decision to operate a small farm. The consumption/investment question has become less important on larger commercial farms. Concern about the level of family consumption expenditures is probably relatively unimportant on farms where gross sales are $100,000 and total farm investment is $1,000,000. A reduction in annual consumption of $2,000 or $3,000 or even $5,000, which might involve seemingly severe reductions in a standard of living, is not going to have a major effect on the survival of that operation. The investment-vs.-consumption decision can have a major impact on the viability of the operation on

3/ North Central Research Strategies Committee Number 1. Research Needs of Large and Small Farms. AE-4374. Dept. of Agr. Econ., Univ. of Ill., Champaign-Urbana, Ill., Apr. 1975.

smaller farms, with sales of less than $20,000. Research would probably produce substantial benefits because the tradeoff between level of living and capital investment is an important concern on these small farms.

Another area of concern involves present research and extension activities and their applicability to small farms. Some technologies are readily transferable between large and small operations. For example, biological information, possibly dealing with types of seed or fertilization rates, is generally as applicable on a larger farm as on a smaller farm. Decisionmaking aids can be utilized by both large and small farming operations.

A number of students in my farm-management class are doing a term project which involves the use of a fairly sophisticated computer planning model. Some of the students using this model are considering 2,000-acre operations and are deciding how to expand that operation to a 5,000-acre system. Meantime, others take over very small farms or try to establish a farming operation without assistance from an ongoing operation. This computer management model is equally useful to both the student with the large operation already present and the student with no existing operation.

Of course, there are problems in delivery and utilization associated with larger- vs.-smaller farms. The larger farm may spread the cost of utilizing these technologies or decisionmaking aids over a much larger base, and thereby reduce the per unit cost. There is more incentive for that larger farmer to devote resources to the acquisition of such information as supplied by current research and extension activities. Some of the present research and extension activities are potentially useful to small farmers despite these delivery problems. Therefore, a high payoff may result from identifying and making such information more readily available.

Other technologies, however, are not readily transferable between small and large farming operations. For example, livestock and machinery technologies are generally not equally useful on large and small farms. Livestock and machinery technology is an important small-farm research topic. The development of machinery and livestock technologies which have low costs and do not demand a large volume of operation to achieve those low costs is certainly a high priority item.

Machinery technology is particularly important when considering changes in the historic source of machinery for small-farm operations. A major source of equipment and machinery on small farms has been used equipment that was traded by larger farming operations. Purchasing used equipment reduces the ownership cost associated with machinery, thereby allowing lower per unit costs of production on the small farming operation. Considering today's larger farming operation and the type of machinery being replaced, there may be some question whether used equipment is going to be as useful for smaller farming operations in the future.

Ten or 20 years ago, much of the equipment being traded in by larger farmers was of a size that was fairly useful to the smaller operation--about 60- or 70-horsepower tractors and a set of equipment to complement these tractors. Today, commercial farmers are trading in used tractors that have 120-140 or even more horsepower. It is expensive for small-farm operators, although this machinery is less costly than new machinery of the same size. The initial purchase price of this larger used equipment will be of future concern for small farmers unless alternative sources of small-farm machinery are developed.

Another important concern for small farms and their future is the control of resources, particularly the land resource. As noted before, a relatively high proportion of small farmers are owners of their land. Almost 23 percent of small farmers are 65 or older, and another 26 percent of small farmers are 55 to 64 years of age. These

farmers are likely to terminate their farming operations and dispose of their land resources in the near future.

Again, the potential for ownership (in terms of competitive advantage) is very definitely in favor of the larger farmer. This larger farmer will be very anxious to acquire the 80, 160, or possibly 200 acres associated with a nearby small farming operation. This smaller tract would probably be farmed by the larger farmer with the same set of labor and machinery that he already possesses. Experience in Illinois indicates that the small farm earns a very high premium when it is sold. Certainly, the larger farmer is going to be better able to pay that premium than either a very small farmer or a potential entrant into the farming occupation. The effect on small farms of this transfer of land resource is another extremely important question in terms of the future of small farms in this Nation because of the relatively high percentage of owned land.

SUGGESTIONS FOR RESEARCHING SMALL-FARM QUESTIONS

Allen R. Thompson*

The rapid decline in the number of farming operations in the last 35 years has been well documented. They still represent a sizable percentage of all operations, despite the fact that most of the displacement occurred among small farms. While there has been some debate on the causes of the changing structure, the general consensus is that small farms are an anachronism in today's modern, large-scale, capital-intensive agricultural sector, and that they are inherently economically inefficient. Past agricultural policies were based on the premises that (a) small farmers are not economically viable, (b) the best opportunities for those operating small farms are in the nonfarm sector, and (c) the world's food and fiber needs can best (most efficiently) be met by large-scale, energy- and capital-intensive agriculture. An examination of these past agricultural policies leads one to conclude that these policies have said to the small farmer, "get big or get out."

The recent resurgence of interest in the economic and public policy questions regarding our small-farm population is refreshing. My studies lead me to question the consensus opinion that small farms have no place in today's agricultural sector and that the economic problems of small farmers are essentially a welfare problem. I do not accept these conclusions because I question the premises of some of the past research and some of the methodology used.

Definitional Questions

No real consensus exists on the basic definition of the target group. Therefore, I would like to offer the definition agreed upon by a number of those who attended a small-farms symposium sponsored by the National Rural Center, October 16-18, 1977. This definition essentially follows that used by the Small Farm Viability Project in California: small-farm families are those which (a) rely on the farming operation for a substantial share of family income, (b) manage or control the farming business and contribute most of the farm labor, except during peak seasons, and (c) have a combined farm and nonfarm income that is moderate or less. While this definition has a number of drawbacks, it does capture the general meaning most people have when they speak of

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small farms. However, it is an important departure from past definitions which equate small farms and poverty. The definition allows consideration of small successful farms, though it is true that many small-farm families are poor.

The drawbacks of this definition are mainly from a lack of quantitative precision and the inability of finding such individuals in the census of agriculture. The quantitative precision could be improved easily for small farmers by substitution of, for example, median income for "moderate" (part c), but even this fails to allow the researcher to make use of the census of agriculture because it doesn't allow close identification of total family income. One must bear in mind that research results based on the census of agriculture are limited by the more common definition of small farms in terms of gross sales of $20,000 or less. My working hypothesis is that "numbers often conceal as much as they reveal" and that is clearly true here.

A great deal of time should not be spent on definitions. However, researchers have an important obligation to point out the usefulness and limitations of results based on definitions that do not accurately coincide with commonly understood target groups.

Some Important Premises

I believe that some of the past research and most of the agricultural policies affecting small farmers have been predicated on some questionable premises. Hence, some suggestions follow for better premises on which to base future research.

Perhaps one of the most questionable features of past research and policy is the complete segregation of the farm and nonfarm sectors as opposed to an explicit recognition that the two sectors are interrelated. The lack of consideration of the "external" effects of farm policy on the rest of the economic system has led to a systematic understating of the true costs of farm policies that have helped reduce the number of small farmers. A more proper perspective to take in researching the small-farm sector (or any other part of the agricultural sector) is to weigh the social cost versus social benefit of a given policy. Many of our present policies have imposed social costs in terms of rural poverty, urban congestion, environmental damage, and increased concentration of market power among fewer, larger organizations. While precise accounting of these costs may be impossible, they must be an explicit part of the analysis for an accurate assessment.

If we examine most of our past research, we can see that the economic models are much more suitable to an analysis of large rather than small farms. A contrast of some of the major features of small and large farms indicates the two groups seem to operate in different economic systems.

Larger farmers produce most of the output of agricultural commodities yet represent a small proportion of the farming population, concentrate mainly on producing capital-intensive crops such as grain and soybeans, employ most of the hired farm labor (many of whom are small farmers), derive most of their income from farming, are better organized economically and politically, and receive most of the agricultural subsidies, research, and technical support of the U.S. agricultural system.

Small farmers, on the other hand, account for a small percentage of agricultural output yet represent a large proportion of the farming community, concentrate more on labor-intensive crops and small-scale livestock operations, are not well organized economically or politically, employ little hired labor but make use of unpaid family labor, and receive a small part of agricultural subsidies and little of the research and technical support of the U.S. agricultural system. There is considerable diversity

within the small farmer group, and it is generally true that much, if not most, of the family income is derived from off-farm work in agriculture and nonfarm jobs.

The assumptions implicit in most past studies have been that (a) farmers were employed on their own farms on a full-time basis, (b) if small farmers were displaced, their agricultural resources (especially land) would be used by larger units, and (c) better nonfarm opportunities existed for small operators than the so-called meager, marginal existences provided by their farming operations. Each of these premises is inappropriate and tends to bias the results of research and, thus, skew policies toward large-scale farming.

Many small farmers and their families receive income from nonfarm jobs. If one begins with the idea that the farm is the exclusive source of family income, this tends to raise the cost of the farming operation and tends to show small farms as inefficient operations. A more realistic premise recognizes the importance of nonfarm income and suggests improving farm income as one aspect of a several-pronged approach to improved earnings of these families. The second premise suggests a high opportunity cost to the farm sector of maintaining a small-farm segment. I think the assumption that land and other resources are absorbed into the large-scale farming sector is questionable for much of the future displacement. At least this premise is subject to some research verification. The final premise ignores the fact that past history indicates most of those small operators displaced from farming have been ill-equipped in terms of experience, training, and education for nonfarm jobs and have made a bigger contribution to rural and urban poverty than to Gross National Product. The assumption tends to obscure the relative importance of small absolute increases in income. Raising farm income by "only" $2,000 may, in fact, represent a substantial improvement in family welfare.

Another set of questions may be raised about research on efficiency and economies of scale. These points have been detailed elsewhere and must be considered now. 1/ As noted above, I believe the question of efficiency should be examined from a social cost-versus-social benefit perspective. I would suggest that the potential value of family labor, measured by viable economic options, be used for such analyses; I think we have overvalued such labor in the past.

