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I am submitting herewith a thesis written by Baboucar Bala Gai entitled "Extension Small Farm Programs in the Southern Region of the United States with Application of Findings to a Situation in The Gambia." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Agricultural Extension.

Dr. Robert S. Dotson, Major Professor

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EXTENSION SMALL FARM PROGRAMS IN THE SOUTHERN REGION OF THE UNITED STATES WITH APPLICATION OF FINDINGS TO A SITUATION IN THE GAMBIA

A Thesis

Presented for the

Master of Science

Degree

The University of Tennessee, Knoxville

Baboucar Bala Gai

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3046805

DEDICATION

The author wishes to dedicate this work to Kenneth, Mabel and Steven Scrivner whose encouragement and inspiration have been invaluable to the author in completion of this work.

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ABSTRACT

Successful Extension-related 1862 and 1890 institutional small farm programs in the Southern Region of the United States were studied and application of findings was made to a situation in The Gambia.

Nineteen of 36 small farm coordinators representing ten of the sixteen states in the Southern Region of the United States responded to a mail questionnaire identifying and characterizing their most successful small farm programs in 1979. States responding included: Alabama, Arkansas, Georgia, Kentucky, Maryland, North Carolina, Oklahoma, Tennessee, Texas and Virginia. Library-type research also was used.

Major findings included:

1. A total of 33 Extension Small Farm Program were identified for 1862 and 1890 institutions in the ten states.
2. Nineteen "most successful" Extension small farm programs were reported by the state coordinators.
3. Eleven state coordinators defined small farm as "gross sales of $20,000 or less."
4. A few, three, defined it as "gross sales of less than $10,000 per year."
5. None reported using the newly suggested 1979 USDA definition:
   a. Rural Farming net income below nonmetro median.

b. Family dependent on farming income.

c. Family provides labor and management.

6. The 1862 successful program purposes were "to increase farm income," "improve family living standards" and "raise quality of living."

7. The major 1890 successful program purpose in 1979 was "teaching production practices."

8. There were 514 staff members assisting 6,878 farmers in 254 counties reported in the successful small farm programs by 1862 and 1890 coordinators responding.

9. Below average farm income was reported as the primary criterion for selection of farmers to participate in the successful programs.

10. Extension's main relations to the programs were in "providing leadership" and in "administering the programs."

11. Only two state coordinators reported state legislation related to their most successful programs.

12. All coordinators indicated that federal legislation was related to their program.

13. Successful Extension small farm programs in the 1862 institutions had started earlier than those in the 1890 institutions.

14. Most coordinators in both kinds of institutions felt that their programs would last "indefinitely."

15. Most coordinators in both kinds of institutions indicated that funding for their programs came from "USDA," "TVA," "federal" and "Extension sources."
16. An average of 165.4 full-time staff equivalents was devoted to each of the most successful programs in 1979.
17. Coordinators in both kinds of institutions indicated that crop enterprises were the most frequently mentioned ones engaged in by participants in their small farm programs, although livestock enterprises also were engaged in.
18. Coordinators in both kinds of institutions felt that inflation, lack of credit, poor marketing alternatives, lack of use of management practices and low prices received were the largest problems facing small farmers in 1980.
19. State coordinators in both kinds of institutions reported that management, production and marketing were the subject matter areas in which Extension had made its greatest contribution.
20. The "most effective" Extension teaching methods utilized to assist small farmers in 1979 were demonstrations (i.e. method and result) and the one-on-one approach as reported by coordinators in both kinds of institutions.

21. Nearly all coordinators felt that their program goals were achieved to at least "some degree" in 1979; while four indicated a "great degree" of achievement.
22. Coordinators in both kinds of institutions felt that increased income, adopted practices, increased production and improved living level of small farmers were reasons why they could say their programs were successful.
23. Utilization and cooperativeness of paraprofessionals, Extension Agents, and specialists and value of prior one-on-one Extension contacts were factors most coordinators felt had contributed most to their programs' success.
24. Most coordinators in both kinds of institutions suggested staffing and funding as their largest needs if their successful Extension small farm programs were to improve.

In applying the findings of this study to the development of a procedure for use with a small farm educational program in The Gambia, important steps were seen to include: 1) consideration of available sources of information on the socioeconomic and cultural conditions and agricultural needs of area small farmers; 2) appropriate use of paid farmers (i.e. paraprofessionals) as Extension Agents; 3) a national survey of small farmers for ideas and suggestions on how the Extension Service could help with their problems; 4) appropriate use of Extension educational methods including one-on-one contact,

farm visits, demonstrations, mass media and group meetings; 5) consideration of ways to reduce the high rate of illiteracy; 6) periodic evaluation of the small farm programs in The Gambia. Implications and recommendations also were made.

