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A SUGGESTED MODEL OF SMALL FARM OPERATION FOR LIMITED–RESOURCE FARMERS IN SOUTH CAROLINA

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In Cooperation with Clemson University
and
Science and Education Administration/Cooperative Research,
United States Department of Agriculture

SOUTH CAROLINA STATE COLLEGE
ORANGEBURG, SOUTH CAROLINA

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Most especially, we are pleased with the quality of cooperation given by the 500 families of Beaufort, Berkeley, Charleston, Colleton and Jasper Counties who participated in the data collection which served as a base for this report.

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ABSTRACT

Many limited-resource rural families in South Carolina have control over small tracts of land. They are unable to receive full benefits from this land because of the lack of appropriate farm equipment and an overall shortage of capital. Several studies have shown that the limited-resource farmers can increase their incomes through proper planning and better utilization of available resources. This study was conducted to examine the present input efforts of small farmers in South Carolina and to examine their potential with an intent of developing an efficient small farm model. The study area included five counties in the Southern Coastal Plains area of South Carolina. Five hundred limited-resource farmers were interviewed to get the data for this study.

On the basis of the survey data, a clear profile of a limited-resource farmer is established. It indicates that a limited-resource farmer generally has about 20 acres of land or less, farms mostly by himself, does not have sufficient family labor and is reluctant to hire any, does not have adequate machinery and equipment, consumes most of the farm produce at home, and does not use production credit.

This study established a need for a demonstration farm to apprise the limited-resource farmers of the modern methods of farming which are most suitable for them. This study also recommends the use of paraprofessionals as agricultural science assistants to work exclusively with the limited-resource farmers on an individual basis. The demonstration farm, coupled with the individualized paraprofessional program, could prove to be quite profitable for the limited-resource farmers.

INTRODUCTION

Many limited-resource rural families in South Carolina have abandoned or substantially reduced their farm operation even though most of them have control over small tracts of land and a small labor force. Family heads and some other family members have found off-farm employment as a means of financial support, and only a few of them grow any kind of crops or animals. This shift away from farm income for limited-resource farm families began during the 1950s in South Carolina, and by 1970 it was well established. Today, it is not uncommon to see rural families with unemployed members who live on small tracts of land and have no cash or prerequisite farm income at all. Off-farm employment has improved the quality of life for those who have saleable skills in the nonfarm labor market. However, the composition of most limited-resource rural families is of the elderly, the very young, and the handicapped who do not have high level saleable skills in the off-farm labor market. Their major source of livelihood is from private and public assistance programs. Most of these families would profit from a small farm or home garden operation if for no other cause but to increase family food.

Several rural families are not using their land resource because of the lack of appropriate farm equipment and an overall shortage of capital. Those who do cultivate their land are not able to get maximum benefits from it. Several studies have shown that the limited-resource farmers can increase their net incomes through better planning and better utilization of available resources.[1] It might be unrealistic to assume that the limited-resource farmers as a group would become a part of the mainstream commercial agriculture in the United States. However, an increase in their net farm incomes would improve the quality of life for the limited-resource farmers' families. This could reduce their dependence on the public assistance programs, the grocery store, and discourage their migration to urban areas in

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[1]Sammy L. Comer and R. C. Woodworth, "Improving Incomes on Limited-resource Farms in South Central Tennessee," Tennessee State University, Nashville, Tennessee, Bulletin No. 36 (October, 1976).

search of that mythical better life.

Increasing the net incomes of the limited-resource farmers is a complex problem. It is going to require special efforts and cooperation between the research and extension personnel. It was the intent of this study to inventory the availability of production services that could be used by limited-resource families, availability of credit to purchase necessary productive services, availability of consumer markets through which surplus homegrown commodities may be sold, and the extent to which such families may be mobilized into useful employment of their human and land resources.

Several southern states have initiated special small farm programs that make widespread use of paraprofessional extension workers.[2] In South Carolina, the Cooperative Extension Service is trying to establish a method of mobilizing rural families and urban gardeners into productive utilization of their limited resources. A tested small farm model, which is the primary purpose of this study, would substantially assist in providing the Extension Service with the necessary tools of leadership to effectively work with this clientele group.

Objectives

The general objective of this study is to examine the potential of the small farmer thrust in South Carolina and evaluate the present input effort with the intent of developing an efficient model of farm and human resources for this clientele group.

Specific objectives of this project are:

1. To inventory present productive services that are available to limited-resource farm families.

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[2]Daniel K. Smith and Others, "Working with Small Farm Operators," American Journal of Agricultural Economics, Volume 60 - Number 5 (December, 1978).

2. To investigate the type and availability of necessary credit to purchase needed equipment and supplies.

3. To examine the availability of market outlets for the exchange of farm and home commodities.

Procedure

The number of limited-resource farmers was estimated and each location was determined with the help of county agricultural census, crop reporting service, the Cooperative Extension Service Personnel, and the Department of Social Services. A questionnaire was developed to get the socio-economic data from the limited-resource farmers. The questionnaires were administered and the data were collected by the enumerators of the Statistical Reporting Service of the United States Department of Agriculture. These data were organized and analyzed which served as a basis for this report.

THE STUDY AREA

The study area includes five counties, namely: Beaufort, Berkeley, Charleston, Colleton and Jasper. These counties are located in the Southern Coastal Plains area of South Carolina. The location of the study area is shown in Figure 1. The reasons for selecting these counties for study are their relatively homogeneous nature of resource characteristics and their production practices.

Population

Population of the study area with the percentage breakdown as rural-farm, rural-non-farm and urban population for 1970 is shown in Table 1. It can be seen from Table 1 that the rural farm population for Beaufort, Berkeley, and Charleston Counties is comparatively smaller. This is primarily because of the large populated townships of Beaufort, Charleston, and Moncks Corner in those respective counties. For the study area as a whole, the rural farm population is 3.9 percent of the area population or 15,385 people.