A separation of potential from actual efficiency is necessary. Looking at current practices of small farms seems to indicate many can make significant gains in productivity by employing more modern technology and better management practices. I would also caution the researcher that data on efficiency should include the effects of current policies, which, in my opinion, contribute to the efficiency of larger operations. Today's results are also a product of our current institutions in the farming sector--institutions which include USDA as well as marketing mechanisms available to small farmers. The results of some programs have shown that different marketing mechanisms and channels of technical assistance for small farms can improve these farming operations significantly. Since current policies provide "subsidies" to larger farmers in these and other areas, the special programs are perhaps no less justifiable. The conclusions from these assumptions are quite different from the conclusion that efficiciency is due to inherent economies of scale.

Conclusions

I have tried to raise some questions about small farming and the premises implicit or explicit in researching their status and prospects. I do not feel we have yet done an adequate job of describing their status or exploring the extent to which status and

1/ Ray Marshall and Allen Thompson, Status and Prospects of Small Farmers in the South (Atlanta, Georgia: Southern Regional Council, Inc., 1976).

prospects can be improved by various means. My personal interest is in the areas of policies and programs that are useful to small farmers, and I hope some forthcoming research will document and examine the growing number of programs devoted to this area. I hope that some research will explore the many questions using some alternative types of models and different sets of premises. One more fact to keep in mind is that, although there is a tendency to speak of small farmers as though they were an identifiable, homogeneous group, perhaps more diversity exists here than in other sections of the farming community. The problems and the appropriate options for the different groups of small farmers are diverse as well.

Let me note that a number of USDA administrators and agricultural researchers have told me they were very relieved to have "escaped" from a small-farm background and have some difficulty understanding why there is a push to devote more resources to keep options available for small farming. Obviously the options for most small farmers do not include the opportunity to become a USDA administrator or to get a Ph.d. in agricultural economics. The models used and conclusions reached may not express the realities, and future research will be of limited value in guiding policy in this area, unless researchers keep in mind the actual options of the group.

PROBLEMS FACING SMALL FARMERS

Joseph F. Brooks*

Throughout history, land has been sought and defended as a profitable and economic commodity. It has been lauded as a resource weighted with strength, with the capacity to secure power. Liberty, freedom from oppression, and escape from congestion all have been associated with land. And beneath it all, there is no denial that the key to our survival comes from the earth. Valued as such, we must now face the realization--land is not inexhaustible.

Food shortages, overpopulated and congested areas, energy reserves, and environmental concerns all contribute to the active and heated debate over land. The competitive forces surfacing in the southern region of the United States are living proof. Urban development has replaced idle and isolated land with new cities, towns, factories, and industrial centers. Recreational areas occupy acreage which once provided the subsistence for rural farm families. New agricultural centers with advanced technology now produce crops from once barren and desolate fields. And foreign investors bargaining for miles of land dangle funds in the faces of landowners who have despaired over efforts to obtain a living from the earth. In light of these obvious and deliberately channeled activities in the South, the question which must be confronted is: what destiny awaits the southern rural farmer/landowner who has invested precious energy, hard-earned savings, agricultural experience, and a lifetime to retain his rural tradition?

The implication is obvious from research, census data, and Department of Agriculture statistics: the small farmer faces economic jeopardy in the midst of southern commercial and industrial growth. In particular, the black landowner/farmer faces an extremely distressing future.

More than 15 million acres were owned by blacks in 1910. By 1950, this figure had declined to 12-1/2 million and has been decreasing steadily since 1954. The annual rate of black farmland loss now stands at about 500,000 acres, or a loss of roughly 9,000 acres per week. In 1920, 925,000 blacks operated farms in this country. Ninety

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percent were in the South. Only 87,000 black-operated farms remained from the 1920's as of 1969.

Problems

From 1975-78, 2.9 billion Federal dollars were funneled into the rural economies of 11 southern States for farm ownership and operating loans. However, 3.6 million black and poor citizens still lived under meager physical and economic circumstances in 102 counties representative of this targeted rural area. Only 14.7 percent of 1975 housing loans were extended to minority farmers/landowners. Frequently, lack of financial support, denied credit requests, discrimination and unscrupulous treatment from lending institutions, courts, legal representatives, and land speculators indicate widespread tacit and criminal abuses. Correspondingly, attitudes of mistrust and alienation are held by minority farmers/landowners.

At the same time, minority landowners/farmers have underutilized government programs because of their very narrow understanding of the number and range of available rural development services and aid. Some Federal agencies have been understaffed and possibly inefficiently organized in southern rural counties with dire assistance needs.

With no resources, support, or financial backing, idle and unproductive land has been abandoned because it creates an uncompensated drain on family resources. The urban environment has tempted black landowners/farmers away from their rural tradition, with the hope of higher wages and a better standard of living. In 1870, 2.5 percent of the U.S. population was urban; 100 years later, the figure stood at 75 percent. Migration becomes a necessity for the black farmer who cannot obtain a living from the land. Even though black farmers comprised 9.6 percent of full owners and 14 percent of part owners in 1954-69, of the total amount of persons who left the farming occupation, 15 percent of the full owners and 32 percent of the part owners (47 percent altogether) were black.

Solutions

Strategies and solutions must be formulated that will allow the black landholder a chance to utilize and build upon his most valuable resource--his land.

Initially, greater awareness and attention must be focused on the problems of black agricultural producers. Government agencies, private institutions and foundations, legislators and consumers, including minority farmers/landowners, must become acquainted with and comprehend the problems faced by black landholders. Public hearings, media coverage, public outreach, and educational programs can all work to achieve this end. Simultaneously, consumers, landowners, and farming associations must band into viable and visible public interest groups to create a political voice that will determine and respond to legislative policies. Government and elected officials should be accountable for any disregard or negligent attitude toward the rural agricultural community.

Information sharing on Federal, State, and local agricultural and technical assistance programs can serve two purposes. First, black landowners must become cognizant of already established programs. Equipped with that knowledge, community-based preferences may be geared to determine efficient choices for objectives and operating procedures. Assistance then becomes an active mechanism whereby trained personnel and farmers cooperatively improve the land's productivity.

A capital pool with standardized procedures and lending criteria must be made available and monitored so that qualified and needy persons may obtain credit and financial support.

Black and white enterprises can realize profitable returns by establishing business ties with southern black farmers/landowners--this would encourage present or would-be landowners.

Younger blacks must be encouraged to retain present farms and engage in farming operations. The generations of the future must fully grasp the implications of leaving the land, even as impending southern economic developments await just beyond the horizon.

The apparently dismal prospects of the future for black agricultural producers must be changed now through invested interest and committed action. Land is the major capital asset of this country. To do anything short of strengthening it is to create a drain upon not only the black farmer but the general welfare as a whole. Benefits accrued to black farmers also accrue to the southern and national economies and to the alleviation of world hunger.

COMMENTS ON SMALL-FARM RESEARCH: CALIFORNIA'S SMALL FARM VIABILITY PROJECT

William E. Myers*

The following remarks are based upon findings and observations from the Small Farm Viability Project in California. This project, which was jointly sponsored by four State departments, sought to determine what the State could and should do to make the small farm more viable as a source of livelihood for rural people. The central activity of the project was a series of task forces comprised of over 70 qualified persons from farming, banking, government agencies, academia, the California Cooperative Extension Service, community organizations, the legislature, labor, and other fields. The findings of the various task forces have been compiled in a final report, which attempts to survey comprehensively certain problems of small-farm agriculture in California.1/ The comments about small-farm research which follow reflect the perspective of this project which is at once comprehensive and provincial.

Remarks on Conference Papers

Many findings by the Small Farm Viability Project are consistent with observations contained in papers prepared for this conference.

It is not practical to define "small farms" according to a gross sales criterion, particularly in places where smaller farm operations may be concentrated in high value crops with low profit margins. Were one rigidly to apply the $20,000 gross sales definition in California, the result would be to highlight areas either producing livestock and unirrigated grains or having high concentrations of so-called hobby farms.

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1/ The Family Farm in California: Report of the Small Farm Viability Project, November 1977. This report may be obtained from: State CETA Office, 800 Capitol Mall, MIC 77, Sacramento, California 95814.

Those areas in which small family farmers are concentrated would tend to be passed over, even though the net income of these farmers may be low.

Low-income, seasonal farmworkers trying to enter farming in their own right typically raise high value crops requiring relatively little acreage but a great deal of labor. Strawberries are a classic example, and in fact, more and more limited resource farmers are raising this crop which is among the most important in the State. The gross sales from a 5-acre family-sized plot typically will top $40,000, with the family receiving only a low to moderate net income. Because of situations such as this, the Small Farm Viability Project came to the conclusion that it would be difficult to make effective policy on the basis of farm size defined by gross sales, farm value, or acreage.

The farm family rather should be the focus of attention--not the farm. The concern should be for how the people involved in farming are getting along. The Small Farm Viability Project, after much consideration, found the most workable small-farm definition relates to extent of reliance on farming for the family livelihood, total family income, and the portion of control and labor contributed to the farm by the farmer and his family. Census statistics are not adequate to form small-farm policy as now collected. Since government statistics ostensibly exist to form policy, it would be more sensible to adjust census procedures to meet workable policy definitions than to warp policy simply to fit current statistical categories, as occurs when a gross sales criterion is employed to define the small farm.

Attention should be devoted to the combination of farm and nonfarm activities, for this apparently has become the principle means of livelihood for small-farm families. This fact implies that there should be an essential marriage of small-farm and rural development strategy. The Small Farm Viability Project found that the relationship between farm and community is so pronounced that one of its chief recommendations was that a small-farm policy ought to be implemented as an integral part of a broader commitment to rural development. One of its most surprising findings, based largely on research comparing over 130 rural communities, was that increasing the number and economic viability of small farms might be a particularly potent stimulant to rural employment and economic development.

A particular criticism remains, although I agree overall with conference papers. The papers seem to attribute the economic disadvantage of the small farm to natural, freely occurring economic and market forces almost by assumption. The Small Farm Viability Project did not find this generalization to stand up under scrutiny in California, though this has been the conventional wisdom in some quarters, and is probably true in certain cases. It found that public policy does a great deal to shape the context in which farmers operate, and there is no question but that, in many instances, public policy and programs have effectively loaded the dice against small farmers, thereby reinforcing the competitive position of larger farmers. It is equally clear that, at least in California, a more equitable public policy could do much to enhance the competitiveness of smaller farms just by not favoring the large farms. This is most apparent in agricultural research, particularly that conducted through the land-grant universities.

