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by

Suresh R. Londhe and Rudolph Daniels

In Cooperation with Clemson University

and the

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SOUTH CAROLINA STATE COLLEGE

ORANGEBURG, SOUTH CAROLINA

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ABSTRACT

This study was concerned with examining the economic factors of organizing marketing and supply cooperatives by low-income farmers in South Carolina. Managers of four low-income farmers' cooperatives, a sample of 98 members of these cooperatives and 93 nonmember farmers were interviewed to ascertain the data for this study.

It was observed that returns were less than cost for these four cooperatives in 1972. A low volume of business with high selling and administrative costs was given as the primary reason. Losses were small when sales were made to processing markets on a contract basis and high when consignment sales were made to the fresh market. Farm supply operations made small but positive contributions to net profits.

The members of the cooperatives suggested that the cooperatives should improve the management and engage in the buying and selling of larger varieties of products. The nonmember low-income farmers indicated that they will become members when the management of the cooperatives is improved and when the advantages of membership are clearly shown.

Low-income farmers find it convenient to produce vegetable crops. The most important crops are tomatoes and cucumbers. Model tomato and cucumber packinghouses of various capacities were examined. Although the potential membership was found to be high, the potential volume of business was relatively small. The initial investment was high. Low-income farmers' cooperatives must be able to attract other medium income farmers into the cooperatives to assure success in the long run.

INTRODUCTION

Low-income farmers are not able to achieve the economies of scale enjoyed by large farmers. They need to find ways to increase production, reduce costs and increase bargaining power in marketing their products. Cooperative organizations are generally considered to be one way low-income farmers can achieve these objectives. Since the mid-1950's, an increasing number of cooperatives have been organized by and for the low-income people in the South. Economically successful cooperatives may not be the final answer to the low-income problem, but they could provide two major benefits. First, the members of these cooperatives could receive direct economic benefits and, thus, help increase their level of income up to a certain point. Second, economically successful cooperatives, coupled with pragmatic governmental programs, could become pivotal organizations in tackling the complex problem of rural poverty.

According to the 1970 Census of Agriculture, the number of farms in South Carolina for economic Classes V and VI (commercial farms reporting less than $5,000 sales of farm products) decreased from 18,995 farms in 1964 to 10,580 in 1969--a reduction of 44 percent. In spite of the reduction in low-income farms, they still amounted to 47 percent of all the commercial farms in South Carolina in 1969. These figures indicate the overall magnitude of the low-income farm problem in South Carolina.

At present, there are ten cooperatives of various types organized by low-income people in South Carolina. The breakdown of these cooperatives according to their type is as follows:

Type of Cooperative	Number
Consumer Cooperative	1
Credit Union	1
Marketing & Supply Cooperatives	6
Fishing Cooperatives (One Oyster Co-op, One Shrimp Co-op)	2
	10

Because of small acreage and shortage of capital, low-income farmers find it convenient to produce vegetable crops. Vegetable crops are an important source of farm income in the coastal plains area of South Carolina. The existing marketing cooperatives of low-income farmers are, thus, engaged in the marketing of vegetable crops. For these reasons, the marketing and supply cooperatives are the central theme of this study.

In order to determine the feasibility of organizing cooperatives, it is helpful to examine the performance of presently established cooperatives. It is also necessary to evaluate farmers' attitudes toward cooperatives. The economic factors influencing the organization and operation of low-income farmers' cooperatives could then be determined on the basis of this information and from other secondary data. This is essentially the approach follow in this study.

The results of this study should be useful to organizers of future cooperatives in designing a better organization, to operators of existing cooperatives in strengthening their organizations and to local, state and federal governmental agencies in formulating policies and in implementing programs in this area. Also, the private organizations that help to guide the cooperative organizations and that are interested in the welfare of low-income people may find this information to be useful.

Objectives

The overall objective of this study was to determine the economic feasibility of organizing marketing and supply cooperatives for low-income farmers in South Carolina, by studying the needs and views of low-income farmers and by evaluating the performance of existing cooperatives.

The specific objectives were as follows:

1) To examine the performance of existing marketing and supply cooperatives organized by low-income farmers.

2) To determine the characteristics and resources of low-income farmers and their attitudes toward farmer cooperatives.

3) To examine the economic factors influencing the organization of marketing and supply cooperatives by low-income farmers in South Carolina.

Procedure

To achieve objective one, the managers of existing cooperatives were interviewed to obtain information about membership characteristics, marketing practices, volume of business, facilities and financial operations. Although the breakdown of cooperatives on page two shows six marketing and supply cooperatives in South Carolina, only four of these were functioning at the time of this study. The two remaining cooperatives exist in name only. Accordingly, only managers of the functioning cooperatives were interviewed.

To achieve objective two, a random sample of farmers who were members of these cooperatives were interviewed. Whenever a member farmer was interviewed, a nonmember low-income farmer in the neighborhood was interviewed. Thus, 98 member and 93 nonmember farmers were interviewed in the operating area of each cooperative.

To achieve objective three, the information from objectives one and two was supplemented by information from secondary sources in analyzing the poten-

tial of organizing marketing and supply cooperatives. All data were collected during the summer of 1973.

ANALYSIS OF EXISTING MARKETING AND SUPPLY COOPERATIVES

Although the history of low-income people's cooperatives dates back to the 1880's, this movement gained significant momentum only after the mid-1960's.[1] The cooperative movement has not yet reached a significant portion of low-income people in South Carolina. There are only four functional marketing and supply cooperatives organized by low-income people in South Carolina. The information gathered from these cooperatives could be quite valuable in organizing future cooperatives. In order to maintain the confidentiality of their information, the four cooperatives used in this study are identified as C_1, C_2, C_3 and C_4 in the ensuing analysis.

General Information

Table 1 gives some general information about the cooperatives surveyed. The four cooperatives were organized in 1967, 1970, 1971 and 1972, respectively and all four are incorporated. Cooperatives C_2 and C_4 were stock cooperatives with a stipulated par value of their common stock as $5 per share. Cooperative C_4 required a member to buy 10 shares of common stock to become a voting member. Cooperatives C_1 and C_3 charged a membership fee of $50 and $25, respectively. With exception of C_4, all the cooperatives allowed the farmers to apply their patronage dividends toward their membership. Cooperatives C_1, C_2 and C_3 were marketing as well as supply cooperatives while C_4 was strictly a marketing cooperative.

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[1] Ray Marshall, Cooperatives and Rural Poverty in the South (Baltimore: The Johns Hopkins Press, 1971), pp. 29-37.

TABLE 1

GENERAL INFORMATION ABOUT COOPERATIVES SURVEYED, SOUTH CAROLINA, 1973

Cooperatives	Year Organized	Incorporated		Stock or Nonstock		Par Value of Common Stock	Membership Fee	Type of Activity	
		Yes	No	Stock	Nonstock			Marketing	Supply
C_1	1967	x	-	-	x	N.A.*	$50	x	x
C_2	1971	x	-	x	-	$5	N.A.*	x	x
C_3	1970	x	-	-	x	N.A.*	$25	x	x
C_4	1972	x	-	x	-	$5**	-	x	-

*In a stock cooperative the membership fee is not applicable and in a nonstock cooperative the value of common stock is not applicable.

**For voting members 10 shares of stock at $5 each are required.

Membership

Membership information about the cooperatives surveyed is presented in Table 2. The number of members ranged from 46 in C_4 to 329 in C_1. In general, older cooperatives have larger memberships. With exception of C_4, the cooperatives' memberships have increased significantly from the time of organization to the date of study.

The managers of all the cooperatives agreed that, in general, the membership wants the cooperatives to succeed. Often these members offer their own free labor to the cooperatives. One manager complained that the members were not serious about repayment of credit extended by the cooperative which had created a large amount of accounts receivable. Another manager complained that some members took their business elsewhere.

Farm sizes of the members of the cooperatives surveyed are shown in Table 3. For all cooperatives as a whole, 30 percent of the members had less than 25 acres of land, 58 percent had between 26 to 50 acres, 8 percent had between 51 to 75 acres and only 4 percent had more than 75 acres of land. In other words, 88 percent of the members had less than 50 acres of land.

Boards of Directors

For the successful operation of a cooperative, a good board of directors is as important as a good manager. Managers of the cooperatives were asked about the strengths and weaknesses of their boards of directors. The responses of the managers are:

TABLE 2

MEMBERSHIP INFORMATION OF COOPERATIVES SURVEYED, SOUTH CAROLINA, 1973

Cooperatives	Membership		Members Currently Farming	Percentage of Members Attending Annual Meeting	Percentage of Members Actively Supporting Co-op	Number of Directors	Radius of Co-op's Operation (miles)
	Original	Present					
C_1	178	329	290	55	79	9	30
C_2	56	56	31	20	20	9	10
C_3	70	115	50	50	75	19	20
C_4	11	46	44	50	50	5	20

TABLE 3

NUMBER AND SIZE OF MEMBERS' FARMS FOR
COOPERATIVES SURVEYED, SOUTH CAROLINA, 1973

Cooperatives	Number and Size of Members' Farms			
	less than 25 acres	26 - 50 acres	51 - 75 acres	more than 75 acres
C_1	58	203	15	14
C_2	31	-	-	-
C_3	21	14	11	4
C_4	15	24	5	-
Total 415	125	241	31	18
Percent 100	(30)	(58)	(8)	(4)

Strengths and Weaknesses of the Boards of Directors

Strong Points	Co-ops Responding
Keep in touch with co-op's activity	C_1, C_2, C_3
Punctual in attending meetings	C_1, C_4
Seek guidance from outside sources	C_2, C_4
Enthusiastic	C_4

Weak Points	Co-ops Responding
Not business Oriented	C_1, C_2, C_3, C_4
Do not represent stockholders well	C_1, C_2
Not knowledgeable	C_1, C_3
Do not attend workshop type meetings	C_2, C_4
Do not give much freedom to manager	C_2

Marketing of Farm Products

Vegetable marketing was the major activity of the cooperatives that were studied. Table 4 gives information on the dollar volume of sales, methods of selling and price determination for these cooperatives. The sales ranged from $20,000 for cooperative C_4 to $79,800 for cooperative C_3.