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CHAPTER I

INTRODUCTION

A. BACKGROUND AND PROBLEM

The Cooperative Extension Service of the land grant universities is charged with the responsibility of translating scientific knowledge from university and experiment station research into useful application on farms, in homes and communities. According to the Smith-Lever Act of 1914, Cooperative Extension work consists of providing practical information on subjects related to agriculture and home economics and encouraging the adoption of such information in meeting individual and social needs. Through its educational service approach, rural people are stimulated to make changes that result in more efficient production of farm products, improved health and community life (7:8).* Thus, dissemination of useful and practical information related to Agriculture, Home Economics, 4-H Youth Development, Community Resource Development and helping rural people make practical application of such knowledge to their farm situations are the major functions of the Cooperative Extension Service.

Rapid technological and structural changes have helped many farms to increase their production and/or incomes. These changes have left many farm families unable to keep pace with the tremendous growth

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*Numbers in parentheses refer to references in the alphabetically listed Bibliography; while numbers after colons are page numbers.

of the industry of which they are a part. In other words, many farm families have not been able to participate fully in the mechanized technological advancements made by agriculture in the United States. Thus, these farm families have been left behind the mainstream of commercial agriculture and are characterized by having low incomes and limited resources (15:1).

Today's small-farm problems are rooted in an agricultural revolution that has moved the United States to a highly mechanized level. This trend in American agriculture since the 30's has increased the difficulties faced by small farmers as they try to compete with the larger, commercial operators.

Because of factors, Extension has developed special programs to assist small farmers who live outside the mainstream of the commercial agricultural sector. The goals of these programs are to provide educational assistance to small farmers, to assist them in adding profitable enterprises and to help improve their income status through adoption of recommended practices. In this responsibility, the 1862 and 1890 land grant institutions have focused their attention on identifying and providing education to small farmers as originally set forth in the Smith-Lever Act of 1914. This study was designed to examine the programs set up to assist small farmers and determine some of the factors contributing to and affecting the programs' success. This approach to analyzing the successful Extension small farm programs for the 1862 and 1890 institutions in the south, hopefully, may provide suggestions for the improvement of the Cooperative Extension small farm programs in the United States and abroad.

B. STATEMENT OF PROBLEM

American agriculture has been constantly changing during the last 30 years. However, the small farmers have failed to reap the benefits from the rapid technological changes and educational services available. As a result there has been a wide economic gap between the successful commercial farmers and the small farmers. According to the 1974 Agricultural Census, there were 1.5 million farms in the Southern Region (i.e. 16 states, including Missouri in place of West Virginia) (21). Of this number seventy five percent had annual sales of less than $20,000. The continuing trend in the decline of farm numbers resulted in a corresponding effort by Extension to implement educational programs to assist small farmers. There are at present many successful Extension-related small farm programs in the Southern Region with the purposes of improving the quality of life, increasing productivity and raising incomes of small farmers.

The charge given to Extension for teaching and reaching potential clientele with educational information has been more difficult to carry out with the small farmers. Historically, Extension has admitted to working with the more receptive farmers on the basis that the knowledge would "trickle down" to others. Many small farmers have failed to profit however and today there is a renewed interest in this group. Educational programs are being developed to assist them.

In view of the reported success of the Extension small farm programs in the 1862 and 1890 institutions, this study was conducted in an effort to determine some of the factors which may have influenced success.

C. PURPOSES OF THE STUDY

This study dealt with reviews of selected Extension-related 1862 and 1890 institution small farm programs in the Southern Region of the United States; examining certain characteristics of reportedly successful Extension-related small farmer programs and applying results to a situation in The Gambia.

The specific objectives of this study were:

1. To identify successful Extension-related small farm efforts in 1862 and 1890 institutions in the Southern Region of the United States for FY 1979.
2. To study, characterize and compare the successful Extension-related small farm programs identified in the Southern Region.
3. To compare 1862 and 1890 Extension education efforts utilized for assisting small farmers.
4. To analyze 1862 and 1890 small farm programs in terms of factors contributing to success.
5. To apply the findings of the study regarding the successful Extension-related small farm programs in the 1862 and 1890 institutions to the development of procedures for a small farm educational program in The Gambia.

D. NEED FOR THE STUDY

This study grew out of a need and a desire to know more about the successful Extension Small Farm Programs for the 1862 and 1890 institutions in the Southern Region. Extension small farm programs have been developed for the purpose of aiding small farmers and it was believed that if such effort was to be more effective, information was needed concerning the success of these programs.

Information from this study should help give answers to such questions as: In what ways, if any, have the Extension small farm programs in the 1862 and 1890 institutions been successful? Why? How do 1862 and 1890 programs differ? What problems have been faced and overcome at different stages of helping the farmers? What problems are currently being faced? What factors increase the chances for success? Information should be useful in the development of Extension-related small farm educational programs both in the United States and elsewhere.