The public notion that small farms necessarily are less efficient than larger ones frequently is buttressed by reference to a variety of university and USDA studies. When the Small Farm Viability Project investigated this issue through research specific to crops grown in California, it found disturbing evidence that studies of relative farm size efficiency typically were of unacceptably low quality. Field data on actual small-farm costs are nonexistent or very poor; most such studies simply attribute hypothetical costs on an exceedingly thin empirical base. The project found strong evidence that competent small farmers achieve costs substantially under those attributed to them in these studies. In current approaches to this research problem, inclu-

sion of marginal and hobby farms may obscure useful information about small-farm potential that could be gained from separating the better operations for study. Another problem is that the analytical parameters are drawn too narrowly, considering only returns to the farmer while neglecting to consider even the most obvious costs and benefits to society, except over-the-counter food prices to the consumer.

Recommendations for USDA Research

There is an urgent need for high quality information about actual small-farm performance, particularly by the better and more serious farmers. We need a better idea of how well-structured small farms perform when they have roughly equal access with larger farms to critical inputs and markets. The Small Farm Viability Project noted, for example, that in certain commodity classes, the family-size farm in California seems to match or better the cost performance of far larger farms. However, the family-size farm apparently receives considerably less for its product in the marketplace. The competitive position of the smaller farm presumably would be improved at equal per unit income.

Much more research is needed relating farm type and size to social costs and benefits. We need to know more about what the public interest really is on this issue. Such research is difficult to conduct, and findings typically are not comparable. Efficient research designs are needed to help investigators in universities, and government, as well as others who pursue this question in different parts of the country in a manner permitting subsequent comparison of results.

There is a need for policy-oriented research into alternative means for mobilizing public- and private-sector resources to attack small-farm problems. A wide variety of approaches have been attempted in one place or another; these should be collected and subjected to searching policy analysis. Such information could be vital in helping USDA and other Federal and State agencies modify their programs to meet small farmer needs more efficiently. The Small Farm Viability Project identified a need to develop better organizational technology of two types: government organization to target and coordinate public resources more effectively to reach small farmers, and small-farmer organization to collaborate in obtaining resources, markets, more efficient operations, and government responsiveness.

Both government and farmers should be concerned about ways to save and enhance the competitiveness of the family and small farm, for it is by now obvious that agriculture is a shared decisionmaking system in which a broad spectrum of participants--from farmers to banks to USDA--each separately make important decisions which influence decisions of the others. We need to learn much more about how farmer, business, State, and Federal decisionmaking roles can be systematically harmonized to best effect. Perhaps this will boil down to the question of how best to use Federal policy as a catalyst for stimulating and supporting more local initiative and flexibility to meet local small-farmer problems. Single nationwide solutions probably are not obtainable given the enormous diversity of U.S. agriculture.

The need to develop better ways for farmers to cooperate in meeting new challenges is no less urgent or important. The Small Farm Viability Project found evidence that, at least in California, the heyday of the completely self-contained and independent small farmer is past. Those small farmers who find effective ways to cooperate at crucial points probably are those most likely to succeed and survive in the longrun. Production cooperatives, labor cooperatives, and farm management corporations are only a few of the recent innovative organizations tried or suggested to unite small farmers for increased economic advantage. Certainly many others are possible, and they should be investigated for their potential.

It would be helpful if USDA would use its position to encourage far more attention by the universities to small- and family-farm problems. It is clear that these research facilities often tend to undertake projects of more interest to large farmers. In other cases, they deal with problems affecting farmers of all sizes but develop solutions according to criteria primarily benefiting larger farmers. The Small Farm Viability Project found that relatively small private contributions to university researchers effectively directed large public sums for matters of interest to the contributors--almost always large farming or industrial corporations. It recommended that the choice of agricultural research projects and the use of outside contributions be subjected to a rigorous, formal control process completely open to public scrutiny and participation. It strongly questioned whether publicly funded research should, to so great a degree, be directed toward those entities--particularly large farmers and corporations--best able to purchase such services on the open market. It is the smaller farmer who tends to need most publicly subsidized research, since he cannot buy it elsewhere.

The priorities for agricultural research need again to be clarified. The Small Farm Viability Project encountered time and again the assertion that the main objective of U.S. agricultural policy is cheap food and fiber, despite language in virtually every modern U.S. agricultural act to the contrary. It appears that agricultural researchers tend to choose projects which concentrate on those few farmers who produce the most, rather than on issues affecting the most farmers, in part, because researchers believe that is what the country wants. This, of course, tends to exacerbate the relative disadvantage of the smaller farmer and makes the original choice a self-fulfilling prophecy. If one principal objective of agricultural research is the success and survival of smaller farmers, then this needs to be forcefully communicated from Congress and USDA down to the university experiment stations and extension services. One way of doing this would be to direct discretionary funds to research facilities that put high priority on small-farmer problems.

The Small Farm Viability Project found that marketing is the single most limiting constraint on small-farm viability in California. It raises the more general issue of how the current food distribution system would relate to a serious attempt to maintain family and small-farm viability, though this might reflect largely the fresh produce orientation of California agriculture. Many have questioned whether, in the longrun, a food distribution system based on large volumes of produce shipped all over the country really is more beneficial to society than a system based on smaller volumes procured and sold locally. There is some reason to believe the latter system has certain advantages for small producers, although this is far from clear even in California.

Research conceptualizing the economics of alternative food marketing and distribution systems may be open to criticism from all sides, and the very thought of so complex a project may be intimidating. Yet, the Federal Government has perhaps the only research capability to conduct this sort of investigation. It seems only logical to undertake research on how to modify that system to accommodate national objectives for assisting small farmers if small farmers must produce for a particular market system and that market system is strongly affected by Government policy, and if small farmers are at an increasing disadvantage in that market system. It is doubtful that more peripheral marketing activity--such as direct marketing which has captured current interest--can ever alone reach or accommodate more than an insignificant portion of the Nation's small farmers. More structural approaches might be required, and for this reason, they should at least be researched.

It is worth noting that the Small Farm Viability Project has ended up unexpectedly optimistic about the essential viability of small farms when they are well structured and managed, and when public policy at least gives them a fair shake vis-a-vis their larger competitors. Observations in one of the task force reports points to the ingenuity of the agricultural research system in helping to make the large farm successful

demonstrating an excellent capability which now could be turned to helping the smaller farm become more successful as well. It would seem highly appropriate for USDA, in its own central research activities, to set both an example of renewed interest in the smaller farmer and to encourage other elements of the agricultural research system to do likewise.

GROUP SESSION REPORTS

PLENARY WORKSHOP SESSION

The small-farm workshop was planned as a forum in which a range of opinions on small farms could be heard and used in developing research proposals. The opening comments, background papers, and panel discussions helped prepare participants for the afternoon plenary session. The purpose of this session was to elicit a set of issues that would form the basis for developing research proposals in the smaller work groups that followed.

Researchable Issues

A wide variety of researchable issues on small farms was delineated and recorded by workshop participants during the plenary session. Once the workshop participants were satisfied with the list of issues, participants grouped the issues into five general topic areas: (1) goals and decisions, (2) institutions, (3) policy, (4) production and marketing, and (5) rural development. The issues assigned to each topic area are shown below.

I. Goals and Decisions
   a. Who are the disadvantaged among all small farmers--Blacks (female, elderly), Chicanos, southern Whites, elderly, young? Are those who left agriculture worse off than any of those who remained in farming?
   b. How can an individual become a small farmer or enter farming?
   c. How can farmers with small-scale operations remain in farming?
   d. What can be done to expand the options available to improve the well-being of small farmers and their families?
   e. What is the relationship between young and old small farmers and their interaction within their communities?
   f. What alternative combinations of human, physical, financial, and community resources are needed to enhance the achievement of individual, family, and community small-farm goals?
   g. What are the goals of current and past small-farm operators and their families (including minority farm operators and young, middle age, and elderly members of families) with respect to production of farm products, recreation and leisure, hobbies, retirement, economic and social status, investment, and other factors?
   h. How are the goals of small farmers and their families affected by such factors as stage in the family life cycle, procurement of off-farm employment, changes in costs of agricultural production factors, opportunity for sale and/or purchase of land and capital, or a shift in community goals.
   i. Do small farmers' goals conflict with each other?

II. Institutions
   a. Do financial and other types of institutions serve the needs of small farms?

b. What are the institutional and/or geographic barriers that restrict the flow of public and private assistance to needy small farmers?
c. Who is the small-scale farmer?
d. What literature exists on programs that serve small farms, and what has been the experience of these programs in meeting their needs?
e. Does the experience regarding small farms in foreign countries set a research and policy pattern that could be followed in the United States?

III. Policy
a. Are policies (agricultural and nonagricultural) biased in favor of farms of particular sizes and types?
b. Should the Federal Government foster small farms? What is the role of the Federal Government with regard to small farms?
c. Should we be concerned with only the small farmer or should concern also encompass the problems and needs of all small-farm household members?
d. How well do current Federal and State agricultural, income assistance, and other programs meet the needs of small-scale farmers and their families? Are the solutions to the problems and needs of small farmers and their families only agriculturally related or are solutions to be found in off-farm employment and other off-farm activities?
e. What are the social costs of policies to promote small farms and what are the social benefits? Can policies to promote small farms help to achieve social goals, improve the distribution of income and wealth, as well as the production of relatively low-cost food and fiber?
f. Will programs designed to enhance the economic status of small-farm families have a long-run effect of contributing to their demise? Will the advantages of small-farm programs be captured by large producers? What will be the effect of small-farm programs on large producers?
g. What are the forces and/or situations that explain why small farms exist? Is the small farm a tax shelter for many people whose major occupation is something other than farming? What is the effect of Federal, State, and local taxes upon the small-farm enterprise?