TABLE 1

POPULATION OF THE STUDY AREA, 1969

County	Total Population	Percentage Breakdown		
		Rural Non–Farm	Rural Farm	Urban
Beaufort	51,136	43.9	5.7	50.4
Berkeley	56,197	51.9	2.9	45.2
Charleston	247,645	15.5	2.5	82.0
Colleton	27,622	69.9	7.5	22.6
Jasper	11,885	79.2	20.8	0
TOTAL	394,485	30.1*	3.9*	66.0*

*Aggregate Percentage

Source: 1970 Census of Population, U.S. Department of Commerce, Bureau of Census, PC (1) - C42, S.C.

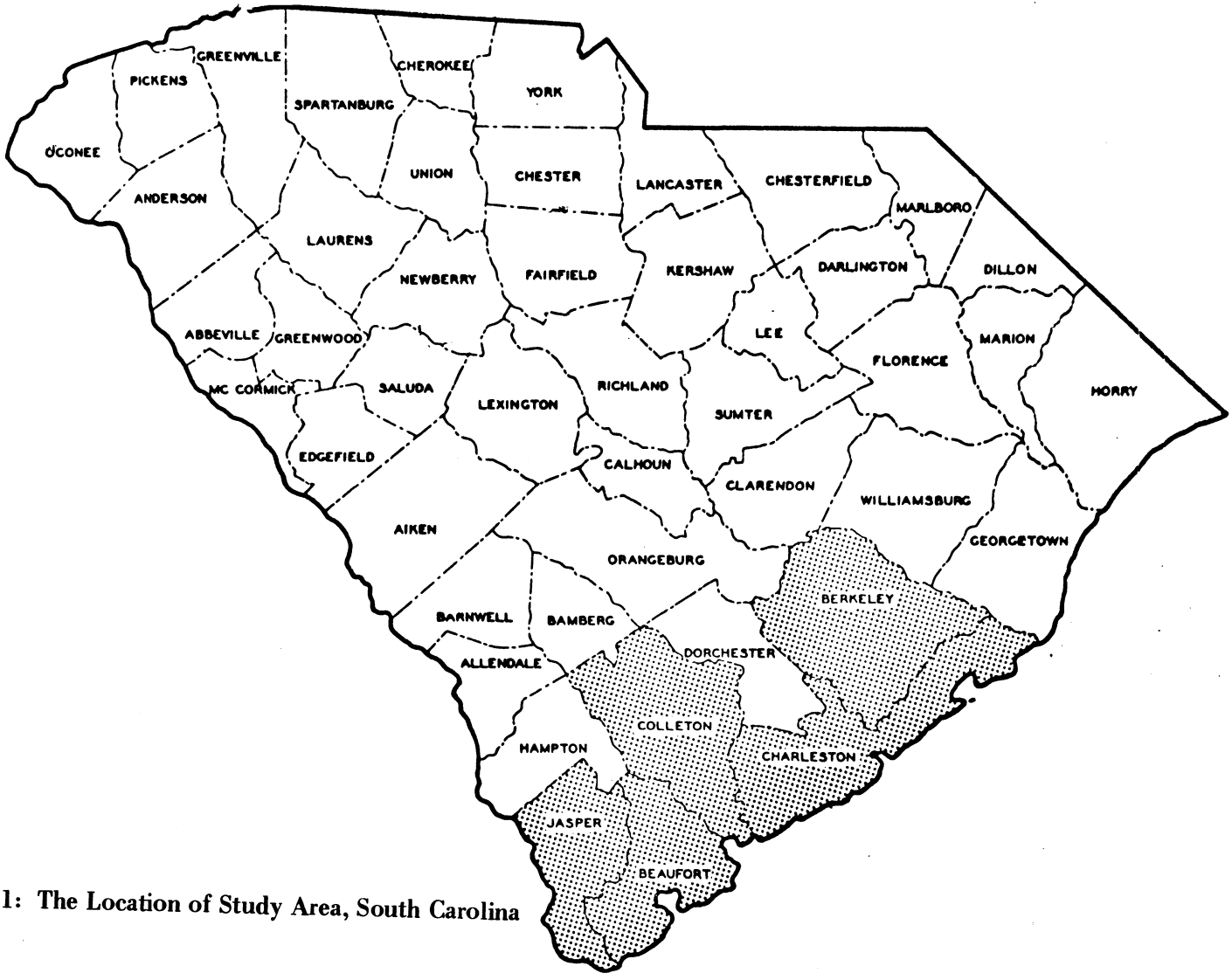

Figure 1: The Location of Study Area, South Carolina

Income

Family income for the study area is shown in Table 2. It can be seen from Table 2 that for the study area as a whole the percentage of families making less than $5,000 income is 31.2 percent, while those making more than $15,000 income are only 12.5 percent. Colleton and Jasper Counties, which have highest rural population, also have the highest proportion of families making less than $5,000 income.

TABLE 2

FAMILY INCOME FOR THE STUDY AREA, 1969

County	Less than $5,000		$5,000 to $9,999		$10,000 to $14,999		More than $15,000	
	No.	%	No.	%	No.	%	No.	%
Beaufort	3,593	34.9	3,854	37.5	1,722	16.7	1,117	10.9
Berkeley	4,284	32.3	5,244	39.5	2,569	19.4	1,167	8.8
Charleston	15,942	28.1	19,999	35.2	12,538	21.0	8,330	14.7
Colleton	2,869	43.7	2,256	34.3	998	15.2	449	6.8
Jasper	1,272	47.5	950	35.5	327	12.2	127	4.8
TOTAL	27,960	31.2	32,303	36.0	18,154	20.3	11,190	12.5

Source: 1970 Census of Population, U.S. Department of Commerce, Bureau of Census, PC (1) - C42, S.C.

Size of Farms

The study area is mostly characterized by the small farms. The size of farms by acres for the study area is shown in Table 3. There it can be observed that only 40.3 percent of the farms in the study area are over 100 acres, while 59.7 percent are less than 100 acres. Berkeley County has the smallest percentage, 26 percent, of farms which are over 100 acres.

