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## SMALL FARM RESEARCH AND POLICY IMPLICATIONS

Tesfa G. Ghebremedhin and William M. Johnson

The shifting structure of production agriculture has been characterized by an increase in average farm size and a decline in the number of farms over the years (Heady and Sonka). Thousands of relatively small, independently owned and operated farms are unable to keep pace with the sweeping scientific, technological, and social changes occurring in agriculture. Thus, the trend in production agriculture will cause a great deal of uncertainty about the future survival of small farms as viable economic units and as a "way of life" for many farm residents. These changes have important employment, resource use, enterprise combination, and population distribution implications for the rural economy.

The majority of farm families live on small farms and constitute the majority of agricultural enterprises in almost all states (U.S. Dept. of Commerce, Bureau of the Census). Accordingly, the survival of small farms implies a greater number of farm families, more viable communities, potential contribution of farm income, and substantial demand for public and private goods and services. Emphasis on low income families is appropriate for public policy purposes because public policy concerns itself with people who are not likely to benefit from market or non-governmental forces (Marshall). Current energy problems, the increasing world population, and world food shortages, have also focused special attention on the need for and needs of small farms.

The first section of this paper addresses the controversy of small farm definitions. The second section examines the major factors affecting the survival of small farms. The third section reviews the national pattern of small farm research. The fourth section indicates

the policy implications of the small farm situation. The fifth section attempts to assess small farm research needs.

### SMALL FARM DEFINITION

It is evident that the definition of a small farm generally has not been precise either for the agricultural research community or for the general public. The definitions of small farms are, of course, arbitrary, numerous, and vary by type of farm, geographic location, and even by the individual observer. Small farms have been defined by various criteria, including acres of land operated, units of livestock managed, value of farm output sold, total assets controlled, level of resources used, level of farm income to level of total family income, days worked off-farm, man-years of labor, and types of enterprises (Lewis). Many researchers of small farm characteristics combine two or more of these classifications in an attempt to arrive at a more conclusive definition. Other researchers do not even attempt to define specifically what they mean by small farms.

A desirable small farm definition should have an underlying conceptual basis. Frequently used definitions of the small farm appear to be derived from two basic concepts. The first concept of a small farm is defined on the basis of a relatively low volume of business. The most notable definition of this type is a farm having over \$1,000 but less than \$20,000 in annual gross farm product sales. The gross farm product sales criterion is chosen in the belief that it is the best single measure available; however, such a definition has serious shortcomings. The definition can easily be misleading because

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of variations in input requirements among farms and the extent to which inputs are produced on the farm or purchased (West). Also, such a measure admittedly is influenced by inflation which affects different types of farms unequally. Rigid adherence to a dollar guideline could mean that due to volatile agricultural product prices, a farm would be considered small one year and large the next year. Inflation shifts some farms with constant real sales volume from one pecuniary sales class to another. Much of the shift to larger farms will be due to the expected rise in the index of prices received by farmers rather than a rise in the real output per farm (Tweeten et al., 1980). Farm product sales give little insight into the distribution of total income among farms by size distribution of personal income and conceal important information about the number and characteristics of farm households.

The second concept in some small farm definitions is that of a farm operator or a farm family having a low level of economic well-being. The current small farm definition used by the USDA is an example that reflects this concept (Brewster). Agencies of the USDA, in recent years, have tended away from a small farm definition based on farm product sales. A three-part definition is now frequently used. It describes small farms as operations in which: (1) the family provides most of the labor and management, (2) total family income from farm and non-farm sources is below the median nonmetropolitan family income in the state, and (3) farming provides a significant portion, though not necessarily a majority, of the family income. However, the USDA small farm definition has shortcomings in terms of measuring the contribution of farm income to the household budget. It neglects the farmers' attitude toward farming and equity capital as the most important factors in small farm operation. The definition also fails to consider the impact of family size on the economic well-being of the farm household.