E. DEFINITIONS OF TERMS

Some of the important terms which occur in this study are defined below for classification. Throughout the remainder of the body of the study, they will have the meaning ascribed.

Small Farm. Any farm selling less than $20,000 in farm products.

Small Farmer. Farm operator with agricultural sales of $20,000 or less.

1862 Institution. The institution in each state designated to benefit from enactment of the Morrill Act in 1862 by the Congress which provided each state with a federal land grant to be used for establishing a public state educational institution responsible for research and teaching in the agricultural and mechanical arts. The act provided each state with 30,000 acres for each congressional delegate.

1890 Institution. The institution established in each Southern state in accordance with the second Morrill Act of 1890 which provided for establishment of land grant institutions to have responsibility for serving black farmers.

Most Successful Program. As used throughout the remainder of the body of this thesis, the term refers to "most successful" as seen in the mind of the state coordinators asked to respond. They were to select their one "most successful" small farm program for 1979.

Full Time Staff Equivalent (FSE). This is a measure of the total percent of time county staff

members spend doing Extension. A county staff member primarily responsible for small farm work and assigned 100 percent of his time to that end represents one full time staff equivalent.

Paraprofessionals. Refers to paid employees of the Cooperative Extension Service who teach Extension related information and practices to small farmers. They are, for the most part, not professional employees.

Extension Small Farm Coordinator. State specialists having responsibility for small farm programs. Such specialists generally serve in the capacity of assisting the small farm field staff and also oversee the program.

F. STUDY LIMITATIONS

This study was restricted by the following limitations:

1. No previous study was found to have been conducted in the Southern Region or in The Gambia concerning the most successful Extension small farm programs.

2. Seventeen of thirty-six questionnaires sent to 1862 and 1890 small farm coordinators in the Southern Region were not returned. Among these not responding were some known to have very successful small farm programs.
3. The questionnaire used as an instrument for collecting data in this study may have restricted the findings of the study in many ways. Although the questions were designed to avoid misunderstandings of terms and objectives, the respondents may have mis-interpreted some questions. Also, room provided for responses may have been somewhat limiting.
4. Access to library references and research used to examine the Extension small farm program in The Gambia was restricted by both availability and distance.

CHAPTER II

REVIEW OF RELATED LITERATURE

A review of related literature, disclosed no mention of any previous reserach examining successful 1862 and 1890 Extension Small Farm Programs in the Southern Region as seen by state coordinators. However, some investigations related to small farm programs in different states and regions were found and will be presented below.

A. DEFINITIONS OF SMALL FARM

In the United States today there are several small farm programs being conducted to improve agricultural production practices, provide educational programs to improve economic status and quality of life of small farmers. Though within these programs there are wide disagreements about the definition of "small farm." Despite much effort to make these programs successful, attempts to find an agreeable definition of "small farm" had led primarily to frustration.

A small farm operator, according to White and Boone (26), is an individual earning a living by farming and meeting the following criteria:

a. Has a production unit of 10 or more acres with total annual receipts of $50 or more;

b. Has a production unit of nine acres or less with total annual return of $250.00 or more.

Marshall and Thompson (11) defined "small farm" as families or unrelated individuals whose incomes are not more than 100 percent greater than the official threshold and who receive at least 1/3 of their income from farming.

Further, Steward, Hall and Smith (18) in a study of limited-resource farms dealt with a sample of full-time Appalachian farm operators who had gross sales of less than $5,000.

In an evaluation of the Cooperative Extension education for small farm families in Texas, Strickland and Soliman (19) defined the small farm operator as an individual with farm sales of less than $7,000 and receiving a major portion of which came from the farm firm.

Wiggins and Daily (27) indicated in their study of Missouri small farm programs that the small farm operator is one whose farm sales is less than $10,000 or whose combined net farm income and off-farm gross income less than $7,500.

The USDA considered the following definition in 1979:

a. Farm family net income from all sources (farm and non-farm) is below the median nonmetropolitan income of the state,
b. family depend on farming for a significant though not necessarily a majority of their income, and
c. family members provide most of the labor and management (4).

The USDA definition departs from the tradition of the Food and Agricultural Act passed by Congress in 1977 which used the economic

criterion of those farm operators with farm sales of less than $20,000 as a "small farmer," but disregarding farm resources, activities or problems (22).

However, West (24) disagreed with the traditional definition of farm sales of less than $20,000 because he indicated that the $20,000 gross sales did not include the value added products produced and consumed by the family (i.e. farm privileges).