TABLE 3

SIZE OF FARMS BY ACRES, STUDY AREA, 1974

County	1 – 9		10 – 49		50 – 99		Over 100		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Beaufort	14	9.2	55	35.9	21	13.7	63	41.2	153	100
Berkeley	118	18.7	229	36.1	122	19.2	165	26.0	634	100
Charleston	20	8.0	74	29.5	36	14.3	121	48.2	251	100
Colleton	33	4.4	190	25.4	159	21.3	366	48.9	748	100
Jasper	21	8.2	83	32.6	43	16.9	108	42.3	255	100
TOTAL	206	10.1	631	30.9	381	18.7	823	40.3	2,041	100

Source: 1974 Census of Agriculture, U.S. Department of Commerce, Bureau of the Census, Volume 1, Part 40.

Selected Crops

Number of acres harvested for selected crops in 1977 for the study area is shown in Table 4. Tobacco, which is the most important cash crop in the state, is not a significant crop enterprise in the study area. Similarly, cotton and other grain crops do not play an important role in the study area. Soybean is the second most important cash crop in South Carolina. It can be seen from Table 4 that the study area accounts for 4.5 percent of the acreage for soybeans and 8.4 percent of the acreage for corn in South Carolina. The vegetable crops are significant enterprises in the study area. It accounts for 81.4 percent of the acreage for tomatoes in South Carolina.

TABLE 4

ACRES HARVESTED FOR SELECTED CROPS IN THE STUDY AREA, 1977

Crop	COUNTY					TOTAL
	Beaufort	Berkeley	Charleston	Colleton	Jasper	
Corn						
Acres	3,200	12,500	4,300	24,800	7,600	52,400
Percent*	0.5	2.0	0.7	4.0	1.2	8.4
Wheat						
Acres	200	650	2,900	200	200	4,150
Percent*	0.2	0.7	3.1	0.2	0.2	4.4
All Hay						
Acres	1,100	2,600	1,800	4,200	1,500	11,200
Percent*	0.5	1.2	0.8	1.9	0.7	5.1
Soybeans						
Acres	3,300	7,300	11,600	25,600	10,700	58,500
Percent*	0.2	0.6	0.9	2.0	2.0	4.5
Watermelons						
Acres	200	–	300	450	400	1,350
Percent*	1.1		1.7	2.5	2.2	7.5
Tomatoes						
Acres	3,350	–	3,400	–	–	6,750
Percent*	40.4		41.0			81.4

*Percent of the total for South Carolina

Source: South Carolina Crop Statistics, Statistical Reporting Service. AE 400 June, 1978.

Livestock

The livestock inventory in 1977 sor the study area is shown in Table 5. The livestock and poultry enterprises play a relatively minor role in the study srea. Contribution of milk cattle and poultry is particularly negligible. Beef cattle and hogs account for only 7.0 and 11.2 percent, respectively.

TABLE 5

LIVESTOCK INVENTORY, STUDY AREA, 1977

Item	COUNTY					TOTAL
	Beaufort	Berkeley	Charleston	Colleton	Jasper	
Beef Cattle						
Number	7,300	7,500	6,000	19,500	6,700	47,000
Percent*	1.1	1.1	0.9	2.9	1.0	7.0
Hogs and Pigs						
Number	7,500	22,000	4,500	25,000	5,900	64,900
Percent*	1.3	3.8	0.8	4.3	1.0	11.2

*Percent of the total for South Carolina

Source: South Carolina Livestock and Poultry Statistics, Statistical Reporting Service, AE 401. June, 1978.

ANALYSIS OF DATA

A total of 500 limited-resource farmers were interviewed in the study area. The interviews were conducted by she Statistical Reporting Service of the United States Department of Agriculture. Since the objective of this study was to develop a small farm model to accommodate the farm and family resources, persons without any land holdings were not included in the interviews. The number of farmers surveyed in each county is shown below:

County	Number of Farmers Surveyed
Beaufort	90
Berkeley	114
Charleston	93
Colleton	109
Jasper	94
Total	500

A. The Farmer

1. Years Lived on the Farm: The farmers in the survey were asked about the number of years they have lived on the present farm and this information is shown in Table 6. There it can be seen that 31.6 percent of the farmers have lived on the present farm for more than 40 years. A small portion, or 8.8 percent of the farmers, indicated that they do not farm. They are rural nonfarmers.

TABLE 6

NUMBER OF YEARS LIVED ON THE PRESENT FARM, NUMBER AND PERCENTAGE OF FARMERS SURVEYED, STUDY AREA, 1978

Years Lived on This Farm	No. of Farmers	Percentage
0	44	8.8
1 - 10	73	14.6
11 - 20	68	13.6
21 - 30	87	17.4
31 - 40	70	14.0
More than 40	158	31.6
TOTAL	500	100.0

2. Education: Low level of education is a predominant characteristic of the small farmers. The educational characteristics of the farmers surveyed are shown in Table 7, on which it can be noted that 11.4 percent of the farmers completed more than 12 grades of schooling. There were 2.2 percent of the farmers who did not have any formal education at all. Some 18.0 percent of the group completed 1-4 grades. There were 33.6 percent who completed 508 grades. The largest portion of farmers interviewed, 34.8 percent, completed 9-12 grades. A vast majority, or 68.4 percent had 5 to 12 grades of education.

TABLE 7

EDUCATION OF THE FARM OPERATOR, NUMBER AND PERCENTAGE OF FARMERS SURVEYED, STUDY AREA, 1978

Education	No. of Farms	Percentage
None	11	2.2
1 - 4 Grades	90	18.0
5 - 8 Grades	168	33.6
9 - 12 Grades	174	34.8
More than 12	57	11.4
TOTAL	500	100.0

3. Size of the Family: The frequency distribution for family size is shown in Table 8. The family sizes for the farmers surveyed are quite small. It can be seen from Table 8 that 30.4 percent of the farmers had less than 2 family members and 31.2 percent had 3 to 4 family members. In other words, slightly more than half of the farmers surveyed had less than 4 family members. Only 8.4 percent of the households had more than 8 family members.