IV. Production and Marketing
a. What is the relative efficiency of small and big farms?
b. What is efficiency and how should it be measured with respect to size of the farm operation? Do the production practices used on small farms differ from those used on large farms?
c. Do production practices differ among different types of small-farm operators?
d. What is the mix of labor and other resources used by small-farm operators? That is, how much labor (operator and/or family) is used on the farm? How much operator and/or family labor is devoted to nonfarm employment? How do small farmers make decisions about farm and/or nonfarm activities?
e. Do small farmers keep adequate records?
f. What kinds of decision strategies, agricultural and nonagricultural, can be offered to small farmers and their families? What kinds of technical or other assistance would small farmers be willing to accept?
g. How can production cooperatives be made more effective in meeting the needs of small farmers? What are the alternative kinds of marketing arrangements that can be used by small farmers, such as direct marketing to consumers through roadside stands or by other means?
h. What impact does the current marketing structure have on small farmers? How can small farmers improve the quality of their produce?

V. Rural Development
a. What is the relationship between small-farm establishments and the community and its economy, especially regarding employment, land use, taxation and fiscal affairs, and level and mix of economic activity?

b. What is the relationship of the small-farm household to the community in such areas as community activities, quality of life, labor force participation, and nonfarm sources of income received by small-farm operators and family members?
c. What is the role of the small-farm household as a consumer of community services, such as schools, health, police and fire, welfare, and sewer and water?
d. How effective is the delivery of social services in rural areas in reaching small farmers?
e. What role does the small farm play in economic development of rural areas, and how does this role compare to the impact that economic development has on small farms?
f. What is the impact of existing laws, such as welfare or tax laws, on small-farm households?
g. How important is the small-farm unit to household well-being in terms of income, wealth accumulation, and lifestyle preferences?

Group Proposals

Each of the above five topic areas was considered by a single working group. Workshop members were assigned to each of the five topic areas, primarily based upon the individual's subject matter preference. Each working group prepared one or more specific research project proposals based on ideas developed in the general plenary session. Each research proposal covered three basic points: (1) a justification statement, (2) identification of hypothesis to be tested, and (3) description of research activity. These proposals were the basis for the written research statement on each topic area that appears in the next section.

At the final general session, the five topic areas were ranked by workshop members based on the priority that should be given each issue if only a few research activities could be undertaken. The workshop gave first priority to rural development, though each issue received some first-rank votes. How workshop members voted and the ranking for the five issue areas is shown in the table below.

Issue area	Votes for:					Sum of votes 1/	Rankings 2/
	1st	2nd	3rd	4th	5th		
	Number						
Goals and decisions	4	6	2	6	9	91	5th
Institutions	6	5	6	5	5	79	2nd
Policy	4	5	6	6	6	86	3rd
Production and marketing	5	2	7	7	6	88	4th
Rural development	8	10	5	3	1	60	1st

1/ Sum of member votes times the priority given each issue area; for example, 4 x 1 + 6 x 2 + 2 x 3 + 6 x 4 + 9 x 5 equals 91 for the goals and decisions issue.

2/ The lowest sum represents first-place ranking.

OPERATORS' GOALS AND DECISIONS

Participants:

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Clarence Dunkerley, Estimates Division, ESCS
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Research on the goals and the decisionmaking framework of small-farm operators and their families may be useful in developing programs to meet more efficiently the needs of limited resource farm families. This research is justified because the population of disadvantaged small-farm families is heterogeneous in terms of family goals and available resources precluding simple solutions to their problems. A mix of programs and delivery systems will likely be required to meet the needs of the disadvantaged. However, the absence of basic data about the objectives of the operators and members of their families, or about the resources available to them, handicaps program development.

Other small-farm research projects could benefit from information about the goals and decisions of small-farm families. Policymakers and other research projects could also utilize data developed in the goals and decision project, including information on the demographic characteristics of small-farm families. The research should validate or invalidate the perception that the subset of small-farm families who are disadvantaged includes a disproportionately large share (relative to the total U.S. population) of Blacks, Chicanos, the elderly, and the young. Since goal achievement is dependent on the availability and use of resources, the research should include an inventory and analysis of the potential uses of the resource base available to small-farm families. This information may then be used in developing and evaluating public programs.

The research could be broadened to determine the goals of the communities where small-farm families reside. This wider focus would capture some of the factors that affect the attainment of individual or family goals but largely remain beyond their control.

Specifically, it is proposed that the research provide three categories of information. First, a profile of small-farm families should be developed that identifies individual goals and resources available to the families. Second, analyses should determine whether goals are likely to be achieved given the resources available to the families. Third, alternative public programs should be developed and evaluated in terms of their potential to achieve goals and their impacts on the general economy.

Develop Profile of Small-Farm Families

The goals of small-farm operators and members of their families would be identified in this portion of the project. The research should determine the ranking for each person of such goals as output of farm products (farm income), recreation and leisure on or off the farm, hobby farming, places for enjoyment of retirement, status, capital gains, and others.

The research should also focus on how goals change over time for individuals. Factors to consider include stages in the family life cycle, availability of off-farm

employment, changes in the economics relating to farming, opportunities for the sale or purchase of capital assets, and relationship of the individual to the community.

An hypothesis is that the decisionmaking framework differs substantially among individuals. The research should investigate who makes what types of decisions in small-farm families. It also would be useful to know the information available at the time of the decision and the influence of other persons.

The relationship of the goals of individual members of small-farm families to group actions within the community may affect the ability of individuals to achieve their personal goals. Conflicts between individual goals and actions and generally accepted goals within the community may either hinder the opportunity to achieve personal objectives or possibly change the goals being sought. The research should investigate the consistency of individual goals with goals of others in the community and the group actions which could affect goal achievement. A firm definition of a community is not proposed, and it may vary depending upon the population density or other factors; nonetheless, it should be a unit smaller than a county and probably larger than a township.

The resource base for the farm operator and members of the family should be inventoried including resources used in farm production and skills needed for off-farm employment. Quality and quantity standards should be employed.

The decisionmaking framework of the members of small-farm families should be identified. Focus should be on who makes selected decisions and what (who) influences those decisions. Many of the important decisions are made or influenced by spouses or children. Knowledge of who makes what decisions should help action agencies in working with the clientele. The types of decisions that should be considered include farm management, off-farm employment, education and training, and major purchases.

Procedures and Analyses

Primary data will be required to develop a profile of small-farm families. One, or possibly two, surveys will be required in addition to a limited number of case studies.

A personal interview survey will be necessary in order to rank the goals and objectives of small-farm families and determine their decisionmaking structures. The survey should include data on attitudes and demographic characteristics. The study will probably utilize scaling techniques. The first phase of the research will be to develop the survey instrument and the analytical technique used to develop the profiles.

The same data base should allow a number of tabulations and cross-tabulations on the demographic characteristics of small farmers besides the profile on goals and objectives, and may also allow the development of alternative definitions of small-farm families.

Evaluating the impacts of the community goal structure on the achievement of goals by individuals can best be accomplished by case studies of selected areas. This work should primarily involve sociologists who must determine whether there is a hierarchy of goals for the community and whether steps are being taken to achieve the objectives. The goals of small-farm operators and their families in the same communities must be ascertained so that the impacts of community goals on the small farms can be evaluated.

Statistical techniques may be used to examine factors that could cause goals to change over time. The data base developed through the personal interview survey should

be structured so that it will be suitable for techniques such as correlations, regressions, or factor analysis. The survey will provide data relating to changes in the goals of the individual and will also allow cross-sectional comparisons by age groups, income class, education, and other demographic variables.

Resource Utilization

Research on resource utilization would evaluate the likelihood of small-farm families achieving their goals, and would identify constraints in meeting those objectives. This part of the research should focus on goals related to farm income, but attention can also be devoted to other economic objectives such as capital gains, labor utilization, and farm output.

A representative sample of small-farm families should be selected for study. This sample may be a subset of those sampled in the first part of the project, since it will be necessary to know the farm-related goals for the family. Other data will be required to establish the resource base for the farm operations and the ability to expand the land or capital base in the near future. These data may be gathered as a part of the original survey or through a followup mail schedule.

A farm management analysis must be conducted for each farm to evaluate the potential for goal achievement. The use of linear programming may be adaptable to this part of the project. The type of limitation should be determined if there are constraints that restrict goal achievements. Information on the limitation may be of use to public agencies that service small farms. Tabulation should establish which characteristics of farms have potential to meet objectives and those which will not be able to achieve their goals without substantial changes in public programs.

Policy and Program Development and Evaluation of Macroeconomic Impacts

Research should evaluate the potential for current or alternative public programs to meet the goals of small-farm families. This portion of the project will include the development of alternative programs and evaluation of their macroeconomic impact.

Problems in goal achievement should be selected that public programs may potentially overcome. Possible new policy thrusts should be developed. The alternative programs, including existing ones, should be evaluated in terms of costs and benefits.

The achievement of goals by small-farm families could have important impacts on the national economy and on the rest of the society. There could be important impacts on resource use and possibly on food production if most small-farm families have the goal to be large-scale, full-time farming families. Evaluating the impact of goal achievement will provide guidance as to the social costs and benefits of aiding small-farm families in reaching their objectives. It will also give some insight as to the feasibility of most small-farm families achieving their goals. The exact procedures for accomplishing this portion of the research will depend upon the findings in the first part.

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Development efforts centered on one segment of the community (small farms) are sure to have an impact on all--for good or ill. Small-farm issues involve many times more people than the 2 million farmers with annual sales of less than $20,000. Yet, not enough is known about the interdependency of the small farm and the rural community. It was the consensus of this committee that rural development research should examine the relationship between those who live and work on small farms and their associated communities.

The general hypothesis for consideration was the idea that fortunes of the small farm are linked to the community. This hypothesis, in turn, seemed to suggest that relevant research might be organized around three themes:

1. The relationship of the small farm, as a business, to the rest of the community.

2. The relationship of the small-farm family to the community.

3. The importance of the small farm to the family's goals and well-being.

Following is an outline of the specific hypotheses which may be investigated within these three research areas.

I. Relationship of the Small-Farm Business to the Community

A. Problem

Small farms may not be fulfilling their potential as producing and consuming entities in relation to the economic life of the community.

B. Hypotheses

1. The current level and mix of economic activity between the nonfarm business community and small farmers are inadequate to upgrade the small farm as a production unit. These economic activities include interactions with farm supply and implement dealers, grain elevators, livestock buyers, bankers, farm credit institutions, and others who deal with farm business interests.