Only cooperative C_1 sold its products to the processing market and had its price determined by a contract before the start of the season. The contract was not directly with the processor but with a broker. This was because the cooperative did not have large enough volume to deal directly with the processor. Consequently, the cooperative had to deal through a broker who assimilated a large volume of products by giving subcontracts to several other producers in addition to this cooperative. It will be necessary for this cooperative to increase its volume of farm products several times to become large enough to deal directly with the processor and eliminate the broker's

TABLE 4

DOLLAR VOLUME OF SALES AND METHODS OF SELLING
FOR COOPERATIVES SURVEYED, SOUTH CAROLINA, 1973

Item	Cooperatives			
	C_1	C_2	C_3	C_4
1. Dollar volume of sales	$64,858.00	$79,800.00	$38,302.56	$20,000.00
2. Percentage of sales to:				
(a) Fresh market	-	100	100	100
(b) Processing market	100	-	-	-
3. Price determined by:				
(a) Contract	x	-	-	-
(b) Consignment	-	x	x	-
(c) Broker	-	-	-	x

commission. Cooperatives C_2 and C_3 sold their farm products to fresh markets, therefore, their prices were determined on a consignment basis.

Some differences exist between selling to processing markets and selling to fresh markets. In selling to the processing market, it is possible to enter into a contract concerning the price. Thus, farmers know in advance what they are going to get and can plan accordingly. The broker with whom cooperative C_1 had a contract also provided initial credit to farmers and supplied seeds, shipping containers and grading machines. In dealing with the fresh market, however, the cooperatives have to accept the going market prices. In the past cooperatives C_2 and C_3 promised the farmers a certain price when the trucks were being loaded, but when the trucks reached their destinations, the prices had gone down. These lower prices, coupled with the rejection of some lower quality produce, caused these cooperatives to suffer losses which caused

dissatisfaction among members. These cooperatives have improved their pricing scheme by promising only the price quoted at the market terminal and by labeling the produce of different farmers so that any produce rejected could be attributed to specific farmers. Salesmen hired by these cooperatives contact the buyers and determine the prices before the trucks leave the cooperatives.

Sale of Farm Supplies

Cooperatives C_1, C_2 and C_3 were also engaged in the sale of farm supplies. At the time of this study, cooperative C_4 was not engaged in selling farm supplies. The breakdown of the dollar volume of sales for these cooperatives is shown in Table 5.

TABLE 5

DOLLAR VOLUME OF SALES OF FARM SUPPLIES
FOR COOPERATIVES SURVEYED, SOUTH CAROLINA, 1973

Item	Cooperatives		
	C_1	C_2	C_3
Fertilizer	$33,077.17	$15,049.83	$ 1,089.74
Seeds	9,093.20	-	364.48
Chemicals	1,041.19	-	-
Other supplies	5,119.81	-	2,485.63
Total	$48,331.37	$15,049.83	$ 3,939.85

It can be seen from Table 5 that only cooperative C_1 had a relatively large amount of sales from farm supplies. Cooperative C_2 sold fertilizer only. The sales of cooperative C_3 were only about four thousand dollars. This was because the cooperative received some fertilizer and other farm supplies as donations and these were simply distributed among the members.

The prices of farm supplies sold by the cooperatives were competitive with local prices. Managers of cooperatives C_1 and C_2 indicated that this itself was a great advantage to the members. According to these managers, farmers had to pay higher prices to the local dealers with unreasonable credit arrangements before the cooperative supply stores were organized.

At cooperative C_1, 40 percent of the sales were cash and 60 percent were on credit. Although the manager indicated that there were no problems with collection, this cooperative had $17,360 on accounts receivable. About 25 percent of the sales were to nonmembers. According to the manager, the major problems encountered in expanding farm supply sales were inadequate capital and warehouse locations necessary to serve members who are scattered over a wider area.

At cooperative C_2, all sales were on a cash basis. In the previous year, 25 percent of the sales were on credit, but because of the collection problems all credit sales were discontinued. The manager indicated that the major problems in expanding sales of farm supplies were the small total acreage of members and credit limitations.

At cooperative C_3, about 50 percent of the sales were on a cash basis and 50 percent were on a credit basis. No interest was charged on overdue accounts. The manager indicated that there was some difficulty with repayment on credit accounts. According to the manager, the major problems encountered in expanding farm supply sales were warehouse facilities and financing.

The managers of all three cooperatives agreed that their volume of sales was so small that they were unable to get any quantity discounts from manufacturers.

Financial Analysis

Financial analysis of a firm is essential for effective planning and control. In order to plan for the future, the manager must evaluate the present financial position of the firm and examine the opportunities in relation to their effect on this position. This analysis also helps him to initiate effective internal controls. The financial statements of the cooperatives studied are analyzed in this section. The balance sheet and income statement are presented in Tables 6 and 7, respectively.

The Balance Sheet: Financial information for cooperatives C_3 and C_4 was so meager and incomplete that a meaningful balance sheet could not be constructed for them.

The current ratio (current assets divided by current liabilities) is the most commonly used measure of short-term solvency. This measure for cooperative C_1 was 2.20 and for cooperative C_2 it was 0.33. Various industries have various norms of current ratios, but a current ratio of less than one is not acceptable in any of them. In this regard, cooperative C_2 had a very critical situation. Another supporting measure of short-term solvency is the working capital which is calculated by subtracting current liabilities from current assets. The working capital for cooperative C_1 was \$12,235.88 and for cooperative C_2 it was \$33,223.84 . These figures again point out the critical working capital position of cooperative C_2. From Table 6, it can be seen that the largest current asset of cooperative C_1 was accounts receivable which totaled \$27,360.92. Considering the problems in collecting accounts, it would

TABLE 6

BALANCE SHEET FOR COOPERATIVES C_1 & C_2
AS OF DECEMBER 31, 1972

Assets	Cooperatives C_1	Cooperatives C_2
Current Assets		
Cash	$ 655.68	$ 4,864.38
Accounts Receivable	17,360.92	11,229.95
Inventory	2,578.60	-
Subscriptions Receivable	-	219.60
Prepaid Insurance	1,288.34	-
Utility Deposits	-	350.00
Investments	532.73	200.00
Total Current Assets	$22,416.27	$16,863.93
Fixed Assets		
Office Equipment	$ 869.09	$ 248.90
Buildings & Equipment	30,416.64	23,729.21
Land	3,566.02	3,000.00
Total Fixed Assets	$34,851.75	$26,978.11
Other Assets		
Contingent Leasehold Improvement	$ -	$ 101.75
Organization Cost	-	59.00
Total Other Assets	$ -	$ 160.75
Total Current and Fixed Assets	$57,268.02	$44,002.79

continued

TABLE 6--contd.

BALANCE SHEET FOR COOPERATIVES C_1 & C_2
AS OF DECEMBER 31, 1972

Liabilities & Equity	Cooperatives	
	C_1	C_2
Current Liabilities		
Notes Payable	$ 3,319.00	$36,100.00
Accounts Payable	5,677.51	11,637.77
Withholding Taxes Payable	152.17	-
Accrued Salaries Payable	797.18	-
Interest Payable	-	2,350.00
Payroll Taxes Payable	203.04	0
Sales Tax Payable	31.49	0
Total Current Liabilities	$10,180.39	$50,087.77
Long-Term Liabilities		
Mortgage Payable	$47,764.41	$ -
Loans Payable	32,600.00	-
Total Long-Term Liabilities	$80,364.41	$ -
Total Liabilities	$90,544.80	$50,087.77
Equity		
Capital Stock Subscribed	$ -	$ 219.60
Donated Capital	2,500.00	10,032.76
Membership Investment	-	10,875.00
Paid-In Capital	10,475.85	2,033.60
Equity Certificate	131.73	-
Deficit	(46,384.36)	(29,245.94)
Total Equity	($33,276.78)	($ 6,084.98)
Total Liabilities & Equity	$57,268.02	$44,002.79

seem that cooperative C_1 showed an unrealistically high current ratio and working capital.

The debt ratio, i.e., the ratio of debt to total assets, measures the percentage of total funds that have been provided by the creditors. The debt ratios of cooperatives C_1 and C_2 were 1.58 and 1.13, respectively. Although the norm for debt ratios differs from industry to industry, a debt ratio of more than one is considered highly undesirable. The high debt ratios of these cooperatives bring out a very important point in that cooperatives organized by low-income people usually have a very low equity. Under these conditions, if the cooperatives invest in buildings, equipment and facilities, rather than rent them, a very risky situation is created. If this arrangement is successful, it could yield a substantial percentage return to the owners. However, even a moderate loss under these circumstances could hurt the owners' equity. As can be seen from Table 6, this was precisely what happened to cooperatives C_1 and C_2. The deficits suffered by both of these cooperatives during 1972 caused the total equity to be ($33,276.78) and ($6,084.98) for cooperatives C_1 and C_2, respectively.

The Income Statement: The 1972 income statements of the cooperatives studied are shown in Table 7. In 1972 cooperative C_4 had completed its first season. The farmers sold their products directly through the broker as arranged by the cooperative. However, the cooperative itself incurred no income or expenses for that year and, therefore, was not included in this table.

For analytical purposes, the major items of expenditure for the cooperatives from Table 7 are presented as percentages of net sales in Table 8. Both of these tables will have to be used simultaneously to analyze the income statements. In 1972 cooperative C_1 suffered a loss of 9.20 percent

TABLE 7

INCOME STATEMENT FOR COOPERATIVES C_1, C_2 & C_3 FOR THE YEAR 1972

	Cooperatives					
	C_1		C_2		C_3	
Sales Revenue						
Farm products	$50,893.50		$79,799.38		$31,285.24	
Farm supplies	48,331.37		15,049.83		3,939.85	
Sales commission income	12,724.50		-		3,077.47	
Sales return & allowance	-		(16,018.92)		-	
Net Sales		$111,949.37		$78,840.29		$38,302.56
Cost of Goods Sold						
Opening inventory	$ 1,460.52		$ 1,102.00		$ -	
Purchases:						
Farm products	50,693.03		56,923.51		21,469.78	
Farm supplies	44,562.55		13,598.79		2,537.00	
Purchase return & allowance	(3,905.40)		-		-	
Net purchases	92,810.70		71,624.30		24,006.78	
Closing inventory	(2,578.60)		-		-	
Cost of goods sold		$ 90,232.10		$71,624.30		$24,006.78
Gross Margin on Sales		$ 21,717.27		$ 7,205.99		$14,295.78
Selling Expenses						
Salaries	$ 6,340.02		$13,541.61		$ 1,227.21	
Day labor	1,658.60		68.00		409.08	
Truck expenses	2,272.95		709.06		5,817.02	
Utilities	40.70		431.50		-	
Telephone	197.97		-		-	
Selling expenses	-		1,785.72		3,386.27	
Operating supplies	-		485.91		-	
Packing boxes	-		9,833.26		-	
Rent	-		289.00		300.00	

continued

TABLE 7--contd.