TABLE 8

TOTAL NUMBER OF PEOPLE IN THE FAMILY, NUMBER AND PERCENTAGE OF FARMERS SURVEYED, STUDY AREA, 1978

Family Members	No. of Farms	Percentage
Less than 2	152	30.4
3 - 4	156	31.2
5 - 6	112	22.4
7 - 8	38	7.6
More than 8	42	8.4
TOTAL	500	100.0

4. Off-farm Employment: Off-farm employment plays an important part in supporting the meager incomes of the small farmers. Fifty-three percent of the farmers surveyed indicated that they were engaged in some form of off-farm employment. Table 9 shows the type of off-farm employment done by the farmers surveyed. It should be noted from Table 9 that 47 percent of the farmers surveyed did not have any off-farm employment.

TABLE 9

TYPE OF OFF–FARM EMPLOYMENT, NUMBER AND PERCENTAGE OF FARMERS SURVEYED, STUDY AREA, 1978

Type of Off-farm Employment	No. of Farms	Percentage
None	235	47.0
Manufacturing Industry	40	4.0
Military Base	34	6.8
Service Industry	30	6.0
Construction Industry	26	5.2
Educational Institutions	19	3.8
Timber Industry	19	3.8
State Government	14	2.8
Own a Business	13	2.6
Local Government	12	2.4
Transportation	10	2.0
Federal Government	7	1.4
Other	41	8.2
TOTAL	500	100.0

Kind of work done in the off-farm employment is shown in Table 10. It shows that 16.6 percent of the farmers worked as skilled laborers, while 13.2 percent worked as semi-professionals. Unskilled non-farm labor was done by 11.6 percent of the farmers. Only 2.4 percent worked as farm laborers.

TABLE 10

KIND OF OFF–FARM EMPLOYMENT WORK DONE, NUMBER AND PERCENTAGE OF FARMERS SURVEYED, STUDY AREA, 1978

Type of Off-farm Employment	No. of Farms	Percentage
None	235	47.0
Skilled Labor	83	16.6
Semi-professional	66	13.2
Unskilled Non-farm Labor	58	11.6
Professional	31	6.2
Farm-labor	12	2.4
Other	15	3.0
TOTAL	500	100.0

The frequency distribution for the number of hours worked in off-farm employment is shown in Table 11. Thirty-eight percent of the farmers surveyed were engaged in full time, i.e., 40 hours per week employment. Slightly more than 7 percent of them worked for more than 40 hours per week.

TABLE 11

HOURS PER–WEEK IN OFF–FARM EMPLOYMENT, NUMBER AND PERCENTAGE OF FARMERS SURVEYED, STUDY AREA, 1978

Number of Hours	No. of Farms	Percentage
None	235	47.0
1 - 10 Hours	9	1.8
11 - 20 Hours	10	2.0
21 - 30 Hours	17	3.4
31 - 40 Hours	192	38.4
41 - 50 Hours	26	5.2
More than 50	11	2.2
TOTAL	500	100.0

In addition to the head of the household, other members of the family were also engaged in off-farm employment to support the family income. The number of family members engaged in off-farm employment for the farmers surveyed is shown in Table 12. No off-farm employment by other family members was indicated by 42.2 percent of the households. Forty-four percent of the households indicated that one to two of their family members were engaged in off-farm employment. More than two family members were employed off-farm in the remaining 14 percent of the households.

TABLE 12

NUMBER OF FAMILY MEMBERS ENGAGED IN OFF–FARM EMPLOYMENT, NUMBER AND PERCENTAGE OF FARMERS SURVEYED, STUDY AREA, 1978

No. of Family Members Employed	No. of Farms	Percentage
None	211	42.2
1 - 2	219	43.8
3 - 4	33	6.6
5 - 6	19	3.8
7 - 8	10	2.0
More than 8	8	1.6
TOTAL	500	100.0

5. Public Assistance and Transfer Payments: Public Assistance and transfer payments is another important supplement to income for the limited-resource farmers. Important sources of such payments for the farmers surveyed are shown in Table 13. As presented in Table 13, 34.6 percent of the farmers did not receive any public assistance or transfer payments. The most important source for those who received these payments was social security which is received by 14.2 percent, while welfare payments were received by only 4.6 percent of the farmers. Although the farmers received payments from more than one source, only the most important source for each farmer is noted here.

TABLE 13

PUBLIC ASSISTANCE AND TRANSFER PAYMENTS RECEIVED, NUMBER AND PERCENTAGE OF FARMERS SURVEYED, STUDY AREA, 1978

Item	No. of Farms	Percentage
None	173	34.6
Food Stamps	71	14.2
Social Security	160	32.0
Welfare Payments	23	4.6
Retirement Benefits	73	14.6
TOTAL	500	100.0

B. The Farm

1. Size of the Farm: The size of the farms by acres, and the amount of land owned and rented by the farmers surveyed are shown in Tables 14, 15 and 16, respectively. It can be seen from Table 14 that 17.8 percent of the farmers surveyed had 1 to 5 acres of land and 14.8 percent had 6 to 10 acres. In other words, 32.6 percent of the farmers had less than 10 acres of land. More than 35 acres of land was indicated by 36.8 percent of the farmers.

   Table 15 indicates that 6 percent of the farmers surveyed did not own any land. Apparently, they had been farming on rented land. On a cumulative percentage basis, it can be seen that 50 percent of the farmers surveyed owned less than 20 acres of land. Table 16, which shows the rented land, indicates that a vast majority, or 76 percent, of the farmers surveyed did not rent any land.