In order to understand the characteristics of small farms and to identify relevant public policies, it is essential to decide whether the concern is about production of food and fiber or about the well-being of families living on farms and the communities in which they live. As an alternative to the USDA small farm definition, a small farm can be defined as a farming operation or enterprise for which: (1) the farm operator and his family house-

hold provides almost all the labor, equity capital, and management; (2) per capita household income from farm and nonfarm income is below the average per capita non-metropolitan household income in the state; (3) farming provides at least 50 percent of the total household income; and (4) the farm operator has a positive economic attitude and motivation for farming. This definition takes into account family size, family labor, equity capital, farming attitude, and income received by the household from farm and non-farm sources. An important goal of small farm policy based on this definition would be to improve the well-being of farm families by raising the household income from both farm and non-farm sources. The combination of farm and non-farm income should allow many to remain in farming who would otherwise be forced to leave.

Changes in the structure of production agriculture, regardless of definition, have been of interest because society places value on maintaining a family farm heritage. In assessing the farm sector, it appears that large farmers are probably more similar than small farmers, since they usually rely on the farm to provide family income and are expected to devote most of their time and energy to farm work and management (Hinson). However, farmers with a low level of farm product sales or income, or with limited resources are a diverse group. Some farmers may have enough resources and growth potential to generate an acceptable level of family income. Other farmers with fewer resource limitations may lack the basic economic incentives and motivation for farming or may be preparing for retirement. Others are part-time farmers characterized by operator households whose income is derived mostly from labor or resources devoted to the non-farm sector. Some may be resource-short farms which do not produce adequate farm income due to resource shortages. Some of these farmers may have low farm product sales because they have just started farming with small operations, but may expand as they gain experience. Other farmers having adequate resources may also be growth and goal-limited due to lack of education and skills resulting in few opportunities for additional farm and non-farm earnings. Others may be aged and retired, or may have some physical disability or may even depend heavily on social welfare, social security and/or veteran payments, and live under poverty conditions

in the rural communities. In many cases, these are the people federal and state workers and researchers find most difficult to serve.

Additional situations exist that make small farm definitions more complicated and ambiguous. This diversity in characteristics suggests that small farms are many and varied, and that a more heterogeneous group may exist which depends on the structure and characteristics of the small farm operations. In view of this fact, there is no single rule or criterion that must be used to define the characteristics of small farms. In many cases, it depends on the individual's perception about the agricultural sector and understanding of the characteristics of the rural communities. However, the workable definition for a small farm used in any instance by an individual or institution should have desirable attributes from a statistical perspective in terms of its clarity and measurement capacity, feasibility for data collection and collation, and capability of being implemented using conventional statistical procedures (Carlin and Crecink).

## **FACTORS INFLUENCING THE SURVIVAL OF SMALL FARMS**

The trend toward greater concentration and larger farms is the result of the interaction and changes in several causal factors. Among the principal forces that shape the compositional structure of production agriculture is technology. The technological revolution in agriculture has led to increasingly larger farms over the years. The specialization and increased uniformity of farming resulting from adoption of the techniques of regional monocultural production have increased the vulnerability and reduced the adaptability of small farm operations. The larger farms adopt new technology and better cultural practices. Small farms which control limited quantities of land, capital, and skilled labor often do not, and in some instances cannot, adopt the new technologies. Small farms utilize mostly family labor and do not fully utilize their limited resources nor do they take advantage of improved technology, new managerial practices, intensive cultivation, and the use of more profitable enterprise combinations. Even when they do adopt a new technology, they are often among the late adopters. Factors inhibiting adoption of technology on small farms include lack of knowledge, lim-

ited resources, fear of risk, limited managerial ability, as well as inability to justify economically the adoption of certain types of technology on small units (West). Thus, in this competitive market economy, low productivity and low income earnings often lead small farm operators to a longrun situation of disinvestment and eventual relocation in other economic sectors.