INCOME STATEMENT FOR COOPERATIVES C_1, C_2 & C_3 FOR THE YEAR 1972

Item	Cooperatives					
	C_1		C_2		C_3	
Selling Expenses - contd.						
Shed expense	$ 1,408.50		$ -		$ 3,564.35	
Buyer handling	-		198.68		642.75	
Taxes	-		4,458.83		-	
Other expenses	1,125.56		4,935.96		-	
Total selling expenses		$13,044.30		$36,737.53		$15,346.68
Income Before Adm. Exp.		$ 8,672.97		($29,531.54)		($ 1,050.90)
Administrative Expenses						
Salaries	$ 4,642.04		$ 3,972.20		$14,866.11	
Insurance expense	701.83		-		415.00	
Telephone	2,381.41		1,329.69		36.00	
Travel	3,899.96		20.00		2,820.55	
Utilities	901.81		-		421.16	
License fee	216.66		1,042.75		-	
Office supplies	569.33		201.97		140.00	
Payroll taxes	1,240.48		541.66		1,411.00	
Legal fees	-		1,042.75		-	
Special projects	1,266.48		-		-	
Bank charges	-		25.44		-	
Interest	-		2,350.00		-	
Office equipment rental	-		36.00		-	
Other adm. expenses	3,159.36		469.25		932.30	
Total Adm. Expenses		$18,978.97		$ 9,938.96		$21,033.12
Other Income & Expenses						
Other income	$ 3,006.81		$ 615.23		$ -	
Other expenses	(4,151.07)		(267.23		-	
Other net income		($ 1,144.26)		$ 348.00		$ -
Net Income		($11,450.26)		($39,172.50)		($22,084.02)

TABLE 8

EXPENDITURES AS PERCENTAGE OF NET SALES
FOR COOPERATIVES STUDIED, SOUTH CAROLINA, 1973

Item	Cooperatives		
	C_1	C_2	C_3
	Percent	Percent	Percent
Net Sales	100.00	100.00	100.00
Expenditures:			
1) Cost of goods sold	80.60	90.84	62.67
2) Selling expenses	11.65	46.59	40.06
3) Administrative expenses	16.95	12.60	54.91
Total	109.20	150.03	157.64
Net Loss	(9.20)	(50.03)	(57.64)

while cooperatives C_2 and C_3 suffered losses of 50.03 percent and 57.64 percent, respectively. A low volume of sales coupled with excessive selling and administrative costs caused the deficits.

Since cooperative C_1 was a large cooperative with a relatively large volume of sales and since its prices were determined by contract, its losses were far less than the other two cooperatives. The sale of farm supplies had made positive contributions to the profits for all the cooperatives, but it was the sale of farm products which caused excessive losses.

The Manager

One of the most important factors in the successful operation of a cooperative is the manager of that cooperative. The role of the manager becomes extremely important in operating low-income farmers' cooperatives. The reason is that the members are mostly small farmers with little or no education.

Then, too, the board of directors may not be well-trained or business-minded. The background, training, experience and motivation of the manager determine the quality of leadership he will provide for the cooperative. Table 9 provides certain basic information about the managers of the cooperatives under study.

TABLE 9

BASIC INFORMATION ABOUT THE MANAGERS OF COOPERATIVES STUDIED, SOUTH CAROLINA, 1973

Item	Cooperatives		
	C_1	C_2	C_3
1) Age (years)	27	22	57
2) Native State	South Carolina	South Carolina	South Carolina
3) Education	College Grad.	College Grad.	College Grad.
4) Past Experience *years)			
(a) With a co-op	-	-	-
(b) Other	3	-	22
5) Full-time or Part-time Manager	Full-time	Full-time	Full-time
6) Special training in managing a co-op?	Yes	No	No

Cooperative C_4 did not have a manager at the time of this study; therefore, information on its manager could not be included.

It can be seen from Table 9 that all the managers were college graduates and all were natives of South Carolina. They did not have any previous experience working with a cooperative. The manager of cooperative C_1 had worked for

three years with a national business firm. The manager of cooperative C_2 was a recent graduate of a business school. The past experience of the manager of cooperative C_3 was not connected with the activity of a business.

Problems Confronted by the Cooperatives

The managers of the cooperatives were asked to indicate the problems that affected the success of their cooperatives. The responses of the managers are listed below.

Problems Faced	Cooperatives Responding
Small acreage and small volume of production	C_1, C_2, C_3, C_4
Directors' lack of training	C_1, C_2, C_3
Members' lack of participation	C_1, C_2
Inadequate financing	C_1, C_2
Staff not well-trained	C_1 C_3
Marketing price fluctuations	C_2
Lack of assistance from agencies	C_2
Inadequate facilities	C_4
Lack of a full-time manager	C_4

It can be seen from this enumeration that all the cooperatives were confronted with the problem of small acreage held by members and, thus, a small volume of production. In order to be successful, the cooperatives will have to increase their membership to increase the acreage and assist the members in increasing their per acre yields to have a larger overall volume of production. Another common complaint of the managers was regarding the members on the boards of directors. Because of their lack of training and business orientation, the specific complaint against the boards of directors was that they were ineffi-

cient in guiding the operations of the cooperatives. Other important problems pointed out by some of the managers were untrained staff, inadequate financing and lack of participation by members.

EVALUATION OF COOPERATIVES BY MEMBER AND NONMEMBER FARMERS

One measure of the performance of a cooperative is its reputation among the member and nonmember farmers in the area. Members, through their experience, can shed some light on the operations of the cooperative. Information of this type can be used by the cooperative's management to improve the cooperative and to strengthen its relationship with the members. Furthermore, nonmember farmers hear about the advantages, disadvantages and performance of a cooperative through its members. Information with regard to why these low-income farmers did not become members and under what conditions they will become members is important to management in increasing membership and improving public relations operations. Thus, this section deals with the evaluation of existing cooperatives by member and nonmember farmers in the area. Before such an analysis can be made, however, it is important to present the characteristics of all the members and nonmembers surveyed.

The number of member and nonmember farmers surveyed is shown below.

Cooperatives	Number of Members	Number of Nonmembers	Total
C_1	40	40	80
C_2	20	22	42
C_3	18	11	29
C_4	20	20	40
Total	98	93	191

Out of the 191 farmers surveyed, 98 were members of cooperatives and 93 were nonmembers. It should be pointed out here that the nonmembers surveyed

were low-income farmers in the operational area of various cooperatives. Usually, the farms of nonmembers were located close to those of members.

Characteristics of Members and Nonmembers

Age and Sex: Table 10 shows the classification of farmers surveyed according to age and sex. It can be seen from Table 10 that among the farmers surveyed, no one was less than 20 years old and only 8 were between the ages of 21 and 35 years. A total of 100 farmers or 52 percent were between 51 and 65 years old. It may be observed that there are no significant differences in the ages of members and nonmembers. Of the 191 farmers surveyed, 177 were males and 14 were females.

Farm Size: Sizes of farms of the farmers surveyed are given in Table 11. The farm sizes of members and nonmembers were mostly the same. Of the 191 farms, 89 or 46.5 percent were less than 5 acres, 35 or 18.3 percent were between 6 to 10 acres and 24 or 12.5 percent were between 11 to 15 acres. Only 16 farms or about 8.3 percent were larger than 35 acres.

Problems Encountered in Increasing Farm Incomes: Besides getting higher prices on farm products, the cooperatives can play a great role in increasing the farm incomes of members. To accomplish this, a clearer understanding of the farmers' problems is needed. The farmers surveyed were asked to list the problems they encountered in increasing their farm incomes. This information is presented in Table 12. It should be kept in mind while interpreting Table 12 that some of the farmers listed more than one problem while some did not respond. The major problem faced, as indicated by 35 farmers, was the shortage of labor. Vegetable crops must be harvested in a specific time period in order to maintain market quality. During the harvest season, small farmers find it difficult to compete for the available seasonal labor. For

TABLE 10

NUMBER OF FARMERS SURVEYED AND THEIR CLASSIFICATION ACCORDING TO AGE AND SEX, SOUTH CAROLINA, 1973

Age & Sex	Number of Members					Number of Nonmembers					Total Number
	C_1	C_2	C_3	C_4	Total	C_1	C_2	C_3	C_4	Total	
Age Groups											
Below 20 years	-	-	-	-	-	-	-	-	-	-	-
21 - 35 years	1	2	-	2	5	-	1	1	1	3	8
36 - 50 years	13	7	7	5	32	9	10	1	5	25	57
51 - 65 years	25	9	6	8	48	29	7	5	11	52	100
Above 65 years	1	2	5	5	13	2	4	4	3	13	26
Total	40	20	18	20	98	40	22	11	20	93	191
Sex											
Male	33	20	18	20	91	35	21	11	19	86	177
Female	7	-	-	-	7	5	1	-	1	7	14
Total	40	20	18	20	98	40	22	11	20	93	191

TABLE 11

NUMBER OF FARMERS SURVEYED AND THEIR CLASSIFICATION ACCORDING TO SIZE OF FARM, SOUTH CAROLINA, 1973

Farm Size (acres)	Number of Members					Number of Nonmembers					Total Number
	C_1	C_2	C_3	C_4	Total	C_1	C_2	C_3	C_4	Total	
Less than 5	28	13	1	5	47	24	15	2	1	42	89
06 - 10	4	6	5	2	17	9	3	3	3	18	35
11 - 15	6	-	4	2	12	5	2	3	2	12	24
16 - 20	-	-	2	-	2	-	1	3	3	7	9
21 - 25	-	-	2	1	3	2	-	-	2	4	7
26 - 30	-	-	-	2	2	-	-	-	4	4	6
31 - 35	1	-	1	2	4	-	1	-	-	1	5
36 - 40	-	-	1	-	1	-	-	-	-	-	1
41 - 45	1	-	-	1	2	-	-	-	-	-	2
Above 45	-	1	2	5	8	-	-	-	5	5	13
Total	40	20	18	20	98	40	22	11	20	93	191

TABLE 12

PROBLEMS ENCOUNTERED IN INCREASING FARM INCOMES
BY FARMERS SURVEYED, SOUTH CAROLINA, 1973

Type of Problem	Number of Members					Number of Nonmembers					Total Number
	C_1	C_2	C_3	C_4	Total	C_1	C_2	C_3	C_4	Total	
(Number of Farmers)[a]	(40)	(20)	(18)	(20)	(98)	(40)	(22)	(11)	(20)	(93)	(191)
Shortage of labor	1	11	2	3	17	-	12	-	6	18	35
Low market prices	19	1	-	2	22	10	-	1	1	12	34
No problems	4	6	-	1	11	11	6	1	1	19	30
Soil drainage problem	-	2	16	-	18	-	1	9	-	10	28
Financing and credit	-	-	8	3	11	1	-	3	4	8	19
Shortage of equipment and machinery	-	1	2	3	6	-	2	3	3	8	14
Crop diseases	-	2	1	1	4	-	-	1	-	1	5

[a]Farmers responded to more than one category. For this reason, the number of responses do not match with the number of farmers.

this reason, some indicated that they did not want to increase their crop acreage.