2. Crops Grown: The number of acres of selected crops planted in 1977 by the farmers surveyed is shown in Table 17. Corn appears to be the most popular crop which is grown by 76.6

TABLE 14

FARM SIZE BY ACRES FOR FARMERS SURVEYED, NUMBER OF FARMERS AND PERCENTAGE, STUDY AREA, 1978

Farm Size (ACRES)	Beaufort		Berkeley		Charleston		Colleton		Jasper		Total	
	No. of Farms	%	No. of Farms	%	No. of Farms	%	No. of Farms	%	No. of Farms	%	No. of Farms	%
1 - 5	16	17.8	33	28.9	7	7.5	19	17.4	14	14.9	89	17.8
6 - 10	26	28.9	18	15.8	13	14.0	7	6.4	10	10.6	74	14.8
11 - 15	11	12.2	7	6.1	9	9.7	4	3.7	7	7.4	38	7.6
16 - 20	7	7.8	9	7.9	4	4.3	7	6.4	10	10.6	37	7.4
21 - 25	7	7.8	9	7.9	6	6.5	6	5.5	5	5.3	33	6.6
26 - 30	5	5.6	3	2.6	3	3.2	3	2.8	5	5.3	19	3.8
31 - 35	3	3.3	4	3.5	9	9.7	6	5.6	4	4.3	26	5.2
More than 35	15	16.7	31	27.2	42	45.2	57	52.3	39	41.5	184	36.8
TOTAL	90	100.0	114	100.0	93	100.0	109	100.0	94	100.0	500	100.0

TABLE 15

ACRES OWNED BY FARMERS SURVEYED, NUMBER AND PERCENTAGE OF FARMERS SURVEYED, STUDY AREA, 1978

ACRES	Beaufort		Berkeley		Charleston		Colleton		Jasper		Total	
	No. of Farms	%	No. of Farms	%	No. of Farms	%	No. of Farms	%	No. of Farms	%	No. of Farms	%
None	5	5.6	7	6.1	5	5.4	5	4.6	8	8.5	30	6.0
1 - 5	26	28.9	38	33.3	8	8.6	20	18.3	12	12.8	104	20.8
6 - 10	26	28.9	17	14.9	12	12.9	8	7.3	12	12.8	75	15.0
11 - 15	8	8.9	7	6.1	12	12.9	5	4.6	7	7.4	39	7.8
16 - 20	7	7.8	6	5.3	4	4.3	7	6.4	8	8.5	32	6.4
21 - 25	3	3.3	5	4.4	4	4.3	6	5.5	4	4.3	22	4.4
26 - 30	4	4.4	2	1.8	2	2.2	5	4.6	3	3.2	16	3.2
31 - 35	2	2.2	5	4.4	8	8.6	5	4.6	4	4.3	24	4.8
More than 35	9	10.0	27	33.7	38	40.9	48	44.0	36	38.3	158	31.6
TOTAL	90	100.0	114	100.0	93	100.0	109	100.0	94	100.0	500	100.0

TABLE 16

ACRES RENTED BY FARMERS SURVEYED, NUMBER AND PERCENTAGE OF FARMERS SURVEYED, STUDY AREA, 1978

ACRES	Beaufort		Berkeley		Charleston		Colleton		Jasper		Total	
	No. of Farms	%	No. of Farms	%	No. of Farms	%	No. of Farms	%	No. of Farms	%	No. of Farms	%
None	59	65.6	88	77.2	71	76.3	89	81.7	73	77.7	380	76.0
1 - 5	13	14.4	6	5.3	0	0.0	3	2.8	1	1.1	23	4.6
6 - 10	3	3.3	3	2.6	7	7.5	2	1.8	3	3.2	18	3.6
11 - 15	5	5.6	2	1.8	0	0.0	0	0.0	1	1.1	8	1.6
16 - 20	2	2.2	5	4.4	1	1.1	2	1.8	3	3.2	13	2.6
21 - 25	1	1.1	1	0.9	3	3.2	0	0.0	2	2.1	7	1.4
26 - 30	1	1.1	2	1.8	2	2.2	3	2.8	1	1.1	9	1.8
31 - 35	0	0.0	0	0.0	1	1.1	0	0.0	0	0.0	1	0.2
More than 35	6	6.7	7	6.1	8	8.6	10	9.2	10	10.6	41	8.2
TOTAL	90	100.0	114	100.0	93	100.0	109	100.0	94	100.0	500	100.0

TABLE 17

ACRES OF SELECTED CROPS PLANTED IN 1977, NUMBER AND PERCENTAGE OF FARMERS SURVEYED, STUDY AREA, 1978

CROPS	ACRES PLANTED												Total	
	None		1 – 5		6 – 10		11 – 15		16 – 20		More than 20			
	No. of Farms	%	No. of Farms	%	No. of Farms	%	No. of Farms	%	No. of Farms	%	No. of Farms	%	No. of Farms	%
Corn	117	23.4	186	37.2	66	13.2	34	6.8	30	6.0	67	13.4	500	100.0
Soybeans	375	75.0	15	3.0	21	4.2	17	3.4	12	2.4	60	12.0	500	100.0
Tomatoes	419	83.8	62	12.4	8	1.6	2	0.4	9	0.0	9	1.8	500	100.0
Cucumbers	422	84.4	68	13.6	5	1.0	3	0.6	1	0.2	1	0.2	500	100.0
Small Grains	425	85.0	26	5.2	22	4.4	8	1.6	7	1.4	12	2.4	500	100.0
Snap Beans	472	94.4	22	4.4	2	0.4	2	0.4	1	0.2	1	0.2	500	100.0

percent of the farmers surveyed, while the next important crop, soybeans, is grown by 25 percent of the farmers. Tomatoes, cucumbers and small grains are planted by approximately 15 percent of the farmers. Only 5.6 percent of the farmers grew snap beans. Cotton, which reqires a huge investment in machinery and equipment, is naturally not among the crops grown by the farmers surveyed.