B. SMALL FARM NEEDS AND PROBLEMS

West and Schneeberger (25) were concerned with the research and educational needs of those living on small farms. They defined the problem of small farms as being in the area of production, marketing and information problems. These writers concluded that new technology adaptable to small farms, new alternative of marketing small volumes, and new systems of production and farm organization must be found if small farmers are to be helped. Also new approaches to the dissemination of information must be sought.

Steward, Hall and Smith (18) in their study of small farms in Appalachian Kentucky concluded that incomes of small farmers could be increased substantially by selecting more profitable enterprise.

Further, Marshall and others (10, 17) contend that increased agricultural production could be achieved for those small farms with underutilized land and labor by shifting to crops that are not yet subject to high degrees of mechanization. These are crops such as vegetables and fruits which have been found not to exhibit economies of size (9). An increase in production could help increase a small farmer's income.

Thompson and Hepp's (20) study of Michigan farms with less than $20,000 gross sales claimed that Extension educators and researchers could assist small-farm operators to achieve income and other goals by developing special educational efforts to fit their needs.

During the five regional farm conferences sponsored by USDA in 1978 (1), a total of 400 small farmers attended. The purposes of the conferences were: 1) To provide a national voice for small, limited-resources farmers; 2) to learn of problems that are most important to them; 3) to provide the small farmer more direct access to federal programs and 4) to identify needed program improvement.

Problems recurringly voiced by small farmers included: low prices for farm products, increases in prices of inputs, inflation, lack of information about government services and programs and lack of information on technology appropriate for small farmers.

C. PROGRAM GOALS, METHODS AND APPROACHES

Orden, Buccola, and Edwards' (16) study of small farm programs in 14 Southern states revealed that the goals of the programs were to upgrade farmer's skills, improve small farm productivity, increase farm sales revenue and improve family living standards. These goals were achieved through individual farm visits and one-on-one contact.

They concluded that the Cooperative Extension Service's small farm programs were effective because there was a modest improvement in production practices, resource management and farm sales revenue.

Also field staff help farmers improve facilities and utilize available agricultural and societal service programs. Further, they indicated that small-farmers are more responsive to special Extension activities and that the small farm programs can assist small farmers improve home food production, increase operator skills and income. Thus, they mentioned that expansion of small farm programs would be an effective means of supplementing low farm-family incomes (16).

A study was conducted in Northeastern North Carolina, about decision-making and communication patterns of small farm families. The study revealed that interpersonal communication was the most frequently used and perceived as credible to small farm families. The study further states that television appears to be most appropriate mass media for programming. Publication media were ranked low in availability, usage and credibility and appear to be relatively unimportant for communication with small farm families (2).

Ladewig and Edmondson (8) stated that use of indigenous nonprofessionals is most effective in changing-perceptions of small farm operators and that this approach also makes it more fessible to serve a larger small farm audience with more timely information. They assume that if supported by the county Extension staff, the indigeneous nonprofessionals would strengthen the Extension effort in a county.

In response to renewed interest in helping small farmers to improve their income situations through direct marketing, it was in Williamson (28) suggested three marketing channels (i.e. farmers' markets,

roadside stand and you-pick operations) helpful to increasing the incomes of small farmers who participate in them. He also noted that they eliminate the middleman so produce is transferred directly from the grower to consumer. Further, a USDA study showed that consumers buy from direct market outlets because the produce is fresher, has better taste and better appearance (23).

CHAPTER III

METHODS OF PROCEDURE

Due to the study's nature, small farm coordinators who were well-acquainted with Extension's small farmer efforts were selected as the logical contacts at the 1862 and 1890 Land Grant institutions to provide information for small farm programs within their states.

A. SOURCES OF DATA

The information for this study was gathered by two methods: through library research and by use of a mail questionnaire sent to selected Extension Small Farm Program Coordinators in the Southern Region. The library method was used to review the small farm programs in the United States and in The Gambia. The questionnaire (see Appendix A) was developed with the assistance of the graduate committee.

The list of state small farm coordinators, both 1862 and 1890 was provided by Ovid Bay, Coordinator, Small Farm Program, USDA-SEA-Extension (see Appendix B) and defines Southern Region as used in the study. The two-page questionnaire was mailed to 36 small farm coordinators in sixteen southern states representing both 1862 and 1890 institutions (see Appendix B). The response was recorded in tabular form.

To obtain information on the small farm programs in The Gambia, library research was conducted.

B. ANALYZING DATA

In analyzing data from the returned questionnaires, answers were classified and systematically recorded according to the 1862 and 1890 small farm coordinators' responses to each item. Again, this study was concerned mainly with successful Extension small farm programs.

Findings from the mail survey and library research were used to make appropriate recommendations for improving small farm programs in the United States and The Gambia.