2. Small farms provide employment which would otherwise be difficult for the community to support. Labor requirements of the small farms may enable people to remain in the community instead of migrating to other areas in search of jobs.

3. Land utilization by small farmers is consistent with the economic, natural resource, and conservation interests of the community.

4. The economic viability of the small farm is highly correlated with the viability of the community.

5. Small farms provide a significant contribution to the tax base of the community.

C. Justification

Testing the above hypotheses will more clearly specify the relative position of the small-farm business within the community and provide community leaders with information which will enable them to lend support to small farmers. Business interests, as well as local governments, may be interested in the community interaction with small farms and become involved in small-farm economic development.

II. Relationship of the Small-Farm Household to the Community

A. Problem

The importance of small-farm families to community well-being is neither recognized nor understood. The quality of life afforded small-farm families is currently underdeveloped.

B. Hypotheses

1. Small-farm families contribute to community growth; their exodus contributes to community stagnation.

2. Improvement in the quality of life for small-farm families is stifled by the community in such areas as nonfarm income, educational opportunities for adults, housing, taxes, and laws.

3. Small-farm families are an important community resource, contributing such things as labor, taxes, charitable works and contributions, and political representation.

C. Justification

Examination of the role of small-farm family members in community activities will focus attention on the human or social interdependency of the community at large and the small-farm sector. A specific example of the type of community involvement that should be investigated for community leaders is the role of women living on small farms in the economic life of the community.

III. Importance of the Small-Farm Unit to the Household Well-Being

A. Problem

Loss of the farm is not simply a lost source of income, but the loss of a way of life that is very important to many families living on small farms.

B. Hypotheses

1. The farm is central to the lifestyle aspirations of the small-farm family.

2. The land has historical significance to the family, having been in the family for several generations.

3. The farm is a supplemental source of income which enables families on small farms to remain in their chosen community.

4. Income or wealth accumulation is not as important to the family as living on the farm.

C. Justification

Insight to these questions could provide better understanding of the motivation guiding small-farm families and thereby direct rural development efforts. A program to provide greater total income at the expense of continued freedom to manage and operate the small farm may not be well-received by the families it is intended to help.

Research Methods

Much of the information required to test the hypotheses under headings I and II is believed to be available through analysis of existing census data. Previous research in ESCS generally has not been aimed specifically at small farms, but considerable data already exist. The proposed investigations should begin by identifying the small-farm sector according to an established definition and classifying communities by size, type, and economic viability using county-level data. The prevalence, nature, and condition of small farms in the county would then be tied to the community description. It is anticipated that from this analysis many of the common needs of the small-farm business unit, small-farm family, and the community would emerge.

There are data sources within ESCS which should be evaluated for their potential contribution to knowledge about small farms. Some examples are the June Enumerative Survey, the Quarterly Farm Labor Surveys, Farm Production Expenditure Survey, and the Cost of Production Surveys. Universities have conducted a number of case studies in rural development from which ESCS researchers may derive additional data.

Information which would give important direction to ESCS rural development programs must come from small-farm family members. The aspirations of the farm family should be considered through a sample survey of small farmers and their families. The survey will require a sampling frame, random sample by region, questionnaire, trained interviewers, data collection, and data summarization and analysis.

ESCS has a random sample from an area frame and trained personnel for the survey process, giving ESCS a much better opportunity to measure small-farm attributes on a regional and national basis than any other private, educational, or governmental organization interested in rural development issues.

PRODUCTION AND MARKETING

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The work group sketched two research proposals concerning enterprise combinations and market development for small farmers from about eight general issues concerning production and marketing.

Enterprise Combinations for Small Farmers

Problem: Public and private institutions generally do not develop and publicize alternative production strategies for small farms to help these operators better plan their farm enterprise combinations and complement these operations with off-farm work.

Background: State Extension programs and agricultural publications provide commercial farmers with decision models concerning choice of crop or livestock enterprise combinations and choice of practices in carrying out selected production activities or strategies for marketing. These decision models have little relevance to small farmers. In effect, small farmers appear to be receiving very little relevant guidance in planning their enterprise combinations and meshing these farm activities with their family labor supply and with their needs and opportunities for off-farm employment.

Many agencies servicing perceived needs of small farmers have been operating in the past 14 years primarily from sponsorship by the Community Services Administration or its predecessor, the Office of Economic Opportunity. Some private organizations also had small-farm programs prior to this period. These non-USDA programs attempt to increase production and income of small farmers, improve their farming skills, sometimes provide production credit, and develop market outlets for small lots of farm products. Some organizations also deal with a crisis such as maintaining landownership when threatened by foreclosure or tax sale.

Program design and implementation by these organizations were sometimes based more on intuition than feasibility analysis. Some projects, which made neither economic sense nor responded to the producers' real aspirations or motivations, were abandoned. Nevertheless, these projects recognized expressed needs of small farmers that could not be met through individual initiative.

The existence of a small farmer segment apart from traditional USDA agencies is indicated by ongoing research. Of 128 small producers in Louisiana parishes, very few had contact with Extension Service, Soil Conservation Service, Agricultural Stabilization and Conservation Service, Farmers Home Administration, or the local Production Credit Association. 1/ Producers felt that contacting these agencies would do little good.

Paraprofessional Extension programs in a number of States recognize this unique small-farmer clientele and attempt to overcome barriers such as apathy and lack of initiative and communication.

Better information is needed to develop rational enterprise combinations for small farmers. Alternative enterprise materials would help add content to the outreach agency programs and improve the apparent low levels of communication with some small farmers.

Proposed Research

The research should be organized into three phases which build on each other. The objectives of these phases are:

1/ Samuel Donald, "An Economic Analysis of Small Farms in Selected Areas of Louisiana," unpublished report, U.S. Dept. Agr., Econ. Stat. and Coop. Serv.

1. Identification of actual farm unit strategies followed by small farmers that meet their long-term objectives.

2. Identification of the production decisions that follow from or implement the farm unit strategies.

3. Development of alternative enterprise combinations that fit the small farmers' objectives, decisionmaking procedures, and preferences.

Phase 1--Farm Unit Strategy

The small farmer may be developing his farm resources so he may remain a part-time producer or convert to full-time production. His goals may influence whether he attempts to maximize current cash income or to emphasize equity development in his production resource base. His performance in one case may be judged efficient, while in another case, it may be considered inefficient by the traditional standards of measurement.

The small farmer may treat off-farm job opportunities for himself or his family as another income-producing activity. By ignoring his total decision criteria, we may conclude that his farm-management decisions are unsound.

Information on the small farmer's long-range goals would help us understand and rationalize the small farmer's strategies. This information would provide the base for analyzing production decisions and developing enterprise combinations to choose from.

Hypothesis: The small farmer is pursuing unique goals which motivate and guide his decisionmaking.

Research Procedure: An extensive review of literature for the strategies of small farmers must be conducted. Relevant work has been completed and is in progress at the land-grant colleges and universities. Colorado, Louisiana, and Mississippi were specifically mentioned as being involved in small-farm work.

A small-farmer survey should be executed if information on farmers' long-term goals and strategies is found inadequate for phase 2.

Phase 2--Production Decisions of Small Farmers

The small farmer makes day-to-day decisions as to whether and how to carry out various practices while following his overall strategies. These decisions reflect the financial, labor, and equipment resources he has available. He may place a premium, for example, on time available and, therefore, at first appear overcapitalized. He may be limited by his knowledge about practices. He may grow a second-grade or nonuniform crop compared with large producers because he wished to keep costs down. Knowledge of production decisions, which follow from his long-term strategies, will provide a base for developing enterprise combinations that are rational to the small farmer.

Hypothesis:

1. There is a systematic relationship between production decisions and the goals and objectives of small farmers.

2. Production decision frameworks can be identified for small farmers.

Research Procedure: Some data on small-farmer production decisions will be obtained through a review of literature. However, adequate information about these production decisions will have to be obtained by a survey. Data must be measured in terms of the individual's perspective of his goals and strategies.

Economists and sociologists should be involved in questionnaire development. ESCS cost-of-production studies and State Extension Services materials on production practices and costs will be helpful.

Regional surveys should be taken to cover the anticipated diversity and commodity differences. About 1,000 respondents per region should be adequate. Priority could be given to the South and Southeast, with this region divided into subregions of delta, coastal, and mountain areas.

Phase 3--Enterprise Combinations

Hypothesis: Alternative enterprise combinations for small farms can be developed to help small farmers improve their economic options.

Research Procedure: This should be based largely on the data developed in Phases 1 and 2 about goals and the present enterprise combinations of small farmers, including their off-farm employment.

1. Determine optimum enterprise combinations. These combinations should indicate what operators would do based on the influence of off-farm employment.

2. Examine and explain differences between actual and perceived optimum enterprise combinations.

Market Development for Small Farmers

Problem: Adequate market outlets are important to small farmers or groups of farmers trying to develop their operations. Market access is believed to be a critical need of small farmers nationwide. This can be a problem since uniformity of product between farms may be poor; overall quality may be second rather than top quality; or volume may be low. Small producers should be told more about what is needed to develop markets for their products.

Hypothesis: Markets can be identified and developed that provide reasonable returns for the production of small farmers.

Research Procedure: The research procedure largely remains to be developed. Successful marketing programs for small producers should be examined. These programs include food marketing fairs held in parking lots or at formal farmers' markets, jointly operated roadside stands serving small farmers in an area, and other group or cooperative marketing efforts. Low overhead retail operations should be examined as potential outlets for nutritionally sound but second quality food commodities. The potential lower prices received by small farmers should be compared to their actual production costs, which may also be lower.

Market development research may need to be site specific due to handling facility requirements, transportation, and specific characteristics of each commodity. The work and results may be applicable to only a multicounty area or other limited geographic area, rather than to all small farmers in the country.

Participants:

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Dennis Findley, Survey Division, ESCS
Jim Lewis, Natural Resource Economics Division, ESCS

The work group sought to define institutions--educational, governmental, societal and cultural, marketing, and in general entities, establishments or groups with organization and structure. The discussion produced a list of institutional issues that should be addressed and then assigned priorities.