3. The Livestock and Poultry: The livestock and poultry inventory for the farmers surveyed is shown in Table 18. Hogs and pigs were the most important livestock items followed by cattle and calves. Hogs and pigs are reported by 56.4 percent of the farms, while only 35.6 percent reported beef cattle. Chicken production is reported by 52.2 percent of the farmers. Milk cattle are indicated by only 9.2 percent of the farmers. Considering the feeding and maintenance requirements of dairy cattle, this small percentage of them by small farmers is quite natural. In general, it can be observed from Table 18 that except for hogs and pigs, the livestock and poultry enterprises play a very minor role for the farmers surveyed.

In a separate question, the farmers in the survey were asked if they sold any livestock and poultry. The sale of livestock was indicated by 33.8 percent of the farmers, while only 2.6 percent sold any chickens.

Home consumption of livestock and poultry products helps the meager budgets of the limited-resource farmers. Preservation and preparation of selected animal products by farmers surveyed are shown in Table 19. Slaughter of pork is reported by 17.8 percent of the farmers, while only 10.2 percent reported the slaughter of beef. Production of milk and the preparation of butter are indicated by 1.4 and 1.0 percent of the farmers, respectively.

4. Home Garden: Home garden is another source of farm produce for home consumption. Of the 500 farmers surveyed, 410 farmers, or 82 percent had grown a vegetable garden in 1977. Outlets for the sale of garden produce are shown in Table 20.

TABLE 18

THE NUMBER OF LIVESTOCK ON FARM, NUMBER AND PERCENTAGE OF FARMERS SURVEYED, STUDY AREA, 1978

LIVESTOCK ON FARMS	NUMBER OF LIVESTOCK							Total
	None	1 – 10	11 – 20	21 – 30	31 – 40	41 – 50	50	
All Hogs and Pigs								
No. of Farms	218	176	45	25	11	10	15	500
Percentage	(43.6)	(35.2)	(9.0)	(5.0)	(2.2)	(2.0)	(3.0)	(100.0)
All Cattle and Calves								
No. of Farms	322	118	35	10	5	1	9	500
Percentage	(64.4)	(23.6)	(7.0)	(2.0)	(1.0)	(0.2)	(1.8)	(100.0)
Calved Milk Cows								
No. of Farms	454	46	0	0	0	0	0	500
Percentage	(97.8)	(9.2)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
All Goats								
No. of Farms	489	9	2	0	0	0	0	500
Percentage	(97.8)	(1.8)	(0.4)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)
Chicken (no broilers)								
No. of Farms	239	81	86	42	14	11	26	500
Percentage	(47.8)	(16.2)	(17.2)	(8.6)	(2.8)	(2.2)	(5.2)	(100.0)
Broilers								
No. of Farms	487	6	1	4	1	1	0	500
Percentage	(97.4)	(1.2)	(0.2)	(0.8)	(0.2)	(0.2)	(0.0)	(100.0)

TABLE 19
PRESERVATION AND PREPARATION OF SELECTED ANIMAL PRODUCTS OF FARMERS SURVEYED, NUMBER AND PERCENTAGE OF FARMERS SURVEYED, STUDY AREA, 1978

Item	No. of Farms	Percentage
Cured Ham	64	12.8
Slaughter Beef	51	10.2
Preserve Meat	52	10.4
Preserve Fish	34	6.8
Produce Own Milk	7	1.4
Make Own Butter	5	1.0
Slaughter Pork	89	17.8

* Percentage of the total of 500 farmers

TABLE 20
OUTLET FOR THE SALE OF GARDEN PRODUCE, NUMBER AND PERCENTAGE OF FARMERS SURVEYED, STUDY AREA, 1978

Item	No. of Farms	Percentage
Did Not Sell Any	371	90.5
At Roadside Market	7	1.7
At County Farmers Market	3	0.7
At Local Grocery	2	0.5
To Friends and Neighbors	18	4.4
Other	9	2.2
TOTAL	410	100.0

A vast majority, or 90.5 percent of those having gardens, did not sell any farm produce, indicating a great deal of home consumption.

Some farm families preserve the surplus garden produce for future use. The frequency distribution for the amount of garden produce preserved by the farmers surveyed is shown in Table 21. No canning or freezing was done by 29.8 percent of the farmers. Those who did canning and freezing did so mostly in 50 quarts, or less. Only 8.8 percent of the farmers did more than 100 quarts of canning and freezing.

5. Ownership of Selected Items: To run a small farm and to maintain even a subsistence standard of living, a farm family needs to own certain basic items. This information is provided in Table 22. Horse or mules for cultivation is reported by 24.2 percent of the farmers, while 59.0 percent of the farmers owned a tractor. Truck ownership was indicated by 64.8 percent of the farmers. A truck is vitally essential for the transportation of farm inputs and outputs. Ownership facilities of deep freeze is reported by 92.6 percent of the farmers, indicating its use in food preservation. Life insurance is carried by 94.4 percent of the families, while health insurance is carried by 86.2 percent.

TABLE 21

AMOUNT OF GARDEN PRODUCE PRESERVATION BY THE FARMERS SURVEYED, NUMBER AND PERCENTAGE OF FARMERS SURVEYED, STUDY AREA, 1979

Canned or Frozen (No. of Quarts)	No. of Farms	Percentage
None	149	29.8
1 - 25	108	21.6
26 - 50	127	25.4
51 - 75	32	6.4
76 - 100	40	8.0
More than 100	44	8.8
TOTAL	500	100.0

TABLE 22

OWNERSHIP OF SELECTED ITEMS BY FARMERS SURVEYED NUMBER AND PERCENTAGE OF FARMERS SURVEYED, STUDY AREA, 1978

Items	No. of Farms	Percentage*
Horses or Mules	121	24.2
Horses Drawn Farm Implements	72	14.2
Refrigerator	488	97.6
Deep Freeze	463	92.6
Health Insurance	431	86.2
Life Insurance	472	94.4
Television	481	96.2
Sewing Machine	323	64.6
Radio	454	90.8
Tractor	295	59.0
Tractor Drawn Implements	303	60.6
Truck	324	64.8

*Percentage of the total of 500 farmers

C. Farm Labor

The lack of adequate machinery and equipment encourages the low-income farmers to choose only labor intensive enterprises. Family labor is most often used in such enterprises. The frequency distribution of hours per day of family labor available for the farmers surveyed is shown in Table 23. It can be observed from Table 23 that 52.8 percent of the farms had no family labor available, other than

the farmer himself. Family labor of 1 to 8 hours per day was available on 38.4 percent of the farms, while 9 to 16 hours per day was available on only 6.2 percent of the farms. More than 16 hours of labor is available on only 2.6 percent of the farms. Thus, the information from Table 23 indicates that the amount of family labor is generally insufficient.