The capital investment possibility has become a question of survival for many small farms. Most small farms traditionally have financed the major share of capital requirements for farming operations from internal savings (equity capital) while others minimize credit requirements by reducing input use and selecting low cash cost enterprises. Despite the fact that there is a low borrowing rate observed among small farms, they overwhelmingly characterize and perceive credit financing as an essential function in the farm business. Yet, interest among many small farm operators to borrow for such purposes is found to be lacking as they wish to remain debt-free because of risk considerations (Huffman and Donald). Family subsistence and risk avoidance are necessarily first priority considerations for survival. Even though no shortage of loans funds in the farm sector is evident, marginal farm operators still continue to have problems getting farm credit from conventional lending institutions. The small farm operators are usually disqualified from farm credit loans because of their disadvantaged economic condition. The lending institutions impose rigid rules on credit lending in order to fully protect the loan capital, thus limiting the access of small farm operators to the capital market (Ghebremedhin et al.).

Small farms are confronted with many problems since they produce in an industry geared toward serving large scale production units. One of the problems facing small farms has been in increasing input prices. Large farmers typically can buy inputs at lower prices than the small farm operators. Their advantage may be due to simple market power from their size in relation to the supplier's market, or to actual lower cost for the supplier in moving a volume to an individual producer. Changes in input prices are the result of change in basic supply and demand conditions for inputs as well as changes in competitive conditions in the input market. As input prices vary among firms or change over time, the relative competitive positions

of farm firms are affected. Many small farms have turned to production activities that do not require significant levels of capital and rely heavily on labor resources (West).

General developments in marketing services which include developments in transportation, storage, the advent of mass retailing patterns, the accompanying volume and standardization requirements, integration of segments in the production and marketing system, and public regulation of marketing activities have also created serious problems to small farm operations. These developments and changes in the marketing structure have significant impacts upon the survival of small farm operations. Changes in the market structure influence the structure of the assembly and processing system, and thus influence access to markets for both inputs and outputs. Small farms are seldom in a position to benefit directly from higher product prices and expanding markets. The advent of mass-retailing, product standardization and volume specialization were often such that small farmers could not penetrate and compete. Marketing firms increasingly turned to larger farms or developed an integrated system which bypassed the small farms. Small farms, with their relatively low volumes and bargaining power, have found it difficult to gain access to this centralized system on an individual basis. Therefore, they have been forced to seek other means to gain access to this system, such as producing different commodities than those to which the marketing system in the region is geared, pooling their production to gain the advantage of a high volume, or to use other market outlets for their products. Direct marketing outlets, roadside markets, farmers markets, and pick-your-own operations have increased market access for small farms (West).

The most critical problem confronting small farm operators today is maintaining a sufficient level of income. In the past, the farm business was the main source of family income. Any income from off-farm sources was considered to be of minor importance to the well-being of the farm family. Despite the fact that family income has improved to a large extent, lack of adequate income from farming continues to be a major problem on many farms because family requirements have increased even more rapidly. Because of this inadequacy, small farmers are becoming increasingly dependent on off-farm employment as a means of survival. The average farm

family in the United States today depends on off-farm income for 67 percent of its household budget (USDA, 1984). Off-farm employment has become a critical component of farm family income and now represents an important alternative source of income to small farm operators because a growing proportion of the total family income of farm households is derived from non-farm sources (Sharples and Prindle). In many cases, the availability of off-farm employment is essential to the continuation of small farm operations. Most small farm operators seek a job away from their farms for at least a short time in order to earn supplementary family income. Some small farm operators combine farm work with off-farm employment by holding full-time or part-time off-farm jobs and continue operating their farms at night and on weekends and living in the community of their choice (Lin et al.). However, the off-farm jobs they hold in rural areas and small towns are in the secondary labor market and pay low wages commensurate with their basic educational background and practical experience (Carlin and Ghilfi).