An underlying problem in this area is that institutions of any nature and at any level are frequently chastised in public as being insensitive, unresponsive, and generally negligent of the small-farm population. Institutions which may actually provide numerous services that could benefit small farms may not be particularly successful because of negative attitudes and low participation rates of the target population.

The research topics suggested, in priority order, were (1) delivery systems, (2) the tax system, (3) market systems, (4) social and cultural systems, and (5) income maintenance programs. The list easily could have been lengthened, but time permitted study of only delivery systems, taxation, and the market system.

Overview of Procedure Used

Instead of developing a research program in each topic area, the group established an example of what a research study in the area might encompass. Two ground rules which the group established for every research activity were:

1. Allocate sufficient time and resources to a thorough review of the inventory and catalog material relating to the subject including: case studies, historical reports, Federal, State, and regional projects, research reports, and existing data.

2. Collect additional data to analyze a problem only as the last resort.

Topics were arranged according to priority. The procedure used was to state briefly a problem, formulate a testable hypothesis, state a few examples of the institutions involved, give some ideas on procedure, identify some techniques which might be used, and then move on to another topic area.

I. Delivery Systems or the mechanisms used by administrators to implement programs.

A. Problem

It is popularly believed that public and private assistance programs are not currently reaching the neediest constituents.

B. Hypotheses

1. Delivery systems designed to aid primarily small farms without adversely affecting larger scale farms can be developed and feasibly implemented.

2. Current delivery systems do not discriminate with respect to farm size.

C. Examples

The examples are cited to illustrate the types of public and private institutions that have assistance programs. The types of assistance and alternate delivery systems could be studied and researched with respect to their effectiveness in reaching designated target groups. Topics which could be addressed include (1) public and private institutions that deliver educational assistance, (2) technical assistance, (3) financial assistance, and (4) regulatory activities.

Public institutions include Science and Education Administration; Farmers Home Administration; Federal Housing Administration; Veterans Administration; Federal land banks; production credit associations; Federal Crop Insurance Corporation; Economics, Statistics, and Cooperatives Service; land-grant colleges and universities; Forest Service; Agricultural Stabilization and Conservation Service; and Soil Conservation Service. Private institutions include farm organizations, nonprofit establishments, cooperatives, and independent foundations.

D. Research Activity

1. Research public agency activities and missions, taking into consideration authorizations and appropriations by Congress.

2. Research the activities of private institutions by analyzing their programs and the types and amounts of assistance rendered.

3. Evaluate the types of programs which small farmers are familiar with and respond to, and identify the institution that sponsors the activity to help identify for policymakers which program sponsors are most effective.

E. Techniques

1. For hypothesis 1, analysis of internal rates of return, benefit/cost analysis on program investment, and operation could be employed. Cash flow of program in terms of repayment rates and distributional impact on target groups by income group could be used.

2. For hypothesis 2, an analysis of variance or regression of factors such as size/type of farm associated with differential distribution of program benefits could be used.

II. Taxation

A. Problem

There is a growing feeling that tax structures affect different segments of the farm sector unequally.

B. Hypothesis

The existing tax structure (Federal, State, and local) has no adverse impact on small farms.

C. Examples

1. Property tax--Do high property taxes and rapidly increasing property values force low- and moderate-income small farmers to sell their land? As a source of local revenue, is the property tax especially inadequate in areas where there is a high concentration of low-income small farmers?

2. Income tax--Do tax shelter provisions necessarily work to the disadvantage of smaller scale producers? Do the investment credit and depreciation write-offs provide uniform and sufficient incentives to farmers in different size classes?

3. Inheritance tax--Would liberalization of the exemption provisions reduce the amount of land available for purchase?

D. Research Activity

1. Inventory and review literature and regulations on the specific tax issue being investigated.

2. Use case study approach on basis of specific local taxes and target populations.

E. Techniques and Approaches

1. Apply income distribution model approach.

2. Analyze characteristics of population by size of property holdings.

3. Evaluate per-family payment/burden relative to family income and size.

4. Analyze impacts on production costs.

5. Set up models using maximum after-tax income as objective function or minimum tax as an objective, as opposed to the standard approach of maximum profit by producers.

6. Analyze simulation and linear programming impact.

III. Market Systems

A. Problem

The type of market system that has prevailed in agriculture has precluded opportunities for the small operator to enter and expand in farming.

B. Hypothesis

The market structure and changes in that structure have no adverse impacts on small farms.

C. Examples of market systems

1. Vertically integrated markets.

2. Current cooperative arrangements.

3. Opportunities for cooperative organization.

4. Community direct markets.

5. Futures contracting.

D. Research activity

1. Investigate the involvement of small farms in different types of marketing organizations.

2. Evaluate the impacts of market structure on small farms.

3. Evaluate the potential benefits and feasibility of alternative organizations.

E. Techniques

1. Inventory case studies and existing data.

2. Analyze benefit/cost for individual or groups of farms.

3. Use linear programming or input-output analysis that explicitly includes nonfarm as well as farm sectors of the rural economy.

4. Analyze demand under different marketing alternatives.

5. Analyze concentration ratios, profit levels, and innovation.

POLICY

Participants:

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Public policies may have different effects on the economic circumstances of farms of different sizes. In the shortrun, such policies affect day-to-day decisionmaking and the annual income situation of small- and large-farm families. In the longrun, public policy may shape the future structure of agriculture by creating an environment that is more conducive to its development. It is important to assess accurately the current condition and prospects of these farms and to examine the short-run and long-run consequences of alternative policies designed for small farms because Congress and public and special interest groups have expressed a desire to secure a place for smaller farms in the agricultural industry.

The policy work group identified two broad research areas. They are analysis of the effects of public policy and other forces on the number and economic situations of small farms and other farms, and analysis of the effects of alternative size structure and size-structure policies on economic and social goals of society. Two major research proposals were developed from these areas.

Research Objectives--Hypotheses and Assumptions

I. Determine the direct effects of public policies on farms of various sizes and types.

   A. Basic hypothesis: The overall effect of public policies on farms of various sizes is to reduce the number and relative importance of small farms.

   B. Major assumption: Small farms are diverse. The unique characteristics and goals of various subgroups of small farms need to be identified and used in analyzing public policy.

II. Determine long-run consequences and evaluate costs and benefits of specific programs designed to increase the well-being and viability of small farms. The major assumption should concern the long-run and indirect consequences of such policies and decisions about the feasibility and desirability of adopting particular small-farm oriented policies.

Objective I: Determine the Direct Effects of Public Policy on Farms of Various Sizes and Types

It is generally believed that public policies can have important effects on the size and structure of agriculture and on the number of small farms and their economic situation. For example, there may be economies of size involved in complying with various programs, using certain technologies, and working with various institutions. There may be other unique characteristics, which bring out the differential effects of various programs and policies according to size of the farm. These may be due to differences in family goals, financial situation, availability of employment alternatives, or fixed assets. However, a great diversity exists even within the small-farm population. Consequently, specific homogeneous groups of small farms must be identified and studied before appropriate policy initiatives can be adopted and implemented. Thus, the purposes of this research are to:

1. Identify homogeneous groups of farms, and public policies that may have important effects on their number, size, and economic situations.

2. Develop microdata files and budgets showing important characteristics for these homogeneous groups of farms.1/

3. Analyze quantitatively the effect of public policies on the economic situation of farms of various sizes in each group.

Some basic questions related to this research objective are:

1. Which policies and program implementation procedures are biased either for or against small farms?

2. How can we classify farmers for analysis?

3. What are the effects of policies on small and large farms?

1/Charles A. Sisson, "The Synthetic Micro Data File: A New Tool for Economists," unpublished report, U.S. Dept. Agr., Econ. Stat. and Coop. Serv. Synthetic micro files are formed by "matching" or merging information from two or more different data files in a synthetic manner--as best one can do with the available data without actually collecting all information from each respondent.

Procedure

1. Farm types, problems, and policies--small farms are viewed as belonging in one or more of the following categories:

   *Farms with poverty-level family incomes.
   *Part-time farms.
   *Farms owned for investment or capital gains reasons.
   *Farms operated by beginning farmers.
   *Hobby farms and rural residences.
   *Places operated by elderly and retired persons.
   *Nonresident operator farms.

   These groups suggest some characteristics, general problems, and goals that may be useful to consider in analyzing policy effects and small-farmer responses. An initial review of policies and programs will be made to determine which are, or could be, most important to the various types of small farms. This phase will include a review of literature, policy history, and program details. Specifically, the review will include a number of policies and programs related to:

   *Financial and credit institutions.
   *Market services and market development.
   *Extension activities.
   *Government-supported agricultural research.
   *Taxation.
   *Commodity prices and supply.
   *Family incomes.
   *Rural development.
   *Regulations (environmental, safety, marketing, etc.).
   *Land use and resource development.
   *Public welfare.

   The unique problems, goals, and economic situations of small farms will be considered in evaluating qualitatively and quantitatively the possible effects that various public policies may have on these farms and their size/structure. Results from this step will be used to identify particularly important small-farm types and policies for more intensive study (step 2, below).

2. Development of microdata file--Using results from step 1, microdata files and budgets based on sample surveys and other sources will be developed for particular farm types to allow quantitative analysis of the important problems, programs, and policies identified in the first step. Data sources could include the census of agriculture, census of population, Agricultural Stabilization and Conservation Service, ESCS (Statistics Division), special surveys, and others.

3. Simulated policy effects on budgets--The microdata files and budgets will be used to analyze the economic problems and direct, static effects of specific public policies on farms of various sizes. The direction, magnitude, and relative effects by size of farm will be summarized for each type of farm studied.

Objective II: Determine Long-Run Consequences and Evaluate Costs and Benefits of Programs Designed to Increase the Well-Being and Viability of Small Farms

Policies designed to establish a viable role for small farms and to increase their well-being may have significant indirect and long-run effects as well as direct, short-run effects. Market forces and long-run economic trends in the general economy also affect the future number and economic situations of small farms; these need to be considered in choosing a set of public policy proposals to achieve specific long-run goals. Programs designed to increase small-farm viability and welfare may not have their full impact until many years after they are established. This is because of the time required to make major changes in the availability or use by farmers of new technology and/or economic incentives. Policies designed now to make small farms viable in the future may fail if future general economic trends and farm operator responses to policies are not considered. For example, future increases in the relative cost of labor and capital may continue to increase the size of farm that is necessary for a family to earn an adequate level of living. Current subsidies and public research plans should include their ultimate effect on the economic situation of small farmers. How will the future of economic environment, which itself may utimately be affected by short-run impacts, affect current program decisions? Finally, programs and policies adopted to achieve objectives related to small farms also have implications for other populations and other sectors of the economy.