CHAPTER IV

FINDINGS OF THE STUDY

The findings of this study will be presented in this chapter as they are related to the purposes of the study, under the following headings:

A. Identification of the Successful Extension - Related Small Farm Efforts in the Southern Region of the United States for FY 1979; B. Characteristics of the Successful Extension-Related Small Farm Programs Identified in the Southern Region; C. Extension Educational Efforts for Assisting Small Farmers; and D. Factors Contributing to the Success of the 1862 and 1890 Small Farm Programs. Applications of Findings to an Agricultural Situation in The Gambia will be made in a later chapter. Appropriate tables and other supportive material will be referred to in interpretive discussion of findings.

A. IDENTIFICATION OF THE SUCCESSFUL EXTENSION-RELATED SMALL FARM EFFORTS IN THE SOUTHERN REGION OF THE UNITED STATES FOR FY 1979

Names of Extension Small Farm Programs in 1862 and 1890 Land Grant Institution and Most Successful Programs in 1979

Reference to data in Table I provides information regarding the names and most successful Extension Small Farm Programs in 1979 in the 10 selected states with 1862 and 1890 land grant institutions.

TABLE I

NAMES OF ALL EXTENSION SMALL FARM PROGRAMS IN 1862 AND 1890 LAND GRANT INSTITUTIONS IN 10 SOUTHERN STATES AND MOST SUCCESSFUL PROGRAMS, 1979

State	Type of Institution	
	1862 Name of Program	1890 Name of Program
Alabama	1. Regular Extension Program 2. Limited Resources	1. Small Farm Swine[a] 2. Small Farm Beed Upgrading 3. Small Farm Small Fruit
Arkansas	1. Small Farm[a] 2. Rural Poor	1. No information
Georgia[b]	1. Small Farm[a] 2. Small Gardening	1. Small Farm[a] 2. Home Gardening[a]
Kentucky	1. Small Farm[a] 2. Small Farm Rural Poor	1. Wilderness Trail Area 2. Mammoth Cave[a]
Maryland	1. Small Farm[a]	1. Farm Institute-Small Part-time Farmers & Home Garden[a]
North Carolina	1. Farm Opportunities Program[a] 2. Small Farm Program	1. Farm Opportunities Program[a] 2. Joint Program with TVA
Oklahoma[b]	1. Small & Part-time Farm 1862[a]	1. Small & Part-time Farm 1890[a]
Tennessee	1. Small Farm[a] 2. Rural Poor[a] 3. Mountain County 4. Special Opportunity	1. Limited Resources Farm Program[a] 2. Developing New Enterprise and Opportunities for the Rural Poor
Texas	1. Intensified Farm Planning Program[a]	1. Small Farm[a]
Virginia	1. Bootstrap[a]	1. Small Farm "Bootstrap" Program[a]

[a]Most Successful
[b]Combined 1862 and 1890

It discloses that a total of 33 different Extension small farm programs was conducted by the 1862 and 1890 institutions. Of the 33 Extension small farm programs, 19 were identified by coordinators as the "most successful" programs as they saw it. Two states (i.e. Georgia and Oklahoma) showed combined 1862 and 1890 Extension small farm program. Eighteen programs were identified in the 1862 institutions, while there were 15 programs in the 1890 institutions. Six states had more than one Extension small farm program in both 1862 and 1890 institutions; while four other states had only one program in both institution by coordinator categories.

The most successful Extension small farm program identified in the 1862 institutions were: Small Farm (Arkansas); Small Farm (Gerogia); Small Farm (Kentucky); Small Farm (Maryland); Farm Opportunities Program (North Carolina); Small and Part-Time Farm 1862 (Oklahoma); Rural Poor (Tennessee); Intensified Farm Planning Program (Texas); and Bootstrap (Virginia). Alabama's "most successful" program was not identified for 1979.

With regards to the 1890 institutions the most successful Extension small farm programs as seen by state coordinators were: Small Farm Swine (Alabama); Small Farm and Home Gardening (Georgia); Mammoth Cave (Kentucky); Farm Institute - Small Part-Time Farmers and Home Garden (Maryland); Farm Opportunities Program (North Carolina); Small and Part-Time Farm 1890 (Oklahoma); Limited Resources Farm Program (Tennessee); Small Farm (Texas); and Small Farm "Bootstrap" Programs (Virginia). The "most successful" program for Arkansas was not identified for 1979.