Government policies have also had a significant impact upon the survival of small farms. National agricultural programs are not necessarily applicable to all small farms. Government programs have often benefited to a much greater extent those farms that were in the strongest position from the standpoint of assets or volume of production. Price and income policies have affected farms in proportion to their size and volume of production. Larger farmers accrue more benefits from various government programs and policies since they have more acres and more output to sell than small farmers (West). Many small farmers benefit very little from commodity programs because income from farm sources is only a small part of their total income. For many families on small farms who are poor and aged or disabled, social welfare programs are more important than income from farming or commodity programs.

#### **NATIONAL PATTERN OF SMALL FARM RESEARCH**

A 1977 survey of land-grant universities indicated that 30 or more states had one or more research projects that specifically addressed small farm issues (West). An examination of the 1978 Current Research

Information System (CRIS) indicates a total of 67 projects that are directly oriented toward small farms. Another 22 projects were of marginal applicability in the sense that some aspects of the projects had direct application to small farms or the entire research effort was deemed to have potential implications for small farms.

In an attempt to determine the nature of research in the agricultural experiment station system related to the possible contribution of the changing structure of farming, a 10 percent random sample of all state agricultural experiment station projects in both 1862 and 1890 land-grant institutions in the CRIS system was drawn, Table 1. A breakdown of the projects indicated that 28 percent were basic research, 3 percent were useful primarily to public institutions, 7 percent were useful primarily to small farms, 8 percent were useful primarily to moderate or large size farms and 53 percent were size neutral, applying equally to all size farms (Experiment Station Committee on Organization and Policy).

Much of the research effort directed toward small farms is conducted by the historically black land-grant institutions. In fact, more than half of the total federal funds going to small farm research projects identified in the CRIS survey were being expended in the historically black land-grant institutions. Be-

ginning in fiscal year 1967 and continuing through fiscal year 1971, the traditionally black land-grant institutions received an annual allocation of \$283,000, or an average annual allocation per institution of \$17,687.50 for research by way of the Co-operative State Research Service (CSRS) under Public Law 89-106. The actual allocation per institution ranged from \$12,413 to Delaware State College to \$22,424 to North Carolina A&T State University. Fund allocation among the institutions is based upon the proportion of rural population to state total population in the respective states.

In 1972, the annual allocation of funds for research at the 17 historically black land-grant institutions was raised to \$8,883,000, Table 2. Over the 12-year period since that time, the level of research funds provided by CSRS both under Public Laws 89-106 and 95-113, section 1445, has gradually increased such that it now stands at \$23,447,000 for fiscal year 1985 which began October 1, 1984. Likewise, the formula fund for extension granted to the historically black land-grant institutions by the Federal Extension Service (FES) has also increased gradually through the years from \$4,000,000 in 1972 to \$17,241,000 in 1985. The purpose of the funds appropriated to these institutions is to enable them to better serve society as a whole and particularly their own

TABLE 1. RESEARCH EFFORT IN AGRICULTURAL EXPERIMENT STATIONS BY AREA, FY 1979

Research areas	- Percentage -	
Agricultural production research .....		74.3
Size neutral .....	53.3	
Basic research .....	28.1	
Public bodies .....	3.3	
Small farms .....	7.3	
Moderate sized farms .....	4.8	
Large farms .....	3.2	
Processing and marketing research .....		10.9
Size neutral .....	50.7	
Basic research .....	27.3	
Public bodies .....	9.6	
Small farms .....	3.5	
Moderate sized farms .....	6.4	
Large farms .....	2.5	
Family living research .....		7.3
Directly related to family living .....	39.2	
Basic research .....	36.6	
Public bodies .....	24.2	
Community research .....		6.0
Applied research .....	77.9	
Basic research .....	22.1	
Other research .....		1.5
Total .....		100.0

SOURCE: Experiment Station Committee on Organization and Policy.