It is necessary to assess the likely success of programs, the timing, extent, and nature of public intervention, and the timing of benefits associated with the adoption of proposed long-run public policy objectives for small farms. One purpose of this research is to make such an assessment. This will be based on projections of the future size/structure of the farm sector using alternative program assumptions related to small-farm policy objectives. Another purpose of this research is to assess the cost of operating alternative Government programs at the levels needed to achieve policy objectives. This will help in choosing among alternative programs and implementation procedures. This research can also help in assessing other direct and indirect effects of small-farm programs and estimating benefits or changes in relevant economic performance indicators for the general economy.

Some questions related to this research area include:

1. Will programs initially designed to enhance the economic status of small-farm families ultimately contribute to their demise?

2. Will small farmers retain the benefits of the programs in the longrun, and will large farms share in these benefits?

3. Will policies designed to help existing small farmers make it harder for new entrants to get started in the future?

4. What are the tradeoffs between alternative goals of society that might be related to achievement of small-farm policy objectives? For example, is a cheap food and improved diet policy in conflict with a small-farm policy?

Procedure

1. Macroeconomic models of structure and resource adjustment in the farm sector will be used to make time series projections. These will be made using alternative assumptions about general economic development and the level of public program operations related to small-farm program objectives. Existing models will be used to the extent possible and new models developed as needed. These

models will allow the future number, size, and well-being of farms to be affected by changes in the demand for farm products and various supply factors including resource mobility, technological change, and relative factor prices.

2. Sensitivity analysis will be done using the models to estimate the extent and nature of Government intervention necessary to achieve predetermined goals for farm structure and to determine the particular importance of this intervention on the economic well-being of small farms. In this way, merits and likelihood of success of using alternative policy implementation procedures will be determined.

3. The nature and extent of Government involvement in achieving the small-farm objectives from step 2 will be detailed and studied to determine Government cost under the various alternatives.

4. Results from the above macroeconomic projections will be used and additional analysis and model development completed. These will assess the impact on other economic performance indicators of achieving small-farm objectives using alternative implementation procedures. Other economic performance indicators include the number and economic situations of moderate-sized and large farms; economic situations of rural and urban people, cost of food, and quantity of exports; quality of the environment; use of scarce natural resources, energy, and other strategic materials; and economic opportunity, economic growth, and the distribution of income and wealth.

5. Cost and benefit analysis will be performed. Arbitrary weights will be assumed to reflect societal values associated with various economic indicators (food prices, number of small farms, and others). The level of national welfare will then be assessed using alternative programs and alternative weights. Sensitivity analysis will be done to assess the net changes in welfare associated with small-farm program adjustments.

Annotated Bibliography of Materials on Small Farms

Selected list of sources researched in looking for definitions of small farms. The list also includes references on family farms, part-time farms, and multiple-income farm families.

1. Bailey, Warren R.,
   The One-Man Farm. ERS 519. U.S. Dept. Agr., Econ. Res. Serv., Aug. 1973, p. 2.

   Measures of size - "the man and his complement of tractor and machines"; (200 - 1960 acres) cow herd size for cattle ranching (300 head); cow herd size for dairy; number of pig litters (not number of sows) for hog farming; band size for range sheep (1,200 head).

2. Brewster, David.
   "Some Historical Notes on the Farm Definition." Agr. Econ. Res., vol. 29, no. 1, U.S. Dept. Agr., Econ. Res. Serv., Jan. 1977, p. 29.

   Farm excluded from official definition of a farm in the Census of Agriculture.

Census year	Definition of farm
1850-60	$100 worth of agricultural products produced for home use or sale.
1870-90	Less than 3 acres and $500 value of products sold or any agricultural operation with 3 acres or more.
1900	Operation had the continuous service of at least one person.
1910-20	Any agricultural operation with 3 or more acres or less than 3 acres with $250 worth of agricultural products for home use or sale and constant service of one person.
1925-40	Any agricultural operation with 3 or more acres or less than 3 acres having $250 worth of agricultural products for home use or sale.
1945	Agricultural operation with 3 or more acres of cropland or pastureland or $150 worth of products for home use or sale. With less than 3 acres, $250 worth of agricultural products produced for home use or sale.
1950-54	With 3 acres or more, $150 value of agricultural products produced for home use or sale; less than 3 acres, $150 worth of agricultural products sold.
1959-69	With 10 acres or more, $50 worth of agricultural products sold, and under 10 acres, $250 value of sales.
1974	$1,000 or more of agricultural products sold.

3. Bullock, Bruce, and Allen M. Beals.
   Economies of Size and Diseconomies of Specialization in North Carolina Pork Production. Econ. Infor. Rpt. 44. Raleigh, N.C., N.C. State Univ., Dept. of Econ. and Business, Nov. 1975.

Sizes of pork production units (farrow-to-finish); specialized feeder pig; and specialized topping out compared for economies of scale. Smallest scale tested was 50-pig capacity.

4. Crosswhite, William M.
   Part-Time Farming and the Preservation of Open Space in the Penjerdel Region. Univ. of Del., Dept. of Agr. Econ., Agr. Expt. Sta., Univ. of Del., p. 10.

   Size of part-time farms in Penjerdel Region - Median for sample of 146 - 76 acres; Average for sample - 96 acres.

   Definition of part-time in this study - "1) the farm operator was employed off the farm 60 or more working days, 2) a farm operation was conducted and gross farm sales were in excess of $250, and 3) farm income did not exceed 75 percent of total family income. Only owner-operated part-time farms were included in the sample."

5. Cunningham, L. C.
   Commercial Dairy Farming North Country Region New York. Agr. Expt. Sta. Bul. 942. Ithaca, N.Y., Cornell Univ., June 1959, p. 5.

   Part-time farm - "one with less than 100 days of productive work on the farm or whose operator receives more than 25 percent of his gross income from off-farm sources."

6. Finley, Robert M., and Robert E. J. Retzlaff.
   "Economies of Size in Midwest Hog Operations." Jour. of the Amer. Soc. of Farm Managers and Rural Appraisers, Inc., vol. 38, no. 2 (Oct. 1974), 9.

   Complete confinement system swine production - lowest size tested (capacity 1) was "smallest number of hogs that would likely be produced" - eight sows farrowed twice. Intensities were also considered, with up to three sets of sows farrowed twice with same capacity level.

7. Heady, Earl O., and Steven T. Sonka.
   Farm-Size Structure and Off-Farm Income and Employment Generation in the North Central Region. North Central Center for Rural Development, 107 Curtiss Hall, Iowa State Univ., Ames, Iowa, Feb. 1975, p. 8.

   Commercial farms with gross farm sales of no more than $10,000.

8. Hill, Howard L., and Frank H. Maier.
   "The Family Farm in Transition." U.S. Dept. of Agr. Yearbook (A Place to Live), 1963, pp. 167-174.

   "The family farm is defined not in terms of acreage or sales, but in terms of independent entrepreneurship."

   "Family farms were recognized as business in which operating families are risk-taking managers who do most of the work."

9. Larson, Donald K.
   "Economic Class of Farm as a Measure of Farmers' Welfare." Amer. Jour. Agr. Econ., vol. 57, no. 4 (Nov. 1975), 658-664.

   Marketings less than $5,000 (high off-farm average-need to explore distribution of off-farm earnings within each economic class).

10. LeRay, Nelson L.
Full-Time and Part-Time Farmers in a Low-Income Area. Agr. Expt. Sta. Bul. 67-3. Ithaca, N.Y., Cornell Univ., Dept. of Rural Soc., N.Y. State Col. of Agr., a Statutory College of the State University, Cornell Univ., U.S. Dept. Agr., Econ. Dev. Div., Econ. Res. Serv., Dec. 1967, p. 26.

Commercial part-time farmer - "an operator of a farm with value of agricultural products sold amounting to $2,500 or more per year and who works off the farm 100 or more days per year."

Off-farm work part-time farmer - "an operator of a farm with a value of agricultural products sold of less than $2,500 per year and whose major source of income is off-farm work."

Subsistence part-time farmer - "an operator of a farm with a value of agricultural products sold of less than $2,500 per year and whose net farm income exceeds the income from off-farm work or nonwork sources."

Nonwork income part-time farmer - "an operator of a farm with a value of agricultural products sold of less than $2,500 per year and whose major source of income is from nonwork sources."

11. _____, and George E. Frick.
Northern New Hampshire Nonindustrial Resident Forest Landowners. Ext. Publ. 8. Univ. of N.H., Coop. Ext. Serv., in cooperation with U.S. Dept. Agr., Econ. Res. Serv., Econ. Dev. Div. and Farm Prod. Econ. Div., Jan. 1972, p. 11.

Small dairy farms - "milking fewer than 25 cows."

12. Lewis, James A.
White and Minority Small Farm Operators in the South. AER 353. U.S. Dept. Agr., Econ. Res. Serv., Dec. 1976, p. i.

Farmers with "less than $2,500 in annual farm product sales."

13. Linton, F. E., and H. E. Conklin.
Economic Viability of Farm Areas in Onondaga County. Cornell Econ. Land Class. Leaflet 13. An Extension Publication of the N.Y. State Col. of Agr. and Life Sci., A Statutory Col. of the State Univ., Cornell Univ., Ithaca, N.Y., p. 2.

Classifications for farms "near enough to the economic margin to have a somewhat uncertain future" and "farms judged to be obsolete for full-time use under modern farm conditions."

Based on "informed judgement" - "information on soils, climate, topography, locational factors, farm buildings, and farm businesses . . . . trends in farming, farming methods, and markets for farm products . . . . alternative opportunities available for the land, labor, and capital now in farming."

14. Marshall, Ray.
Rural Workers in Rural Labor Markets. Olympus Publishing Co., Salt Lake City, Utah, 1974, pp. 42, 44.

"Technological changes that have greatly increased the minimum optimal acreage and capital requirements for even one- or two-man farms to sizes which are beyond the reach of most small farmers."