Another major problem was low market prices as indicated by 34 farmers. It is interesting to note that more members of cooperatives complained about lower prices than nonmembers.

About 30 farmers indicated that they faced no problems in increasing their farm incomes. Soil drainage problems were noted by 28 farmers, mostly from the area of cooperative C_3. Some other problems that farmers mentioned were financing and credit, shortage of equipment and machinery and crop diseases. Overall, the nonmembers encountered no more problems than the members of cooperatives.

Members Evaluation of Cooperatives

Advantages and Disadvantages of Cooperative Membership: The members were asked about the advantages and disadvantages they had experienced by becoming members of cooperatives. It can be observed from Table 13 that members of cooperatives C_1, C_2 and C_3 indicated overwhelmingly that they had received better prices, guaranteed market, cheaper supplies, good service in buying and selling and other help in increasing production. The predominant advantage indicated by the members of cooperative C_4 was that they received help in increasing production.

Members of cooperatives C_1 and C_4 did not indicate any particular disadvantages in being members of cooperatives. The members of cooperative C_1 apparently saw no disadvantages while the members of C_4, since it was recently organized, had not been involved with the cooperative long enough to note any disadvantages suffered. The disadvantages cited by the members of cooperatives C_2 and C_3 included receiving lower prices, no regular market, higher cost of

TABLE 13

ADVANTAGES AND DISADVANTAGES OF COOPERATIVE MEMBERSHIP, 98 MEMBERS, SOUTH CAROLINA, 1973

Advantages and Disadvantages	Number of Responses				Total
	C_1	C_2	C_3	C_4	
(Number of Member)	(40)	(20)	(18)	(20)	(98)
Advantages of Co-op					
Received better prices	39	14	18	2	73
Guaranteed market	37	9	17	1	64
Cheaper supplies	38	12	2	-	52
Good service in selling	37	10	5	1	53
Good service in buying	37	7	4	-	48
Received other help to increase production	35	9	10	9	63
Other	1	3	1	1	6
Disadvantages of Co-op					
Received lower prices	-	3	3	-	6
No regular market	-	11	2	-	13
Higher cost of supplies	-	3	1	-	4
No credit	-	11	-	-	11
Other	2	1	-	2	5

supplies and no credit. The enumerators reported some reactions of the members concerning their cooperatives which are not reflected in this table. One cooperative promised to get seasonal labor at harvest time and encouraged the farmers to plant more. However, the cooperative could not provide the promised labor and the farmers were irritated because of the loss of income. In another cooperative, the management bought from the members at a certain price. However, the cooperative had to sell the product at a much lower price and could not pay the promised price to members. This created a lot of dissatisfaction and distrust among the members.

Suggestions to Improve the Cooperatives: Suggestions by the members surveyed to improve the performance of their cooperatives are shown in Table 14. The most important suggestion calls for improvement in management as indicated by the members of cooperatives C_2, C_3 and C_4. The members of cooperative C_1 seemed to be content with its management. The second suggestion was buying and selling a larger variety of products. This suggestion came from members of cooperatives C_1, C_2 and C_4 which deal in only one farm product. Cooperative C_3 sold several kinds of farm products. Other suggestions for the improvement of the cooperatives included getting more facilities, getting better prices for farm products, extending credit to members, getting more members, etc.

Evaluation of Cooperatives: The evaluation of the overall performance of the cooperatives by the members surveyed is shown in Table 15. It becomes meaningless to aggregate the evaluation of all cooperatives as a group; therefore, attention should be given to each cooperative separately. The members of cooperative C_1 overwhelmingly rated the performance of their cooperative as above average to excellent. Cooperatives C_2 and C_3, on the other hand, were generally rated average to below average by their members. Cooperative C_4 was rated average by its members.

TABLE 14

SUGGESTIONS TO IMPROVE PERFORMANCE OF COOPERATIVES, 98 MEMBERS, SOUTH CAROLINA, 1973

Suggestions	Cooperatives				Total
	C_1	C_2	C_3	C_4	
(Number of Members)	(40)	(20)	(18)	(20)	(98)
Improve management	-	8	10	4	22
Buy and sell a larger variety of products	13	4	-	2	19
More facilities	-	-	13	-	13
Get better prices for farm products	8	-	-	-	8
Give credit to farmers	-	1	-	6	7
Get more members	2	-	-	4	6
Show farmers how to economize	-	3	3	-	6
Charge lower prices for supplies	2	3	-	-	5

Farmers responded to more than one category. For this reason, the number of responses do not match with the number of farmers.

TABLE 15

EVALUATION OF OVERALL PERFORMANCE OF COOPERATIVES, 98 MEMBERS, SOUTH CAROLINA, 1973

Level of Performance	Cooperatives				Total
	C_1	C_2	C_3	C_4	
Excellent	20	-	-	2	22
Above average	9	1	2	3	15
Average	9	11	9	12	41
Below average	1	8	3	1	13
Poor	1	-	4	2	7
Total	40	20	18	20	98

Nonmembers' Views of Cooperatives

Reasons For Not Becoming Members: Earlier in the section on evaluation of cooperatives, it was pointed out that practically no differences existed between members and nonmembers in various characteristics studied. Therefore, it is important to know that while some low-income farmers chose to become members of cooperatives, other did not. The nonmembers were asked about their reasons for not becoming members of cooperatives. This information is presented in Table 16.

It can be seen from Table 16 that 23 nonmembers did not give any particular reasons for not joining a cooperative. This indicates a need for membership drives by existing cooperatives. Poor management of the cooperatives was the reason cited by 14 nonmembers, who were mostly from the areas of cooperatives C_2 and C_3. Responses from 12 nonmembers indicated that their farms were too

TABLE 16

REASONS FOR NOT BECOMING MEMBERS OF COOPERATIVES, 93 NONMEMBERS, SOUTH CAROLINA, 1973

Reasons	Cooperatives				Total
	C_1	C_2	C_3	C_4	
(Number of Nonmembers)	(40)	(22)	(11)	(20)	(93)
No particular reason	18	5	-	-	23
Poor management of cooperative	-	5	9	-	14
Farm too small	5	4	3	-	12
Did not know about cooperative	-	-	2	10	12
Did not understand cooperative	4	3	2	1	10
Did not see any advantages	1	8	-	-	9
Membership too expensive	6	-	-	-	6
Prices not guaranteed	-	1	3	-	4

small to benefit from a cooperative. Only 12 farmers did not know about the cooperatives. These farmers were mostly from the area of cooperative C_4 which was organized just prior to the time of this study. Therefore, it can be said with reasonable certainty that nonmembers were generally aware of the cooperative in their area. Other reasons cited for not becoming members of cooperatives were (a) did not understand the cooperative, (2) did not see any advantages, (3) membership too expensive and (4) prices not guaranteed.

Conditions For Becoming Members: Nonmembers were asked further about the conditions under which they would join a cooperative. The conditions,

as indicated by these farmers, are presented in Table 17. An improvement in the organization and management of the cooperatives was cited as a precondition to becoming members by 23 farmers.

TABLE 17

CONDITIONS UNDER WHICH COOPERATIVE MEMBERSHIP WOULD BE CONSIDERED, 93 NONMEMBERS, SOUTH CAROLINA, 1973

Conditions	Cooperatives				Total
	C_1	C_2	C_3	C_4	
(Number of Nonmembers)	(40)	(22)	(11)	(20)	(93)
Better organization and management	2	13	5	3	23
When advantages are clearly shown	9	11	2	-	22
When farm size increases	7	3	1	-	11
When more labor is available	-	3	-	5	8
Plan to join soon	4	2	-	1	7
When membership fee is lowered	5	-	-	-	5
No response	17	3	2	2	24

A comparison of Tables 16 and 17 presents an interesting observation. While only 14 farmers indicated poor management as a reason for not becoming members, 23 farmers said that they would become members if management improved.

Twenty-two farmers, mostly in the areas of cooperatives C_1 and C_2, would become members if they could be shown clearly the advantages of membership. Other conditions indicated by the farmers were (1) increase in farm size, (2) labor availability and (3) lower membership fee.

DETERMINING THE ECONOMIC FEASIBILITY OF MARKETING AND SUPPLY COOPERATIVES

In 1972, vegetable crops contributed $27.6 million to the cash receipts from marketing of farm products in South Carolina.[2] Most of the vegetable production in South Carolina is concentrated in the Coastal Plains counties of the state. Figure 1 shows the vegetable growing counties of South Carolina. All existing cooperatives of low-income farmers in South Carolina are engaged in vegetable marketing. The low-income farmers prefer to produce vegetable crops because of their small farms, availability of family labor and capital requirements are relatively less.

In spite of the numerous advantages offered, the cooperatives whose membership is mostly of low-income farmers have special organizational and operational problems. An ill-conceived cooperative can do more harm than good. A study by the Farmer Cooperative Service concludes that a high percentage of FHA Title III loans were made without the benefit of a feasibility study to determine the overall economic soundness of the cooperative venture.[3] This created operational difficulties for the cooperatives and increased the loan delinquency. For this reason, it is very essential to have a critical examination of several factors before organizing a cooperative. These factors

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[2]South Carolina Crop and Livestock Reporting Service, South Carolina Receipts From Farm Marketings, Crop and Livestock Series No. 82 (South Carolina: Clemson Experiment Station, 1974), p. 4.

[3]U.S. Department of Agriculture, Farmer Cooperative Service, Analysis of Emerging Cooperatives, FCS Information 85 (Washington, D.C.: Government Printing Office, 1972), p. 20.