Definition of "Small Farm" as Relates to Most Successful Programs

The data in Table II consists of the responses of the 1862 and 1890 Extension small farm coordinators regarding their definitions of "Small Farm." Of the 19 respondents, 11 coordinators defined small farm as "Gross Sales of $20,000 or less." Three states (i.e. Tennessee 1862, Texas 1862, and Virginia 1890) reported using "Gross sales of less than $10,000 per year"; while North Carolina (1890) believed that "$20,000 or less in farm sales and working less than 100 days off farm" was the appropriate definition for their program. Alabama (1890) reported using "A farming operation where 80 percent of work is performed by members of the operator's family," and North Carolina (1862) used "$20,000 or less of farm sales and 50 acres or less." Three of the respondents (Arkansas 1890, Georgia 1890, and Maryland 1862) gave no definition of small farm. None of the 1862 and 1890 Extension small farm coordinators reported using the recently proposed USDA criteria used for identifying small farm.

B. CHARACTERISTICS OF THE SUCCESSFUL EXTENSION-RELATED SMALL FARM PROGRAMS IDENTIFIED IN THE SOUTHERN REGION

Purposes of Successful Extension Small Farm Programs

Reference to information in Table III discloses that increasing the farm income and family living standards were the most frequently mentioned purposes by respondents of their small farm programs. Other cited goals mentioned by respondents are: 1. to improve agricultural production practices, 2. to teach or demonstrate proven

TABLE II

DEFINITIONS OF MOST SUCCESSFUL EXTENSION SMALL FARM PROGRAMS
FOR 1862 AND 1890 INSTITUTIONS IN 10 SOUTHERN STATES, 1979

Definition of Small Farm	Alabama		Arkansas		Georgia		Kentucky		Maryland		N.Carolina		Oklahoma		Tennessee		Texas		Virginia		Total
	1862	1890	1862	1890	1862	1890	1862	1890	1862	1890	1862	1890	1862	1890	1862	1890	1862	1890	1862	1890	
Gross Sales of $20,000 or less	X	X			X		X	X		X			X	X		X		X	X		11
Gross sales of less than $10,000 per year															X		X			X	3
$20,000 or less in farm sales and works less than 100 days off farm												X									1
A farming operator where 80% of work is performed by members of the operator's family		X																			1
$20,000 or less of farm sales and 50 acres or less											X										1
No definition given				X		X				X											3

TABLE III

PURPOSES OF MOST SUCCESSFUL EXTENSION SMALL FARM PROGRAMS FOR 1862 AND 1890 INSTITUTIONS IN 10 SOUTHERN STATES, 1979

State	Type of Institution: 1862 Purpose of Program	1890 Purpose of Program
Alabama	1. To benefit small farmers who primarily depend upon the farm for livelihood 2. To reach small and limited-resource farmers and rural resident who are limited in making satisfactory income from farming alone	1. To teach or demonstrate proven swine management practices 2. To increase number of pigs weaned from 7.3 to 8.3 litters 3. Evaluate effectiveness of program assistant
Arkansas	1. Increase farm income 2. Improve quality of life	1. No Information
Georgia	1. To increase farm income and living standards of participating farmers	1. To develop a system to reach the hard to reach and develop them into productive citizens 2. To serve those farmers that are currently not using resources provided by/through public agencies
Kentucky	1. Increase income 2. Improve family and farm budgeting and management	1. Provide educational programs to enable farmers to increase their skill and knowledge in farming 2. Increase income level and future opportunities and development of the family
Maryland	1. Help small and part-time farmers become more proficient and financially independent	1. To assist small farmers in establishing home and community gardens 2. To increase family income 3. To inform and assist family engaged in agricultural enterprises
North Carolina	1. To help farmers increase income and educate them about farm management	1. To help farmers increase income 2. Increase the use of appropriate technology and managerial technique 3. Increase participation in community activities
Oklahoma[a]	1. To improve agriculture production practices 2. To improve marketing opportunities 3. To increase farmers' participation in existing agricultural programs 4. To improve economic status of farm family	1. To improve agriculture production practices 2. To improve marketing opportunities 3. To increase farmers' participation in existing agricultural programs 4. To improve economic status of farm family
Tennessee	1. To improve income opportunities 2. To improve family food supply 3. To improve livestock production	1. To increase yields, intensify existing enterprises, reduce cost to utilize resources more efficiently 2. Increase the resource base
Texas	1. To increase agriculture income 2. To facilitate use of existing services to improve family living	1. To improve level of living of limited resource farmers
Virginia	Increase the family net income	1. Improve quality of life 2. Increase farm production

[a]Combined 1862 and 1890

swine management practices, 3. to develop a system to reach the "hard to reach" and develop them into productive citizens, 4. to assist small farmers in establishing home and community gardens, 5. to increase use of appropriate technology and managerial techniques, 6. to increase participation in community activities, 7. to evaluate effectiveness of program assistants, and 8. to provide educational programs to enable farmers to increase their skills and knowledge in farming.