"Size may be measured in terms of acreage, labor used, gross income, net income, or value added."

15. _____, and Allen Thompson.
Status and Prospects of Small Farmers in the South, Atlanta Southern Regional Council, Inc., 1977.

"Families or unrelated individuals whose incomes are not more than 100% greater than the official poverty threshold and who receive at least 1/3 of their income from farming," p. 23.

16. Madden, Patrick J.
Economies of Size in Farming: Theory, Analytical Procedures, and a Review of Selected Studies. AER 107. U.S. Dept. Agr., Econ. Res. Serv., Feb. 1967.

Economies of size were examined for specific enterprises such as cling peach production in California; southern Iowa cash grain and crop-livestock farms; potato farms in Red River Valley, North Dakota; Minnesota and Iowa dairy farms; irrigated cotton farms in Texas and California; field and vegetable crops in California; wheat farms in Columbia Basin, Oregon; and beef feedlots in California and Colorado. The information on economies of size was not specifically related to delineating small-farm operators.

17. McClatchy, D., and C. Campbell.
"An Approach to Identifying and Locating the Low-Income Farmer." Canadian Farm Econ., vol. 10, no. 2 (Apr. 1975), 1-11.

Define target population of poor farm families by estimating "total farm family income" as the sum of "rental value of house," "other income in kind (mainly food)," "net farm cash income after expenses and depreciation," "real capital gains on land," "off-farm income (family)."

18. Mellor, John W., and Lichiro Takahasi.
Part-Time Farming in St. Lawrence County, New York. A.E. Res. 4. Ithaca, N.Y., Cornell Univ., Agr. Expt. Sta., Sept. 1958.

Part-time farm - "either the operator or members of his family living in the same household had one month or more of off-farm employment."

19. Moore, H. R., and W. A. Wayt.
The Part-Time Route to Full-Time Farming. Ohio Agr. Expt. Sta. Res. Bul. 793. Wooster, Ohio, Sept. 1975.

Part-time farmer - "a farm operator who personally spent 100 days or more in non-farm employment during the year preceding the interview; and further provided that the functions of labor and management by the operator were not replaced by someone working for him under a wage or rental contract."

20. Nikolitch, Radoje.
Family-Size Farms in U.S. Agriculture. ERS 499. U.S. Dept. Agr., Econ. Res. Serv., Feb. 1972, p. 1, 3.

Family farms - "a primary agricultural business in which the operator is a risk-taking manager, who with his family does most of the farmwork and performs most of the managerial activities." [99.8 percent of numbers, 99.7 percent farm product sales in 1964 for farms with less than $5,000 product sales.]

21. Orshansky, Mollie
The Poor in 1965 and Trends, 1959-65. U.S. Dept. Health, Educ., and Welfare, Res. and Stat., Note, Feb. 16, 1967.

Poverty level for farm families equaled 70 percent of the level for nonfarm families.

22. Reinsel, Edward I.
Farm and Off-Farm Income Reported on Federal Tax Returns. Econ. Rpt. 383. U.S. Dept. Agr., Econ. Res. Serv., Aug. 1968.

Krause, K. R., and L. R. Kyle.
Midwestern Corn Farms: Economic Status and the Potential for Large and Family-Sized Units. Agr. Econ. Rpt. 216. U.S. Dept. Agr., Econ. Res. Serv., Nov. 1971, pp. 37-38.

Krause and Kyle used Reinsel's classification in the following accounting:

Taxpayers with some farm income - "poor" group (22 percent) averaged $5,460 farm receipts. "Low-income and minimum-growth units (a division [60%] of all taxpayers reporting some farm income in Corn Belt States) average 80 to 500 acres, usually operators over 45 years."

23. Scoville, Orlin J.
"Measuring the Family Farm." Jour. Farm Econ., vol. 29, no. 2, 1947, pp. 506-519.

"A family farm is one on which the farm operator makes most of the managerial decisions, participates regularly in farm work, and on which his role as employer of labor is minor relative to his other functions."

"A family size farm is one which, operated by a family of average size, and managerial ability, will permit reasonably efficient use of labor-saving equipment and of the family labor force over the life cycle of the family."

24. Small Business Administration - small farm - gross annual receipts less than $775,000. Proposal in the Federal Register (will probably be accepted) is gross annual receipts less than $1,000,000.

25. Stewart, Fred J., Harry H. Hall, and Eldon D. Smith.
The Potential for Increasing Net Incomes on Limited-Resource Farms in Eastern Kentucky. Res. Rpt. 24. Lexington, Ky., Univ. of Ky., Col. of Agr., Dept. Agr. Econ., Agr. Expt. Sta., May 1976, pp. 1, 4.

"Full-time Appalachian farm operators who had gross sales less than $5000 in 1969." Studied possibilities for more efficient use of given resources - improve farm income. Under 65 years.

26. Strickland, Cecil L., and Mostafa A. Soliman.
Nonprofessional Aides in Agriculture: An Evaluation of a Program in Cooperative Extension Education for Small-Farm Families. Prairie View, Tex., A&M Univ., Jan. 1976.

Farm sales less than $7,000. Receiving a "major portion of their income from farm operations." p. 4.

27. The People Left Behind. A Report by the President's National Advisory Commission on Rural Poverty, Washington, D.C., Sept. 1967, p. 8.

Poverty level for farm families equaled 83 percent of the level for nonfarm families.

28. Tweeten, Luther, and Dean Schreiner.
"Economic Impact of Public Policy and Technology on Marginal Farms and on the Nonfarm Rural Population." Benefits and Burdens of Rural Development: Some Public Policy Viewpoints. Ames, Iowa, Iowa State Univ. Press, 1970, p. 53.

"Farm sales of $10,000 appear to be a useful breaking point between marginal and commercial farms."

29. Thompson, James F.
"Defining Typical Resource Situations." Farm Size and Output Research: A Study in Methods. South. Coop. Series Bul. 56. June 1958, p. 36.

"With all its shortcomings in mind, I suggest that within each of these subregions [homogeneous areas within a region, 'on the basis of soil type, topography and markets and without regard to state borders'], acre size of farm is for this purpose the best single indicator of scale of operations."

30. U.S. Comptroller General.
Some Problems Impeding Economic Improvement of Small-Farm Operations: What the Department of Agriculture Could Do. Report to Congress, RFD-76-2, Aug. 15, 1975, p. 4.

Gross annual sales less than $20,000, under 65 years of age, works off the farm for wages less than 100 days a year.

31. U.S. Department of Agriculture, Economic Research Service.
Analysis of Multiple Income and Small Farm Subsector. Documentation and Review of Material for the Research Project, Jan. 1976, p. 13.

Gross sales of agricultural product at least $1,000 but no more than $20,000 in a normal year, and "no other significant income sources."

32. _____
"Trends in Kinds and Sizes of Farms." Land, the Yearbook of Agriculture: 1958. Washington, D.C., Kenneth L. Bachman and Jackson V. McElveen, p. 303-304.

"Among certain types of farms, however, acreage is becoming a minor factor in determining the size of operation. A large poultry farm, for instance, may have few acres, and relatively small acreage of irrigated land may produce much more than a large acreage of dry rangeland. The volume of farm products sold probably is the best indicator of the change in size."

"Small-scale farms would be those that would have a volume of sales of less than $2,500 [with today's techniques and prices - 1958] . . . those having a volume of business too small to employ a full-time worker who uses average farming practices."

33. _____
Rural and Farm Family Rehabilitation Project: An Expansion in Program Strategy to Assist Rural Families Faced With Limiting Conditions, An Evaluation of a Team Project in Vermont. Program and Staff Dev., Ext. Serv., in cooperation with Univ. of Vermont, Ext. Serv., and U.S. Dept. Agr., Econ. Res. Serv., Econ. Dev. Div., PSD (2) - 33(6-72).

Criteria for acceptance in Vermont Rural and Farm Family Rehabilitation Project, initiated 1968 - "1) Net annual family income did not exceed $2,000, and 2) a family member had an identifiable disability which limited his or her vocational abilities or potential."

34. _____
Extension's Responsibility to Farmers and Ranchers with Gross Farm Income Less than $10,000. Report of Project III Committee to the Extension Committee on Organization and Policy, May 4, 1967, p. 23.

Gross sales less than $10,000. Subdivided into seven categories:

Full-time operators in productive years but lack resources.	15%
Full-time operators in productive years but lack motivation.	10%
Full-time operators nearing retirement (55 years and over).	21%
Full-time operators mentally or physically handicapped.	8%
Share operators.	20%
Part-time operators.	30%
Part-retired operators.	16%

35. U.S. Department of Commerce.
1950 Census of Agriculture. 1952, p. xix.

Part-time farm - sale of farm products $250 to $1,199, "provided the farm operator reported 1) 100 or more days of work off the farm . . . or 2) the nonfarm income received by him or members of his family was greater than the value of farm products sold."

36. _____
1959 Census of Agriculture. 1962, p. 1192.

Part-time farm - value of sales of farm products of $50 to $2,499 "if 1) the operator was under 65 years of age and 2) he either worked off the farm 100 or more days during the 1959 year or the income he and members of his household received from off-the-farm-operated sources was greater than the total value of farm products sold."

37. U.S. House of Representatives.
H.R. 11733, a bill to amend the Rural Development Act of 1972, 94th Congress, 2nd Session.

All those with less than $20,000 farm sales and less than $5,000 off-farm income.

38. Wardle, Christopher, and Richard N. Boisvert.
Farm and Non-Farm Alternatives for Limited Resource Dairy Farmers in Central New York. A.E. Res. 74-6. Ithaca, N.Y., Cornell Univ., N.Y. State Col. of Agr. and Life Sci., Dept. Agr. Econ., Agr. Expt. Sta., July 1974, p. 11.

All dairy farms with fewer than 39 milk cows (better correlation with income than cropland).

39. Wiggins, Edward R., and Duane Dailey.
Missouri Small Farm Program. 1974 Rpt. MP445, p. 5.

Farm sales less than $10,000 or combined net farm income and off-farm gross income less than $7,500.

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