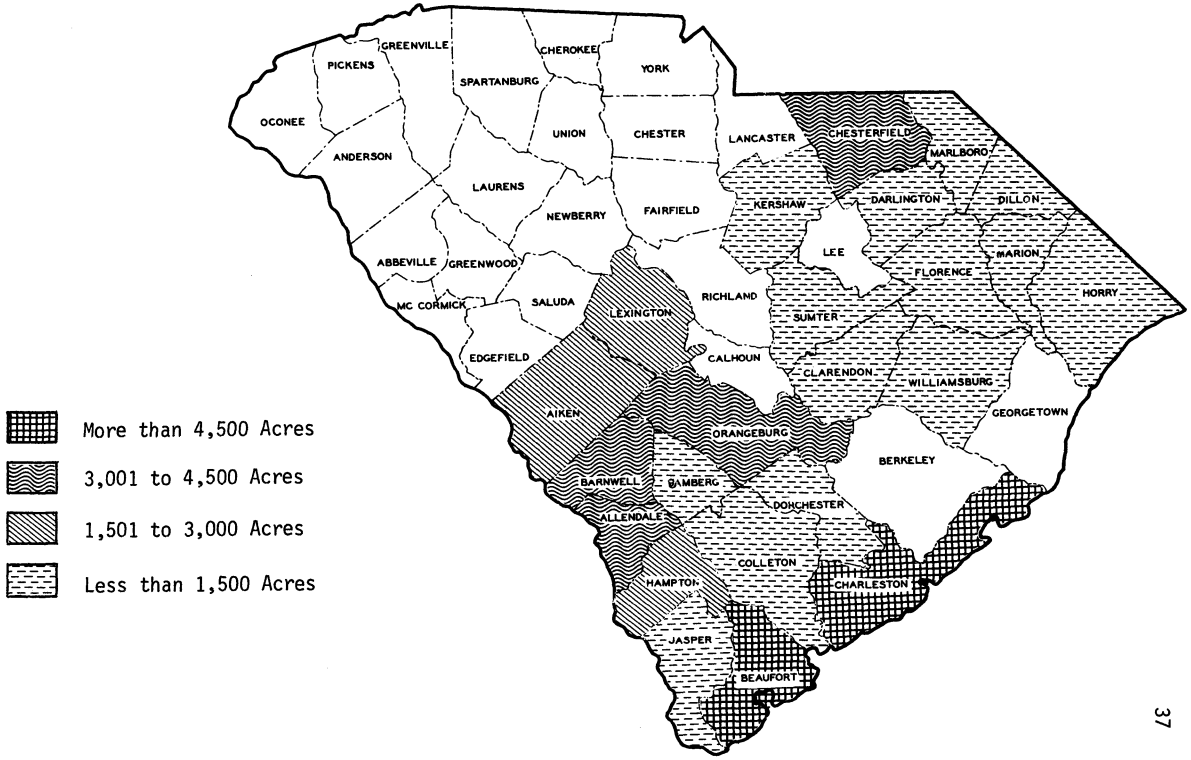

FIGURE 1: Acreage Under Vegetable Crops in Selected Counties of South Carolina, 1969

are (1) the need for the cooperative, (2) potential membership and volume of business, (3) facilities needed, (4) financing and (5) other related matters. These factors will be examined. It should be pointed out that the ensuing analysis pertains to the area as a whole and not to a particular cooperative. To organize a cooperative in some specific area, these factors will need further examination as they relate to that specific area.

Need For Cooperative

A cooperative is needed if the services it intends to provide are not available or could not be made available by working with the present market structure. The large farmers in South Carolina grade, package and market their own vegetable products. Some of these large farmers grade and pack the products of other farmers for a charge. The low-income farmers and others have to sell their products to independent packers. If the grading and packing facilities were available, these farmers could get better prices by selling at the terminal market. Also, to reduce the transportation costs, the producers must ship full truck loads of the product. Individually, small farmers may not have a full truck load of a product at a given time; thus, the products of several producers must be pooled. Similarly, the low-income farmer lacks the marketing information and resources to bargain for a better price at the terminal market. Thus, the low-income farmers in South Carolina do not have available to them grading, packing, shipping and marketing facilities. These facilities could be made available through cooperative arrangements.

Potential Membership and Volume of Business

Any enterprise needs a certain minimum volume of business to achieve the

economies of scale. To determine the potential membership and the volume of business for a low-income farmers' cooperative, it is necessary to examine the number of low-income farmers and their acreage under vegetable production. Table 18 shows the number and percentage of low-income farm families in selected vegetable producing counties of South Carolina in 1969.

TABLE 18

NUMBER AND PERCENTAGE OF RURAL FARM FAMILIES WITH LESS THAN $5,000 INCOME IN SELECTED COUNTIES, SOUTH CAROLINA, 1969

County	Total Rural Farm Families	Families With Less Than $5,000 Income	Percentage of Families With Less Than $5,000 Income
Aiken	943	296	31.38
Allendale	153	60	39.21
Bamberg	455	234	51.42
Barnwell	429	144	33.56
Beaufort	622	276	44.37
Charleston	1,322	652	49.31
Chesterfield	760	349	45.92
Clarendon	1,289	764	59.27
Colleton	556	234	42.08
Darlington	1,448	756	52.20
Dillon	1,236	609	49.27
Dorchester	800	287	35.87
Florence	3,560	1,497	42.05
Hampton	323	144	44.58
Horry	3,291	1,618	49.16
Jasper	532	287	53.94
Kershaw	575	242	42.08
Lexington	1,000	358	35.80
Marion	1,122	551	49.10
Marlboro	622	305	49.03
Orangeburg	2,591	1,294	49.94
Sumter	929	452	48.65
Williamsburg	2,231	1,226	54.95
Total	26,789	12,635	47.16

SOURCE: U.S. Department of Commerce, Bureau of the Census, Census of Population: 1970, General Social and Economic Characteristics, Final Report PC(1)-C42, South Carolina

On an average, 47.16 percent of the farm families in the selected counties had an income less than $5,000. These low-income farms include Class 5 and Class 6 commercial farms as well as part-time and part-retirement farms.

The mere presence of a large number of low-income farmers cannot be construed as a direct indication of the potential membership for a marketing cooperative. The number of farms producing vegetable crops and the acreage harvested for 25 selected counties in South Carolina are shown in Table 19. Vegetables were produced on 42,172 acres on 2,294 farms in the selected area and accounted for 91.6 percent of the total vegetable acreage in South Carolina in 1969.[4] Information concerning the low-income vegetable farmers and their acreage was not available for each county. However, according to the 1969 Census of Agriculture, out of the 3,168 vegetable farms in South Carolina, 2,385 or 75.3 percent consisted of less than 10 acres. This is a good indication of the potential membership for a low-income farmers' marketing cooperative.

The potential volume of business will depend upon the vegetable production by the low-income farmers. The Class 5, Class 6, part-time and part-retirement farmers in South Carolina grew 8,254 acres of vegetable crops in 1969.[5] This is relatively small acreage. To operate effectively, a cooperative would need to have the necessary volume of business in an area with a radius of approximately 20 to 25 miles. The concentration of vegetable acreage in that area will determine the potential volume for that cooperative. For the vegetable growing counties as a whole, it can be said that although the number of vegetable farmers is large, their potential

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[4]U.S. Department of Commerce, Bureau of Census, South Carolina Census of Agriculture: 1969, Vol. 1, pt. 27, South Carolina

[5]Ibid.

TABLE 19

NUMBER AND ACREAGE OF VEGETABLE CROPS HARVESTED
IN SELECTED COUNTIES, SOUTH CAROLINA, 1969

County	Number of Farms	Acres Harvested
Aiken	155	1,528
Allendale	91	3,982
Bamberg	92	1,465
Barnwell	187	3,716
Beaufort	70	7,427
Charleston	86	7,649
Chesterfield	154	3,730
Clarendon	64	269
Colleton	41	632
Darlington	51	576
Dillon	95	395
Dorchester	61	423
Florence	78	379
Hampton	91	1,653
Horry	93	441
Jasper	29	735
Kershaw	35	473
Lexington	147	1,623
Marion	24	361
Marlboro	43	557
Orangeburg	424	3,956
Sumter	64	202
Williamsburg	119	346
Total	2,294	42,172

SOURCE: U.S. Department of Commerce, Bureau of Census, South Carolina Census of Agriculture: 1969, Vol. 1, Part 27.

volume of business is relatively small. The existing low-income farmers' cooperatives have found that as a result of the cooperatives, those farmers who were not producing vegetables have started doing so and others have increased their present production. A cooperative must not only encourage low-income farmers to produce more, but it must also be able to attract other medium size farmers to assure the optimum size of business for the cooperative.

The preceding analysis must take into account the trend of vegetable production in South Carolina. Table 20 shows the number of farms, acreage and cash receipts from vegetable production in South Carolina from 1959 to 1969.

TABLE 20

NUMBER OF FARMS, ACREAGE AND CASH RECEIPTS FROM VEGETABLE PRODUCTION, SOUTH CAROLINA, 1959-1969

Item	1959	1964	1969
Number of farms	6,013	4,911	3,168
Acres	63,363	56,692	46,033
Cash receipts	$8.15 million	$11.5 million	$13.4 million

SOURCE: U.S. Department of Commerce, Bureau of Censur, South Carolina Census of Agriculture: 1969, Vol. 1, Part 27.

The number of farms producing vegetable crops decreased from 6,013 in 1959 to 3,168 in 1969--a reduction of 47.3 percent. Similarly, the acreage in vegetable crops decreased from 63,363 acres in 1959 to 46,033 in 1969--a reduction of 27.3 percent. However, during the same period, the cash receipts increased by 64.5 percent. The increase in cash receipts was primarily due to higher

prices. A sharp decrease in the number of farms producing vegetables, but a relatively small decrease in acreage under vegetables, was generally attributed to the departure of small farmers from vegetable production. On the basis of this trend, vegetable marketing cooperatives comprised of low-income farmers alone will certainly face severe problems in getting optimum volume of business.

Facilities Needed and Operating Costs

A cooperative would require the necessary land, buildings, machinery and equipment to serve its members. It may have to buy or rent all or part of these facilities. The decision to buy or rent and the size of the plant must be consistent with the expected volume of business. The primary vegetable crops in South Carolina are tomatoes and cucumbers. Consequently, these are the primary products marketed by the existing cooperatives of low-income farmers. The analysis which follows pertains to initial investment and operating costs for model packinghouses of various capacities for tomatoes and cucumbers. The input-output coefficients used in this analysis were developed by the Economic Research Service, U. S. Department of Agriculture.[6] The machinery and building costs were updated to 1974 by using the appropriate cost indexes for machinery and construction. The operating costs were updated by using 1974 level of prices and wages.

Tomato Grading and Packing: The following sequence of operations was considered in the cost analysis for tomatoes. Tomatoes are transported to the packinghouse in field boxes containing slightly less than 60 pounds of tomatoes.

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[6]U.S. Department of Agriculture, Economic Research Service, Planning Data for Selected Fruits and Vegetables in the South: Part III - Fresh Vegetable Packing Handbook, Southern Cooperatives Series, Bul. No. 152 (Washington, D.C.: Government Printing Office, 1970), pp. 53-58 and 107-114.