TABLE 2. RESEARCH AND EXTENSION FUNDS ALLOCATED TO THE HISTORICALLY BLACK LAND-GRANT INSTITUTIONS BY THE COOPERATIVE STATE RESEARCH SERVICE (CSRS) AND THE FEDERAL EXTENSION SERVICE (FES), FY 1972-1985, RESPECTIVELY

Period	Research <sup>a</sup>	Extension <sup>b</sup>	Total
Fy 1972 .....	\$ 8,883,000	\$ 4,000,000	\$12,883,000
Fy 1973 .....	10,883,000	6,000,000	16,883,000
Fy 1974 .....	10,883,000	6,000,000	16,883,000
Fy 1975 .....	11,824,000	6,450,000	18,274,000
Fy 1976 .....	12,706,000	7,823,000	20,529,000
Fy 1977 .....	13,352,000	8,400,000	21,752,000
Fy 1978 .....	14,153,000	9,333,000	23,486,000
Fy 1979 .....	16,360,000	10,115,000	26,465,000
Fy 1980 .....	17,785,000	10,453,000	28,238,000
Fy 1981 .....	19,270,000	11,250,000	30,520,000
Fy 1982 .....	21,492,000	12,241,000	33,733,000
Fy 1983 .....	22,394,000	16,241,000	38,635,000
Fy 1984 .....	22,844,000	17,241,000	40,085,000
Fy 1985 .....	23,447,000	17,241,000	40,688,000

<sup>a</sup>Authorized under Public Law 89-106, August 4, 1965 for Fiscal Year 1972-78 and under Public Law 95-113, Section 1445, September 1977 for Fiscal years 1979-85.

<sup>b</sup>Authorized under the Smith-Lever Act, Public Law 87-749 of 1962 and currently authorized under Section 1444 of the Agriculture and Food Act of 1981.

SOURCES: U.S. Department of Agriculture, Cooperative State Research Service (CSRS) and Federal Extension Service (FES).

clients. Not only have they demonstrated a unique capability for understanding problems confronting minority races and disadvantaged groups, but they have also shown they possess the motivation, training, ability, and desire to work toward solution of problems facing our entire society.

The funding levels shown in Table 2, both for the total research and extension programs at the traditionally black land-grant institutions are the only source of "hard" money for these purposes. However, the institutions still suffer from a long period of invisibility and financial deprivation. The level of funding may be respectable, and at a few institutions it may be relatively adequate for some program operations. In all cases, it falls far short of "catch up" funds urgently needed to provide facilities and permanently installed equipment. Now these institutions are in need of adequate funding to carry out what they have proven they can accomplish. Additional federal and state appropriations should be received by the institutions to make the leap necessary to strengthen various research and extension programs to a position of excellence or even distinction. Hopefully, appropriate legislative action will be taken in the future to correct this situation.

The broad historical responsibilities of the historically black land-grant institutions in 16 border and southern states have had major impacts on the small farm research activities. They have provided a multiplicity of services to a large number of small farm operators in their respective states. Over the past few years, the results of specific small farms research projects have begun to meet the grow-

ing needs of small farm operators. These institutions have been engaged in research and outreach activities designed to overcome the special problems of the people outside the main stream of society. Currently, there is a reservoir of research data and findings necessary for the implementation of effective economic development programs that benefit small farms. The great potential for small farms to become an even more important and viable segment of agriculture, and the research needed to accomplish this, especially in the southern region, are the focal point of the black land-grant institutions.

The historically black land-grant institutions have been involved also with educationally disadvantaged, socially and politically alienated, and economically limited resource residents. For nearly a century, these institutions have been the traditional training center for black leadership in this country. In fact, the history of black involvement in higher education, in general, and small farms research in particular, is the direct result of the historically black land-grant institutions programs (Williams).