In each of the 1862 programs, respondents' cited purposes emphasizing more on increased farm income, raised family living standards and higher quality of life for small farmers; while 1890 program coordinators more frequently perceived improving production practices as the main purpose for assisting small farmers.

Thus, the wording of the programs' purposes as stated by 1862 and 1890 small farm coordinators did vary, but not appreciably. Arkansas (1890) did not report a purpose for their program.

Number of Counties and Farmers Involved in Successful 1862 and 1890 Extension Small Farm Programs

An analysis of counties and farmers involved in the most successful Extension small farm programs provides some insight into the nature of educational work the 1862 and 1890 institutions were implementing in the states studied. As indicated in Table IV, there was a total of 2,765 farmers in 153 counties involved in the successful 1862 Extension small farm programs in 1979. This meant an average of

TABLE IV

NUMBERS OF COUNTIES AND FARMERS INVOLVED IN THE MOST SUCCESSFUL EXTENSION SMALL FARM PROGRAMS IN 1862 AND 1890 INSTITUTION IN 10 SOUTHERN STATES, 1979

State	Counties and Farmers Involved — Type of Institution: 1862 — No. of Counties	1862 — No. of Farmers	1862 — Average No. Farmers/County	1890 — No. of Counties	1890 — No. of Farmers	Av. No. Farmers/County
Alabama	67	325	4.8	12	240	20.0
Arkansas	6	150	25.0	--------No Information------		
Georgia	8	250	31.3	17	625	36.8
Kentucky	10	245	24.5	5	80	16.0
Maryland	2	30	15.0	5	539	107.8
North Carolina	3	60	20.0	21	1,000	47.6
Oklahoma[a]	6	25	4.1	6	25	4.1
Tennessee	7	600	85.7	4	4	1.0
Texas	35	900	25.7	22	800	36.4
Virginia	9	180	20.0	9	800	88.9
Total	153	2,765	18.1	101	4,113	40.7

[a]Combined 1862 and 1890.

18.1 farmers per county in the ten 1862 Extension Small Farm Programs. On the other hand, there were 4,113 farmers in 101 counties reported on nine of the ten in 1890 Extension Small Farm Programs studied with an average of 40.7 farmers per county.

The table also discloses that in the 1862 institutions, the state of Texas had the highest number of farmers (i.e. 900) in 35 counties (an average of 25.7 farmers per county); while the state of North Carolina had the highest number of farmers (i.e. 1,000) in 21 counties (an average of 47.6 farmers per county) in the 1890 institutions.

Thus, it would appear that the successful 1890 small farm programs had assisted more farmers per county than had their 1862 counterparts in 1979. Arkansas' 1890 coordinators did not report number of farmers and counties involved in their successful Extension small farm program.

Criteria for Selection of Farmers for Participation

The 1862 respondents from five states (i.e. Alabama, Arkansas, Kentucky, Oklahoma, and Tennessee) indicated that one criterion for the selection of farmers for participation in their most successful program was "farm income level." "Resources (labor) not being used most profitably" also helped determine selection of 1862 participants in Alabama. Arkansas included two other criteria: "agree to work with educational aides" and "not active in Extension programs" for participation in their programs. Georgia reported that farmers are

selected by "county agents, paraprofessional and others." Kentucky's 1862 selection criteria were based on "innate management potential" and "young families"; while Maryland reported "volunteer and interest." Other criteria used for 1862 participation by states were: "operators of small farms with potential" (North Carolina); "willingness and cooperation to work with program assistant and county Extension office" (Tennessee); "by invitation" (Texas); and "encouragement to participate from technicians" (Virginia) as indicated in Table V. Generally, the 1862 Extension Small Farm Programs used flexible but similar criteria for selection of farmers to participate in their programs.

With regards to the 1890 institutions, respondents from four states (i.e. Alabama, Kentucky, Oklahoma and Texas) reported that "farm income" was the primary criterion for selection of farmers for participation in their most successful Extension Small Farm Programs. Respondents from other states reported that "agreement to follow recommended practices" and "interest in growing feeder pigs for family income" (Alabama); "openly volunteer" and "direct request basis" (Georgia); "interest," "potential," "age of farm operator" and "control of land resources" (Kentucky); "Cooperative agent identified (unreached)" (Maryland); "agreement to use farm records of progress and other information for educational program planning" (Tennessee); "past non-participant lacking necessary resources (i.e. land, labor and capital)" (Virginia), were other criteria named by 1890 coordinators for selection

TABLE V

CRITERIA FOR SELECTION OF FARMERS FOR PARTICIPATION IN THE SUCCESSFUL EXTENSION SMALL FARM PROGRAM IN 1862 AND 1890 INSTITUTIONS IN 10 SOUTHERN STATES, 1979