Hand truck operators transport stacks of these field boxes to dumping stations. After tomatoes are dumped, they are washed, dried and pregraded to separate culls, pinks and ripes. All remaining tomatoes are waxed, buffed, graded and packed according to their size in 30-pound fiberboard cartons. The cost coefficients in the Fresh Vegetable Packing Handbook were based upon fiberboard boxes containing 40 pounds of tomatoes. Since the publication of that handbook, the tomato packing industry has switched from 40-pound boxes to 30-pound boxes. The cost coefficients presented in this section were modified accordingly to accommodate this change.

Packinghouses with four different hourly packing capacities are examined here. These hourly packing capacities are 266, 532, 1,064 and 2,128 thirty-pound cartons of mature green tomatoes. Table 21 shows the initial investment in machinery and buildings for packinghouses of selected hourly pack-out capacities. The initial investment in these packinghouses ranged from $73,242 to $286,994 for the 266 and 2,128 cartons per hour capacities, respectively.

The average operating costs per packed carton are presented in Table 22. Three operating levels of 40, 60 and 80 percent are examined. Operating below 100 percent capacity is not necessarily an indication of inefficiency. A poor quality or a short supply of incoming tomatoes will slow down the packing rate. In the case of a cooperative, the grading and packing for one farmer must be completed before the same procedure can be started for another farmer. This also slows down the grading and packing rate. Six different season lengths ranging from 50 hours to 300 hours are considered. Those areas which take only summer crops will have a shorter season than those which take summer as well as fall crops. The operating costs shown in Table 22 include hourly operating costs; salaries of the manager, secretary, foreman and salesman;

TABLE 21

TOTAL INITIAL INVESTMENT FOR MATURE GREEN TOMATO PACKINGHOUSES WITH SELECTED HOURLY CAPACITIES

Capacity in 30-pound Cartons[a/]	Equipment Cost[b/]	Building Cost[c/]	Total Initial Investment
266 cartons/hour	$ 38,247	$ 34,995	$ 73,242
532 cartons/hour	66,041	56,402	122,443
1,064 cartons/hour	121,171	79,301	200,472
2,128 cartons/hour	180,403	106,591	286,994

NOTE: These figures were predicated upon the U. S. Department of Agriculture, Economic Research Service, Planning Data for Marketing Selected Fruits and Vegetables in the South: Part III - Fresh Vegetable Packing Handbook, Southern Cooperative Series, Bulletin No. 152, May 1970, pp. 107-114.

a/ The machine capacities were changed to reflect the change from 40-pound cartons to 30-pound cartons.

b/ Adjusted on the basis of the Wholesale Price Index for Machinery and Equipment, April 1974. Source of Indes: U. S. Department of Labor, Monthly Labor Review, June 1974, p. 116.

c/ Adjusted on the basis of Department of Commerce Composite Construction Cost Index, March 1974. Source: U. S. Department of Commerce, Bureau of Domestic Commerce, Construction Review, Vol. 20, No. 3, April 1974, p. 44.

TABLE 22

AVERAGE OPERATING COSTS PER PACKED CARTON OF MATURE GREEN TOMATOES FOR SELECTED PACK-OUT CAPACITIES, OPERATING LEVELS AND SEASON LENGTHS

Operating Level and Season Length	Hourly Pack-out Capacities in 30-pound Cartons			
	266	532	1,064	2,128
	Dollars	Dollars	Dollars	Dollars
40 Percent Level				
50-hour season	1.785	1.630	1.495	1.355
100-hour season	1.544	1.429	1.330	1.237
150-hour season	1.464	1.362	1.275	1.197
200-hour season	1.424	1.328	1.248	1.178
250-hour season	1.400	1.308	1.231	1.166
300-hour season	1.384	1.294	1.220	1.158
60 Percent Level				
50-hour season	1.435	1.333	1.242	1.148
100-hour season	1.275	1.199	1.133	1.070
150-hour season	1.221	1.154	1.096	1.044
200-hour season	1.194	1.132	1.078	1.030
250-hour season	1.178	1.119	1.067	1.023
300-hour season	1.168	1.110	1.059	1.017
80 Percent Level				
50-hour season	1.252	1.184	1.140	1.046
100-hour season	1.132	1.083	1.034	0.987
150-hour season	1.094	1.050	1.006	0.967
200-hour season	1.072	1.033	0.993	0.958
250-hour season	1.059	1.023	0.984	0.952
300-hour season	1.053	1.016	0.979	0.948

NOTE: These figures were predicated upon U. S. Department of Agriculture, Economic Research Service, Planning Data for Marketing Selected Fruits and Vegetables in the South: Part III - Fresh Vegetable Packing Handbook, Southern Cooperative Series, Bulletin No. 152, May 1970, pp. 107-114. The operating costs were updated for April 1974.

insurance; taxes; interest on operating capital; sales expenses; annual repairs and miscellaneous expenses.

The hourly wage rates assumed in calculating the operating costs were $1.90 for workers, $7 for the manager, $5 for the salesman and foreman and $2.50 for the secretary. Insurance and taxes were assumed to be 2 percent of the initial investment. Interest was charged at the rate of 8 percent on the hourly costs for three months. The cost of repairs and maintenance were calculated on the basis of 1.5 percent of the initial investment. Sales expenses and miscellaneous expenses were assumed to be 10 cents and 5 cents per packed carton, respectively. It can be seen from Table 22 that the average operating cost per packed carton decreased with increases in machine capacity, operating level and season length.

Cucumber Grading and Packing: Cost analysis discussed here takes into account the following sequence of operations. Cucumbers arrive at the packinghouse in field boxes or bulk bins. They are then dumped onto a roller table, washed, pregraded, brushed and waxed. During this procedure, they are separated into five grades. Three kinds of packing containers commonly used are bushel baskets, wire-bound crates and fiberboard cartons. A pack-out mixture was assumed to be 50 percent in crates, 25 percent in bushel baskets and 25 percent in fiberboard cartons.

Four packinghouses with hourly packing capacities of 130, 200, 300 and 500 bushels of cucumbers per hour are included in the cost analysis. Table 23 shows the initial investment in machinery and buildings for the packinghouses of selected hourly capacities.

The operating levels and season lengths were the same as those of the tomato packinghouses. The operating costs were calculated similarly to the

TABLE 23

TOTAL INITIAL INVESTMENT FOR CUCUMBER PACKINGHOUSES WITH SELECTED HOURLY PACK-OUT CAPACITIES

Hourly Pack-out Capacity	Equipment Cost[a/]	Building Cost[b/]	Total Initial Investment
120 bushels	$17,792	$23,401	$ 41,373
200 bushels	19,685	28,839	48,524
300 bushels	89,058	33,377	122,435
500 bushels	95,883	50,397	146,280

NOTE: These figures were predicated upon U.S. Department of Agriculture, Economic Research Service, Planning Data for Marketing Selected Fruits and Vegetables in the South: Part III - Fresh Vegetable Packing Handbook, Southern Cooperative Series, Bulletin No. 152, May 1970, pp. 53-58.

[a/] Adjusted on the basis of the Wholesale Price Index for Machinery and Equipment, April 1974. Source of Index: U. S. Department of Labor, Monthly Labor Review, June 1974, p. 116.

[b/] Adjusted on the basis of Department of Commerce Composite Construction Cost Index, March 1974. Source: U. S. Department of Commerce, Bureau of Domestic Commerce, Construction Review, Vol. 20, No. 3, April 1974, p. 44.

calculation of tomato operating costs. The average operating cost per packed bushel is shown in Table 24. Data in this table show that the average operating cost per packed bushel decreased with increases in machine capacity, operating level and season length.

Feasibility Criteria: Capital budgeting methods provide several criteria for determining the acceptability of an investment proposal. The present-value method is considered to be superior; accordingly, it is most commonly used.[7] Using the present-value method, cash flows are discounted to present value utilizing a predetermined rate of return. The formula to calculate the net-present value (NPV) is as follows:

$$NPV = \frac{R1}{(1+i)^1} + \frac{R2}{(1+i)^2} + \ldots + \frac{Rn}{(1+i)^n} + \frac{SV}{(1+i)^n} - A$$

where, R = Net cash-inflow in a given year

i = Required rate of return

n = Number of years

SV = Salvage Value

A = Initial investment

According to the present-value, an investment proposal is acceptable only when its net-present value is zero or more.

The planning period in this analysis was assumed to be 10 years and the salvage value to be 10 percent of the initial investment. The required rate of return of 10 percent was considered. The net-cash inflow was assumed to be constant for the 10-year period. The net-cash inflow was calculated by subtracting the operational cost per unit from the going rate for grading and

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[7]James C. Van Horne, Fundamentals of Financial Management (2nd Ed.), (N. J.: Prentice-Hall, Inc., 1974), Ch. 9.

TABLE 24

AVERAGE OPERATING COST PER BUSHEL OF CUCUMBERS FOR SELECTED PACK-OUT CAPACITIES, OPERATING LEVELS AND SEASON LENGTHS

Operating Level and Season Length	Hourly Pack-out Capacities in Bushels			
	120	200	300	500
	Dollars	Dollars	Dollars	Dollars
40 Percent Level				
50-hour season	2.315	2.037	2.147	1.874
100-hour season	2.013	1.825	1.790	1.618
150-hour season	1.912	1.754	1.671	1.533
200-hour season	1.862	1.719	1.611	1.490
250-hour season	1.832	1.697	1.575	1.465
300-hour season	1.812	1.683	1.552	1.447
60 Percent Level				
50-hour season	1.831	1.645	1.720	1.535
100-hour season	1.630	1.504	1.481	1.369
150-hour season	1.563	1.457	1.402	1.312
200-hour season	1.529	1.433	1.362	1.283
250-hour season	1.508	1.419	1.339	1.266
300-hour season	1.496	1.409	1.323	1.255
80 Percent Level				
50-hour season	1.589	1.449	1.506	1.372
100-hour season	1.438	1.343	1.327	1.244
150-hour season	1.388	1.308	1.269	1.201
200-hour season	1.368	1.290	1.238	1.180
250-hour season	1.348	1.280	1.220	1.167
300-hour season	1.338	1.273	1.208	1.159

NOTE: These figures were predicated upon U. S. Department of Agriculture, Economic Research Service, Planning Data for Marketing Selected Fruits and Vegetables in the South: Part III - Fresh Vegetable Packing Handbook, Southern Cooperatives Series, Bulletin No. 152, May 1970, pp. 107-114. The operating costs were updated for April 1974.

packing. This difference was multiplied by the appropriate volume of output. The average grading and packing rate for tomatoes in South Carolina at the time of this study was $1.55 per packed 30-pound carton and for cucumbers $2.00 per packed bushel. These rates did not include selling charges.

Tables 24 and 25 show the net-present value for tomato and cucumber packinghouses of selected sizes with different operating levels and season lengths. The net-present values were discounted over a period of 10 years. Data indicate that net-present values continue to increase with increases in machine size, operational level and season length.