The level of sophistication of research activities are functions mainly of the level of financial support. Even though the historically black land-grant institutions have contributed immensely in solving many agricultural and socio-economic problems of small farms and rural residents in 16 states, much is left undone with respect to agricultural, community, and human development if the quality of life is to be improved for the average rural resident. The institutions, now operating on limited resources,

are often handicapped in many ways in honoring their roles, mission and commitment to rural America. Currently, among farm and non-farm residents in the rural communities, there exist many critical needs at different levels in agricultural development and community and human growth.

## POLICY IMPLICATIONS

The small farm problems need to be addressed by a comprehensive research program to develop new approaches for initiating and upgrading small farm operations through management techniques, agricultural production techniques, farm machinery technology, new products, new marketing techniques, input procurement, small farm finance, off-farm employment opportunities, and appropriate agricultural policies. Ideally, research should contribute an increased understanding of the existing conditions and trends regarding the survival and well-being of low income small farms in different locations and farming situations; better knowledge of the underlying constraints and causal forces of these conditions and trends; and improved capacity to predict what effects possible alternative actions may have upon the survival of small farms under various conditions.

In view of the diversity and unique conditions of the limited resource farmers and the rural poor community, a multi-dimensional team approach devoted to interdisciplinary research efforts is an alternative solution to redirect societal goals in keeping with a revised agricultural structure to enhance national welfare. Multi-dimensional team research and program research projects should be conducted by interdisciplinary scientists such as economists, rural sociologists, psychologists, political scientists, animal and plant scientists, and statisticians (Myers, Perry). For instance, The Center for Small Farm Research at Southern University is established to carry out this commitment to the rural sector. Major goals and objectives of the center are: (1) to develop and implement research programs specifically designed to address the needs of small and part-time farmers in Louisiana in the areas of animal production, aquaculture, insects and disease, horticultural crops (fruits and vegetables), information needs, and innovative management techniques for more effective and efficient utilization of resources; (2) to provide

demonstrations for new and existing farm enterprises amenable to implementation for small farm operators; (3) to provide test results in useable media for immediate adoption by the user clientele; and (4) to provide information for the formulation of policies and programs for small farmers at the state, regional, national, and international levels.

A central theme underlying public policy decisions is the problem of enormous heterogeneity in the small farm sector. So far, public policy has not been adept at dealing with such heterogeneity, and one reason that small farm problems persist is partially because there is no single policy designed to provide primary benefits to small low income farms. This, in turn, suggests that effective policies and programs may themselves have to vary in important respects according to the heterogeneity of the problems and geographic locations. Because of the diverse problems of small farms, one type of single-issue agricultural policy will not affect all farms equally or meet the needs of all farms. Thus, the policies for small farms should be heterogeneous because the farms have different needs and different objectives (Thompson).

Public policy needs vary among farms because economic problems and opportunities vary among farms. At the very least, public policies for the small farms should be separated from those designed for commercial agriculture. Separating policy goals could also allow the government to pursue a more realistic and effective program for small farms. It might even be possible that some government programs and policies would be more cost effective if they were directed toward the small farms. Nationwide policy instruments may be too blunt to serve as the primary vehicle of small farm assistance at all regions. Perhaps the federal government, rather than attempting to take on small farm issues alone, might more effectively use its position to mobilize state, local, and private sector activity in support of small farm needs (Myers). Federal and state governments need to create new organizations and/or redefine the responsibilities of existing organizations to deal specifically with the problems of small, limited income farmers both from a rural development viewpoint and as a basis for a good and desirable way of life.

A variety of institutions can coordinate a leadership role in shaping the direction of small farm operations, but none are more

qualified than the land-grant institutions, particularly the historically black land-grant institutions, with their unique tradition of research, teaching, and extension services. The historically black land-grant institutions, so long neglected in conventional research, have developed an expertise on small farm research which this society can no longer do without. These institutions, therefore, should take new initiatives to augment their traditional commitment for identifying the problems of small farms, determining research priorities, allocating research resources, coordinating research efforts, developing realistic and pertinent public policies, implementing innovative economic development and planning programs, and creating an environment more conducive and effective to the survival and welfare of small farm operations.