TABLE 23
HOURS PER DAY OF FAMILY LABOR AVAILABLE (OTHER THAN THE FARMER HIMSELF), NUMBER AND PERCENTAGE OF FARMERS SURVEYED, STUDY AREA, 1978

Hours per Day	No. of Farms	Percentage
None	264	52.8
1 - 8	192	38.4
9 - 16	31	6.2
17 - 24	7	1.4
More than 24	6	1.2
TOTAL	500	100.0

In the absence of sufficient family labor, a farmer can hire farm labor to get the job done. Table 24 shows the highest number of workers hired during last season by the farmers surveyed. It can be seen from Table 24 that 70 percent of the farmers surveyed did not hire any workers in the previous season, while only 17.8 percent hired from 1 to 2 workers. Only 12.2 percent of the farmers hired more than 2 workers. The small farmers cannot compete with the big farmers for the farm labor. Thus, they avoid enterprises which would require them to get hired labor.

TABLE 24

HIGHEST NUMBER OF HIRED WORKERS LAST SEASON, NUMBER AND PERCENTAGE OF FARMERS SURVEYED, STUDY AREA, 1978

No. of Hired Workers	No. of Farms	Percentage
No. of Hired Workers	350	70.0
1 - 2	89	17.8
3 - 4	20	4.0
5 - 6	18	3.6
More than 6	23	4.6
TOTAL	500	100.0

D. Farm Credit

Availability and the proper use of production credit is one of the important requirements of successful farming. Table 25 shows the availability of production credit to the farmers surveyed. Only 14.2 percent of the farmers indicated that no credit was available to them, while 40.4 percent stated that credit was available. The proportion of farmers who did not know whether production credit was available to them amounted to 45.4 percent. This large proportion indicates the natural reluctance of small farmers to investigate the use of the production credit.

TABLE 25

AVAILABILITY OF PRODUCTION CREDIT, NUMBER AND PERCENTAGE OF FARMERS SURVEYED, STUDY AREA, 1978

Production Credit Available	No. of Farms	Percentage
No	71	14.2
Yes	202	40.4
Do not know	227	45.4
TOTAL	500	100.0

Table 26 shows the source of production credit to those farmers who had indicated its availability. Several farmers had reported more than one source of credit. It can be seen from Table 26 that the Production Credit Association was the most important source of credit, followed by the Farmers Home Administration and the commercial banks. The relative proportion of other sources of credit is considerably small.

TABLE 26

SOURCE OF PRODUCTION CREDIT, NUMBER AND PERCENTAGE OF FARMERS SURVEYED, STUDY AREA, 1978

Source of Credit	No. of Farms	Percentage*
Production Credit Association	147	29.4
FMHA	112	22.4
Banks	100	20.0
Feed and Seed Companies	11	2.2
Other	6	1.2

*Percentage of the total of 500 farmers

THE MODEL FARM

The preceding chapter clearly establishes the profile of a limited-resource farmer. It indicates that a limited-resource farmer generally has about 20 acres or less land, farms mostly by himself, does not have sufficient family labor and is reluctant to hire labor, does not have adequate machinery and equipment, consumes most of the farm products at home with very little, if any, left for marketing, and does not use very much production credit. With proper guidance and motivation, this group of farmers can increase their productive potential and can help to improve their quality of life.

Any program designed to help the limited-resource farmers must take into account the specific set of problems confronted by the farmers. During this survey, the farmers were asked to name the single most difficult problem faced by them. This information is presented in Table 27, where it can be seen that the single most difficult problem is low-prices for farm products, which is indicated by 16.6 percent of the farmers while 13.0 percent indicated higher cost of inputs as their major problem. The problem of higher costs of inputs and lower revenues from the output is faced by the large and small farmers alike. However, this problem is particularly acute for the limited-resource farmers because they cannot take advantage of the economics of the scale enjoyed by the large farmers. The next important problem was that of dry weather. A particularly long spell of dry weather in the state at the time of this study could be part of the reason for this response. Other important problems include higher cost of machinery, not enough help, operators' health and age, not enough land and capital, and disease and pest control. Only 4.4 percent of the farmers surveyed indicated that they do not have any serious problem in farming.

TABLE 27

SINGLE MOST PROBLEM CONFRONTED IN FARMING BY THE FARMERS SURVEYED, NUMBER AND PERCENTAGE OF FARMERS SURVEYED, STUDY AREA, 1978

	No. of Farms	Percentage
Do not Know	22	4.4
No Serious Problem	22	4.4
Low-Prices for Farm Products	83	16.6
High Cost of Inputs	65	13.0
Dry Weather	61	12.2
High Cost of Machinery	56	11.2
Not Enough Help	50	10.0
Operators' Health	29	5.8
Need Farm Equipment	21	4.2
Operators' Age	19	3.8
Not Enough Land	18	3.6
Not Enough Capital	18	3.6
Keeping Crops Healthy	14	2.8
Do Not Want to Farm	8	1.6
Other	16	3.4
TOTAL	500	100.0

Farmers surveyed were further asked as to what they would like to learn from a small scale demonstration farm. This information is shown in Table 28. A vast majority, or 60 percent of the farmers surveyed, wanted to learn about the disease and pest control. Learning the proper use of fertilizer was the next item which was indicated by 45.5 percent of the farmers. Other items for learning as indicated by the farmers include crop selection, farm planning cultivation practices, and harvesting and grading.