The smallest tomato packing machine considered, i.e., 266 thirty-pound boxes per hour, becomes acceptable only when operated at 60 percent operating level for 300 hours. Under these conditions, the volume of output is 47,880 thirty-pound boxes of tomatoes.* The average yield per acre for tomatoes in South Carolina was 277 thirty-pound boxes in 1972.[8] On the basis of this yield, 172.85 acres of tomatoes are needed to produce 39,900 boxes. In other words, the proposal to acquire the smallest tomato packinghouse becomes acceptable only when it is assured of 144 acres of tomatoes producing 47,880 thirty-pound boxes per year.

Data from Table 26 show the smallest cucumber packinghouse, i.e., 120

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*A particular volume of output may be determined by the following formula:

(Machine Capacity per hour) x (Season Length) x (Operating Level)

For 266 per hour machine capacity, at 250-hour season length and at 60 percent operating level, the volume of output will be:

(266) x (250) x (0.60) = 39,900 thirty-pound boxes

[8]South Carolina Crop and Livestock Reporting Service, South Carolina Crop Statistics: State and County Data, Crop and Livestock Series No. 81 (South Carolina: Clemson Experiment Station, 1974), p. 26.

TABLE 25

NET-PRESENT VALUES FOR TOMATO PACKINGHOUSES, FOUR PACK-OUT CAPACITIES, THREE OPERATING LEVELS AND SIX SEASON LENGTHS AT 10 PERCENT REQUIRED RATE OF RETURNS

Operating Level and Season Length	Hourly Pack-Out Capacity in 30-Pound Cartons			
	266	532	1,064	2,128
	Dollars	Dollars	Dollars	Dollars
40 Percent Level				
50-hour season	UA*	UA	UA	UA
100-hour season	UA	UA	UA	51,486
150-hour season	UA	UA	UA	277,958
200-hour season	UA	UA	UA	502,337
250-hour season	UA	UA	10,814	728,285
300-hour season	UA	UA	61,156	954,233
60 Percent Level				
50-hour season	UA	UA	UA	39,457
100-hour season	UA	UA	UA	477,231
150-hour season	UA	UA	63,394	915,006
200-hour season	UA	46,247	172,561	1,355,919
250-hour season	20,784	93,614	275,924	1,778,388
300-hour season	41,967	141,177	380,072	2,233,365
80 Percent Level				
50-hour season	UA	UA	UA	251,283
100-hour season	UA	4,405	72,139	901,931
150-hour season	19,019	78,413	236,893	1,553,624
200-hour season	54,584	152,683	384,910	2,201,133
250-hour season	90,086	226,823	542,342	3,127,709
300-hour season	124,540	301,223	698,204	3,502,427

*UA indicates unacceptable due to negative net-present value

TABLE 26

NET-PRESENT VALUES FOR CUCUMBER PACKINGHOUSES, FOUR PACK-OUT CAPACITIES, THREE OPERATING LEVELS AND SIX SEASON LENGTHS AT 10 PERCENT REQUIRED RATE OF RETURNS

Operating Level and Season Length	Hourly Pack-Out Capacity in Bushels			
	120	200	300	500
	Dollars	Dollars	Dollars	Dollars
40 Percent Level				
50-hour season	UA*	UA	UA	UA
100-hour season	UA	UA	UA	UA
150-hour season	UA	UA	UA	UA
200-hour season	UA	UA	UA	UA
250-hour season	UA	UA	UA	23,727
300-hour season	UA	95	UA	63,237
60 Percent Level				
50-hour season	UA	UA	UA	UA
100-hour season	UA	UA	UA	UA
150-hour season	UA	13,404	UA	49,596
200-hour season	1,897	36,962	23,414	123,700
250-hour season	14,638	60,447	65,056	197,619
300-hour season	27,114	84,079	106,919	271,355
80 Percent Level				
50-hour season	UA	UA	UA	UA
100-hour season	UA	17,938	UA	45,172
150-hour season	14,373	55,396	43,986	153,931
200-hour season	34,783	92,952	107,030	262,445
250-hour season	56,372	130,311	169,852	371,204
300-hour season	77,372	167,768	232,675	479,472

*UA indicates unacceptable due to negative net-present value.

hourly pack-out capacity in bushels, becomes acceptable when it is operated at 60 percent capacity for 200 hours. A total production of 14,400 bushels of cucumbers per year would be necessary to maintain this level of operation. In 1972 the average yield of cucumbers per acre in South Carolina was 118 bushels.[9] On the basis of this yield, it would take, on an average, 122 acres of cucumbers to produce 14,400 bushels per year.

The preceding analysis was based on buying new machinery and constructing a new packing shed. If used machinery is bought or leased and if an old packing shed is bought or leased, the minimum volume of output required for feasibility will be lower.

Financing

Financing of low-income farmers' cooperatives is an acute problem. Low-income farmers are not in a position to subscribe enough equity. The debt ratio for the existing low-income farmers' cooperatives studied in South Carolina was more than one, indicating that outside financing amounted to more than 100 percent of the value of assets. Unless the cooperative is well established in terms of its continuing profitability membership support, this type of financing is quite risky.

Although there is no rule suggesting how much of the initial capital a cooperative should borrow, the provisions of the Farm Credit Act of 1933 may serve as a guide. This act limits the amount that banks may lend to assist cooperatives in construction, buying or refinancing facilities to not more than 60 percent of the fair value of the security offered.[10] This means that

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[9] Ibid.

[10] U.S. Department of Agriculture, Farmers Cooperative Service, How to Start a Cooperative, Educational Circular 18 (Washington, D.C.: Government Printing Office, 1972), pp. 5-6.

the membership must raise at least 40 percent of the initial investment. It may be relatively easy for large farmers to raise this much money; but for low-income farmers, this is quite difficult. It has been suggested that members of low-income cooperatives should raise at least 25 percent of the initial investment.[11] If a cooperative intends to buy or build all the facilities when it gets started, the low-income farmers may not be able or willing to subscribe even 25 percent of the initial investment. In conclusion, the equity capital remains a crucial problem of low-income farmers' cooperatives. In response to the special financing needs of these cooperatives, an organization called the Southern Cooperative Development Fund has been established. The headquarters of this organization is located in Lafayette, Louisiana, and it helps the low-income farmers' cooperatives in the South in their need for initial and operating capital.

Competition

As long as a cooperative's packinghouse handles the farm products of low-income farmers, it will face only a small amount of competition from independent truckers and private packinghouses in the area. However, in order to have an optimum volume of business, the cooperative will have to attract the business of medium and high income farmers. When the independent packers start losing their business to the cooperatives, a high degree of competition will develop between them. Private packinghouses and independent truckers are in a position to pay for the farm products soon after their delivery. Because of this, the existing cooperatives have been losing some of their business to other packinghouses and to the truckers. Cooperatives can overcome this dis-

[11] E. P. Roy & B. A. Fallo, Economic Analysis of Selected Low-Income Farmer Cooperatives in Louisiana, (Louisiana: Louisiana Agricultural Experiment Station, DAE, Research Report No. 434, 1972), p. 74.

advantage by increasing membership loyalty through efficient management and by making partial payments to the farmers at the time of delivery of farm products. The degree and magnitude of this type of potential competition must be assessed in evaluating the economic feasibility of a cooperative in a given area. The number of tomato and fresh market cucumber packinghouses in various counties is presented in Figure 2.

Other Related Matters

Several factors, other than those already discussed, would directly or indirectly influence the degress of success for a cooperative. The most important of these factors is the availability of needed skilled personnel. A knowledgeable, well-motivated and business-oriented manager is vitally essential. Without a competent manager, even a potentially promising cooperative may not succeed. Similar criteria apply to the board of directors in guiding the manager and providing effective business leadership to the cooperative. An experienced foreman is also needed to train the graders and supervise the packinghouse operations to assure quality control. A salesman with several business contacts is essential to bargain for better prices of farm products. In short, all these skills are essential toward the successful operation of any type of business, not just low-income cooperatives.

Another important factor which will influence the success of a cooperative is the community's attitude toward the cooperative. The membership of the low-income farmers' cooperatives will be composed primarily of black farmers. The most logical location of such cooperatives will be in rural areas. A favorable attitude of the local leadership and the entire community is essential for the cooperatives. If the local atmosphere is hostile, the cooperative may fact some difficulties in conducting its business.

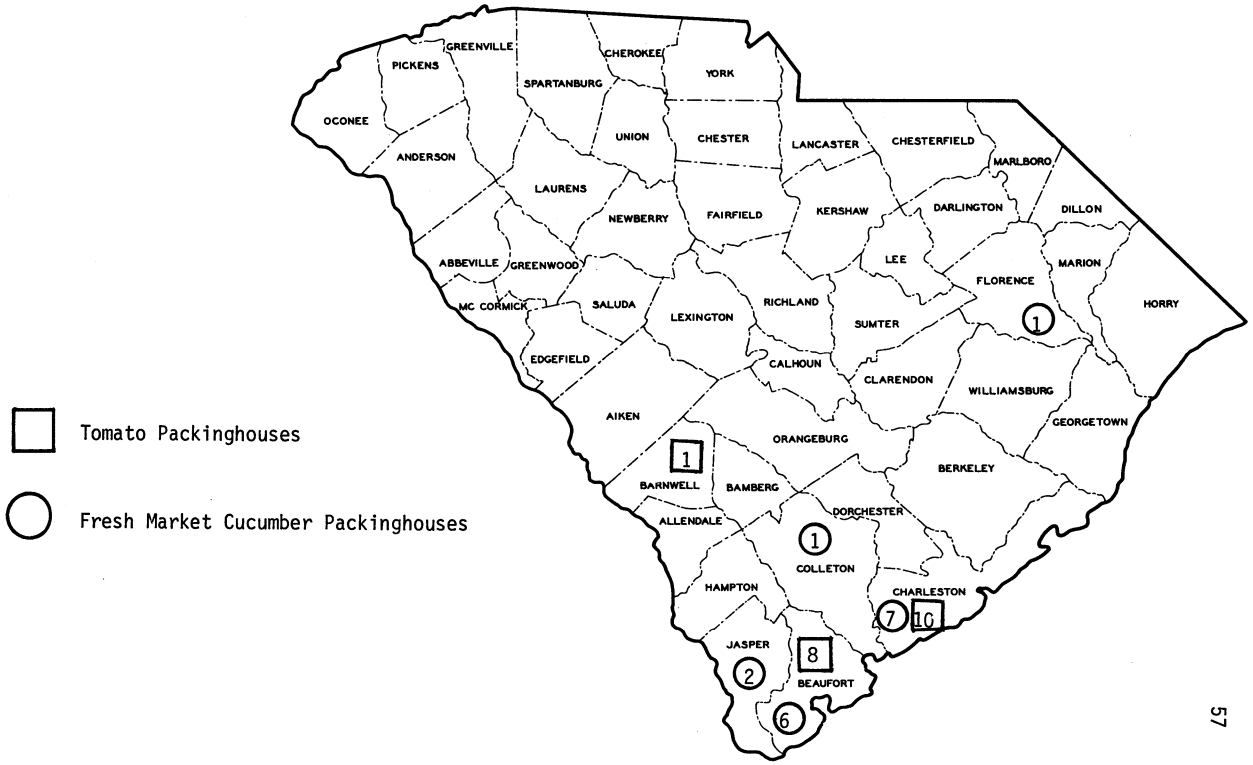

FIGURE 2: Number and Location of Tomato and Fresh Market Cucumber Packinghouses by Counties of South Carolina

When the feasibility of a cooperative has been established, some other matters such as incorporation, bylaws, representation on the board of directors, location of business, methods of payments to producers, price and credit policy for farm supplies, business with nonmembers, etc., also must be considered.