### SMALL FARM RESEARCH NEEDS

The existence of a comprehensive and well-documented agenda for research on small farms would be helpful in inspiring individual researchers and research administrators to press ahead in relevant research areas, and provide a framework within which the findings of various individual pieces of research may fit together somewhat more meaningfully (Madden and Tischbein). The agenda for small farm research should cover a wide range of comprehensive subjects at different levels in agricultural development, and community and human growth. The following list illustrates the most relevant and critical research areas needed for small farms.

1. More and better research is needed to define small farms and to clarify the small farm issues in terms of social, economic, political, psychological, and ecological characteristics. It may be necessary to take a fresh look at small farm questions and challenge old cliches and assumptions of past research. A priority in this area is to develop a meaningful typology of small farms identifying distinctly separate and different groups and kinds of small farms in terms of their resource endowments, aspirations, source of income, and other causal and descriptive factors that interact to determine their long-term survival and their potential for earning a decent level of income (Tweeten et al., 1979).
2. An inventory of the human resource capacity of small farm operators by categories is needed to judge opportunities for additional farm and non-farm income. Characteristics include capacity and desire to expand operations, to become full-time farmers, to operate specialized enterprises, to train for and obtain off-farm employment, and the potential role of federal agencies in improving opportunities, motivation and managerial capabilities (Tweeten et al., 1979).
3. Too little is known of the distributive impacts of public policies affecting small farm operations. Research is needed to predict the longterm effects of government programs in such areas as taxation, environment, farm credit, commodities, and income, particularly in terms of their influence on the competitive position of farms by size and the implications on small farms (Tweeten et al., 1979).
4. Data on ownership of farm assets are sparse and ambiguous. Of special interest is the extent of farm asset ownership by farmers and nonfarmers, including retired farmers or their spouses and individuals in partnerships and corporations. Data on resource ownership, equity, tenancy, cash flow requirements or liquid assets, level of production expenses relative to cash receipts, debt relative to assets of small farms are essential.
5. Research to provide information on conventional and alternative marketing channels, appropriate technology or production techniques, input procurement alternatives, farm credit financing choices, the interface between farm and off-farm employment, and optimal systems of production on small farm operations should receive high priority.
6. Research is needed on the nature and extent of small farm operators' participation in local decisionmaking and thus their impact on local policy formation and local institutional structures as incentives or inhibitors to small farm operations.
7. There is a need for research on development of rural enterprises that can create additional income and off-farm job potential. This may involve development of a model organization that

can identify new product ideas or seek new small business ventures with growth potential that fit the depressed rural community environment and are capable of being structured and nurtured through the critical development stages with technical and financial support from the federal and/or state governments.

8. The historically black land-grant institutions' ability to help small farm operators should be strengthened by developing special categories of research grants that address special problems of black low income farmers. The institutions should be encouraged to coordinate and expand research efforts and programs in community development and promote the successful operation and retention of black farmers. Special programs are needed for the black community in marketing, use of chemicals, resource management, record keeping, law and regulation affecting agriculture, land ownership and patterns of tillage, economic organization, and management of food related resources, nutrition, and practices in food storage, safety, and sanitation.

## SUMMARY

One of the pressing national priorities today is addressing the unique problem of small farms and low income rural residents. However, our research efforts have not yet kept pace in focusing on a national priority with respect to small farm operations. Current research efforts are predominantly undimensional and primarily designed to benefit large farms. Much of the small farm research to date does not provide a comprehensive picture of socio-economic, political, and ecological conditions of low income small farm operations and rural farm families. Multi-dimensional interdisciplinary research efforts are the rationale for implementing development programs that can be adapted to help alleviate the poverty and income inadequacy of many different low income small farm operations and rural residents. The historically black land-grant institutions, which have developed the tradition and experience in small farm research, should assume the leadership role in shaping and coordinating the direction of small farm research essential for the implementation of effective social and economic development programs.

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