The above list clearly indicates the basic problems faced by the small farmers in general. Small-farm problem remains to be a very complex issue. Recent farm legislations emphasize the Government's desire to help the small farmers. There is an increasing opinion among the professional agricultural economists that in the process of transforming the American agriculture into a most productive system, we might have lost some old values and methods which could be the solution for the small-farm problem. One such method is the demonstration farm which is discussed here.

TABLE 28
TOPICS THE FARMERS WOULD LIKE TO LEARN FROM A SMALL SCALE DEMONSTRATION FARM, NUMBER AND PERCENTAGE OF FARMERS SURVEYED, STUDY AREA, 1978

Item to Learn	No. of Farms	Percentage
Disease and Pest Control	300	60.0
Use of Fertilizer	227	45.4
Crop Selection	174	34.8
Do Not Know	79	15.8
Prepare Seedbeds	78	15.6
Plan a Farm	52	10.4
Cultivation	49	9.8
Grading Farm Produce	41	8.2
Harvesting	38	7.6

A. The Demonstration Farm

On the basis of this study it is recommended that the Cooperative Extension Service establish a demonstration farm which should be centrally located in the study area. The amount of land, machinery and other facilities should be comparable to those that a small farmer has or should have. This will assure the farmer that whatever is being shown and done at the demonstration farm is within the realm of his own possibilities. The demonstration farm should have a good balance of row crops, truck crops, and livestock. The specific things which can be shown at the demonstration farm are as follows:

1. Explain the importance of soil analysis and show how to take soil samples and get them analyzed.

2. Show the procedure for farm planning which would involve selection of appropriate crop and livestock enterprises.

3. Demonstrate modern methods of cultivation, planting, disease and pest control, and the application of proper fertilizers.

4. Show the proper time and methods for harvesting, and preparing the produce for the market.

5. In the case of livestock, appropriate methods of selection, breeding, feeding and management should be demonstrated.

6. If there is no community market in the area, the Extension Service should try to organize one so that the farmers can be assured of a market for their product.

B. Other Recommendations

Studies such as this one only point out the problems of infrastructure. Similarly, the demonstration farm can only show the

things which are common for all the farmers. However, each small farm has its own special problems. Several southern states are now using paraprofessionals to work with small farmers on an individual basis. It is therefore recommended that the Extension Service employ such paraprofessionals as agricultural science assistants to work exclusively with the small farmers in the study area. Specific recommendations for the service of the paraprofessionals are as follows:

1. The soil type of each farmer should first be assessed with the help of the Agricultural Stabilization and Conservation Service. Enterprise recommendations should be exactly related to the particular nature of the soil.

2. The paraprofessionals should make periodic visits to the farms to evaluate what has been done by the farmer so far and to suggest what should be done next. A very detailed record of these visits would prove to be quite valuable.

3. The farmers should be taught proper methods of food preservation. This will enable the farmers to preserve their surpluses for future use and thus support their meager incomes.

4. The paraprofessionals should assess the credit situation of the farmer and point out to him how important it is in increasing the farm productivity. Farmers also should be appraised of various sources of credit and proper use of credit.

5. Farmers should be encouraged to join farm organizations, such as farmers cooperatives in the area. Also, they should be appraised of the benefits of developing a close relationship with the Extension Service.

The demonstration farm coupled with the individualized paraprofessional small farm program could prove to be quite profitable for the small farmers. Improved farm income would, among other things, develop self-pride among small farmers, improve their standard of living and reduce their dependence on public assistance payments.

SUMMARY AND CONCLUSIONS

Many limited-resource rural families in South Carolina have control over small tracts of land. Several of them have abandoned farming and migrated to urban areas in search of a better life. The lack of salable skills has prevented them from achieving those objectives. Those who are still engaged in farming are unable to receive the full benefit from the farm for various well-known reasons. It has been established through several studies that the limited-resource farmers can increase their farm incomes by proper planning, employment of modern technology and by better utilization of available resources. This study was conducted to examine the present input efforts of limited-resource farmers in South Carolina and to examine their potential with an intent of developing an efficient small farm model.

The study area included five counties in the Southern Coastal Plains Area of South Carolina, namely; Beaufort, Berkeley, Charleston, Colleton, and Jasper. Five hundred limited-resource farmers were interviewed in this study area to get the data for this study. The questionnaires were administered and the data were collected by the enumerators of the Statistical Reporting Service of the United States Department of Agriculture. Those rural families who did not own any land were not included in the study.

The survey data indicates that 63 percent of the farmers surveyed have lived on their present farms for more than 20 years. A vast majority, or 68.4 percent, had between 5 to 12 grades of education. Some type of off-farm employment was indicated by 53 percent of the farmers surveyed. Family size was rather small. Slightly more than half of the farmers surveyed had less than 4 family members. Almost half of the farmers surveyed had less than 20 acres of land. There was heavy emphasis on the home consumption of farm products. Forty-five percent of the farmers did not know if the production credit was available to them. Only forty percent of the farmers indicated that production credit was available to them. When asked about the single most difficult problem confronted by them, the farmers surveyed indicated that low prices of farm products and high cost of inputs as their problems. The farmers surveyed were asked about what things they would like to learn from a small demonstration farm. Disease and pest control, use of fertilizer, crop selection, and the knowledge of other farming practices were indicated, in that order, as the things to be learned from a

demonstration farm.

This study recommends that the Cooperative Extension Service establish a demonstration farm in the study area to demonstrate modern methods of farming to the limited-resource farmers. The facilities and the workings of the demonstration farm should reflect the resource base of a typical limited-resource farm. A demonstration farm can only show the things which are common for all the farmers. However, each small farm has its own special problems. Thus, it is further recommended that the Extension Service employ paraprofessional agricultural science assistants to work with small farmers on individualized basis. The concurrent use of demonstration farm and the paraprofessionals would help the limited-resource farmers to increase their net incomes and enable them to improve their quality of life.

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