Feasibility Evaluated

A particular activity of a cooperative should be defined first before its feasibility can be determined. Thus, model packinghouses of various capacities were developed for tomatoes and fresh market cucumbers because these were the two most important crops in South Carolina at the time of the study. Marketing of these commodities involves grading and packing facilities requiring heavy initial investment which is beyond the means of an individual small farmer. Therefore, the marketing of these crops lends itself to the possibility of cooperative arrangement. Marketing of other truck crops such as melons and cabbages do not require elaborate grading and packing facilities and, thus, it could be done on an individual basis.

Several factors influencing the feasibility of a cooperative have already been discussed. The volume of business is the most important factor in determining the feasibility of a cooperative. The following analysis tries to estimate the potential volume of tomato and fresh market cucumber production by small farmers in those counties which were the principal growers of these two crops. This information is presented in Table 27. Estimates of the acreage of tomatoes and cucumbers grown by low-income farmers were developed with the help of respective county agents and through other agencies. The present production at the time of this study was based on the average yields of these crops grown by the low-income farmers included in this study.

TABLE 27

ESTIMATES OF ACREAGE, PRESENT AND POTENTIAL PRODUCTION
OF TOMATOES AND FRESH MARKET CUCUMBERS BY LOW-INCOME FARMERS
IN SELECTED COUNTIES, SOUTH CAROLINA, 1972

County	Total		Estimates for Low-Income Farmers		
	Acres	Production	Acres	Present Production	Potential Production
Tomatoes		30-lb. boxes		30-lb. boxes	30-lb. boxes
Beaufort	3,000	860,000	230	23,092	63,710
Charleston	3,740	1,072,000	185	18,574	51,245
Orangeburg	360	96,000	60	6,024	16,020
Cucumbers (Fresh market)		Bushels		Bushels	Bushels
Beaufort	1,150	138,345	185	17,131	22,255
Charleston	2,850	342,855	210	19,446	25,263
Colleton	230	27,669	160	14,816	19,248
Jasper	750	90,225	340	31,484	40,902

The potential production was based upon the average yield for the state as a whole.

Tomato Packinghouse: In the preceding analysis, it was established that the smallest tomato packinghouse, i.e., 266 thirty-pound box capacity per hour, becomes acceptable when 39,900 thirty-pound boxes are available each year. It can be seen from Table 27 that on the basis of the present production of low-income farmers, the minimum volume can not be achieved in any of the tomato growing counties. However, if the yield of tomatoes for the low-income farmers could be brought up to the state's average, the potential production would justify the smallest packinghouse for tomatoes in Beaufort and Charleston counties. Since increasing yields of low-income farms is a difficult and time consuming process, a cooperative in these counties must attract the business of medium and large-size farms. Beaufort County has a cooperative packinghouse for tomatoes, and one of the most important problems it faces is that of a low volume of business. At the time of this study, present and potential volumes of tomato production in Orangeburg County did not justify a cooperative packinghouse for tomatoes.

Fresh Market Cucumber Packinghouse: In the preceding analysis, it was established that the smallest cucumber packinghouse, i.e., 120 bushels per hour capacity, becomes acceptable when 14,400 bushels of cucumbers are processed each year. It can be seen from Table 27 that, on the basis of existing production alone, the smallest cucumber packinghouse becomes feasible in Beaufort, Charleston, Colleton and Jasper counties. Charleston County had one cucumber packinghouse cooperative in 1973. Since the initial investment required for fresh marketing cucumber packinghouse is relatively small, it can be operated with relatively less volume of production.

Farm Supply Cooperatives

Farm supply cooperatives provide quality seeds, feeds, fertilizers, chemicals and other farm supplies to members at reasonable prices. In this way, the cooperatives can help increase the productivity and encourage quality production. Three of the four cooperatives studied provided farm supply services in addition to marketing farm products. In all three cooperatives, the sale of farm supplies made a small but positive contribution to the profits of the cooperatives and the members also got the benefit of reasonable prices.

When a marketing cooperative is organized, it is economical to include the farm supply operations also. A marketing cooperative may concentrate on one commodity during the season; however, the supply operations are in a position to attract several other farmers who are not producing that particular marketing product, thus, increasing the sale of farm supplies. Therefore, a marketing cooperative should include the farm supply services to increase total membership and the overall volume of business.

RECOMMENDATIONS

1. A feasibility study must be conducted before organizing a cooperative. Basic economic viability should be the primary criterion that is emphasized.

2. Any funding organization must insist on a feasibility study before any financing is considered. Close supervision in the formative stages of a cooperative would be mutually beneficial to the cooperative as well as the funding organization.

3. Until a cooperative establishes continuing profitability and membership support, fixed investments in land, buildings, machinery and equipment are not advisable. As far as possible, the facilities should be rented or leased rather than bought or built.

4. If possible, multiproduct rather than single product grading and packing machines should be acquired to increase diversification and to provide wide range marketing services to members.

5. A beginning cooperative should not buy members' products outright. It should only sell these products for the members and give them the proceeds after deducting appropriate expenses.

6. Partial payments in a reasonable amount can be made to producers at the time of delivery. In this way, without taking too much risk, the cooperative can avoid the likelihood of its members selling to independent

packinghouses for immediate cash.

7. Marketing agreements should be worked out with the members to insure the amount of production they plan to deliver to the cooperative.

8. Consignment sales should be strictly avoided. Several cooperatives and farmers have lost money on consignment sales. Sales on a contract basis are ideal. However, if it is not possible to sell on contract, the services of brokers or salesmen should be used. The background of brokers and salesmen should thoroughly investigated.

9. A marketing cooperative should seriously consider selling farm supplies to members. This may help to increase the productivity of members' farms. Sound credit policies must be established and followed to avoid unduely large accounts receivable.

10. While organizing a cooperative, leadership should avoid making exaggerated promises. If expectations are not met by the cooperative, the membership relations can be easily spoiled.

11. The cooperative's leadership must work hard in hiring a competent manager. If needed, he should be encouraged to get further training in managing a cooperative enterprise. The manager must be thoroughly knowledgeable of the marketing and production of the products the cooperative plans to handle.

12. Training sessions for the members of the board of directors are strongly recommended. They should be acquainted with the basic facts about running a business, marketing and reading the financial reports. This way, the board of directors can ask the manager key questions and guide him

accordingly.

13. It is highly recommended that the cooperative's leadership develop a strong working relationship with the county agent and the Land Grant Colleges of 1862 and 1890. A vast amount of free information and the services of specialists are available at these institutions which can be of immense help to the cooperative.

14. Private foundations and charitable organizations which help a given cooperative should have their own experts thoroughly evaluate the needs of the cooperative. Then, the cooperative should be helped with its most critical problems. These organizations should not create a sense of dependency upon them which may ruin business incentives of the cooperative.

LIMITATIONS OF THE STUDY

1. Although the four cooperatives studied gave some insight of the operations of low-income farmers' cooperatives, the presence of more such cooperatives in the state could have provided more information.

2. The growth trend of the cooperatives could not be established because of the lack of data for several years of operation.

3. Several noneconomic factors such as the quality of the manager, the board of directors and local leadership have a strong impact on the success of the cooperatives. Such factors are hard to define and even more difficult to quantify and, thus, were not a part of this study.

SUMMARY

Cooperative organizations are considered to be one way through which low-income farmers can achieve the economies of scale enjoyed by large farmers. This study was concerned with examining the economic factors influencing the organization of marketing and supply cooperatives by low-income farmers. The managers of four low-income farmers' cooperatives were interviewed to get information on the operations of existing cooperatives. To ascertain the attitudes of low-income farmers toward these cooperatives, 98 members of the cooperatives and 93 nonmember farmers were interviewed.

All four of the cooperatives studied were engaged in vegetable marketing. The number of members ranged from 46 to 329. It was the first season of operation for one cooperative at the time of this study. This cooperative did not have any income or expenses at that time. The three remaining cooperatives suffered losses of 9 percent, 50 percent and 57 percent in 1972. A low volume of sales with relatively high selling and administrative costs were responsible for these losses. The cooperative which sold its products to the processing market through contract sales suffered the least loss while the other two cooperatives which sold to the fresh market on a consignment basis suffered excessive losses. Farm supply operations, which were conducted by three cooperatives, made small but positive contributions to the net profits. All the managers complained about the lack of business orientation of their boards of directors.

The members of the cooperatives who were interviewed rated the performance

of their cooperatives from average to above average. These members suggested that the cooperatives should try to buy and sell a larger variety of products and improve the management of the cooperatives to be more effective. The nonmember farmers were asked why they did not join the cooperative nearest their farms. Ignorance of the existence of the cooperative or no particular reason was cited for not becoming members. Another major reason cited for not becoming members was the poor management of the cooperative. The nonmembers indicated that they will become members when the management of the cooperative is improved and when the advantages of becoming members are clearly shown.

It is difficult to determine the feasibility of organizing a cooperative because several noneconomic factors are as important as the economic factors. However, only the most crucial economic factors were examined in this study. Low-income farmers find it convenient to produce vegetable crops. Tomatoes and cucumbers are the most important vegetable crops in South Carolina. Model tomato and cucumber packinghouses of various capacities were analyzed. The capital budgeting technique was used to arrive at the minimum volume of business required. Increasing the productivity of low-income farms and attracting additional medium-size farms into a cooperative can assure the necessary volume of business. Farm supply operations, in addition to marketing of farm products, will increase the volume of total business for the cooperative and could also help to improve the productivity of members' farms.

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