State	Type of Institution	
	1862 Criterion for Selection	1890 Criterion for Selection
Alabama	1. Farm incomes below the average in the state (1967 - $8,040) 2. Resources (labor) not being used most profitably	1. Agreed to follow recommended practices 2. Interested in growing feeder pigs for family income
Arkansas	1. Receive major portion of income from operation 2. Generally not active in Extension programs 3. Agree to work with educational aide	1. No information
Georgia	1. Selection by county agents, paraprofessional and others of those in need of help	1. Openly volunteer 2. Direct request basis
Kentucky	1. Income level 2. Innate management potential 3. Younger families	1. Interest 2. Income 3. Potential 4. Age of farm operator 5. Control land resources
Maryland	1. Volunteer and interest	1. Cooperative agent identified (unreached)
North Carolina	1. Joint selection of general agencies 2. Operators of small farms with potentials	1. Follow definition or select through paraprofessionals
Oklahoma	1. Farmers who gross $20,000 or less	1. Farmers who gross $20,000 or less
Tennessee	1. Gross sales ($10,000) 2. Willingness and cooperation to work with program assistant and county Extension office	1. Agreement to participate for 4 years 2. Agreement to use farm records of progress and other information for educational program planning
Texas	1. By invitation	1. Those that need help and gross less than $20,000 annually
Virginia	1. Encouragement to participate from technicians	1. Past nonparticipant lacking necessary resources (land, labor and capital)

of farmers for participation in their most successful Extension small farm programs in 1979. Arkansas did not report.

As seen in Table V, there were no states with similar criteria in both their 1862 and 1890 institutions excepting Oklahoma, which had a combined program and Kentucky, with three similar criteria listed.

Extension's Relation to the Most Successful Small Farm Programs

The data in Table VI provided information about Extension's relation to the 1862 and 1890 institutions with the most successful state Extension small farm programs. For the 1862 institutions, four states (i.e. Arkansas, Kentucky, Oklahoma and Tennessee) indicated that Extension "provides leadership" to the program; while three states (i.e. Georgia, Oklahoma and Virginia) indicated that Extension was "responsible for the program." North Carolina reported that Extension's relation to their program was through "uses of cooperative agencies"; while Maryland indicated that Extension's relation to their program was through "programs with personnel on 1862 small farm funds."

At the same time respondents from three 1890 states (i.e. Kentucky, Texas and Virginia) reported that it is an "Extension Program;" while two states (i.e. North Carolina and Oklahoma) indicated that Extension provides "leadership" to the program. Two other states (i.e. Georgia and Maryland) cited that "administering the program" was Extension's relation to the programs. Alabama was the only state indicating that Extension "provides education information to producers."

TABLE VI

EXTENSION'S RELATION TO THE MOST SUCCESSFUL EXTENSION SMALL FARM PROGRAMS FOR 1862 AND 1890 INSTITUTIONS IN 10 SOUTHERN STATES, 1979

	Type of Institution	
State	1862 Extension's Relation	1890 Extension's Relation
Alabama	No information	Provides educational information to producers
Arkansas	Furnishes leadership and staff participation	No information
Georgia	Is totally responsible for program	Administers program
Kentucky	Provides leadership	Is an Extension program
Maryland	Is operated with personnel on 1862 small farm funds	Carries it on
North Carolina	Uses cooperative agencies	Provides leadership
Oklahoma	Furnishes leadership and staff participation	Furnishes leadership and staff participation
Tennessee	Provides subject matter leadership	No information
Texas	Sponsors	Is responsible for program
Virginia	Is an Extension program	Is an Extension program

Thus, considerable agreement existed between 1862 and 1890 institutions with regard to Extension's relation to the most successful Extension small farm programs reported in the 10 study states. The most important relations cited were "leadership" and "administration of the program."

Relationship of State and/or Federal Legislation to the Successful Extension Small Farm Programs

Seven 1862 states (i.e. Alabama, Arkansas, Kentucky, Oklahoma, Tennessee, Texas and Virginia) with successful Extension small farm programs reported that there was no state legislation related to their program; however, Georgia reported that "a state bill" provided funds (i.e. Coastal Plain Grant) to start their program and North Carolina reported that legislation affecting the state "Rural Development Committee" was related to their program as shown in Table VII.

Federal legislation was related to the most successful small farm program in four states. The Federal legislation cited included the "Smith-Lever Act" (Alabama); "1890 Program" (Arkansas); "Special Federal appropriation" (Kentucky) and "Federal Legislation" (Oklahoma). No relation between federal legislation and the most successful Extension small farm program in four states (i.e. North Carolina, Tennessee, Texas and Virginia) was indicated.

TABLE VII

THE RELATIONSHIP OF STATE AND/OR FEDERAL LEGISLATION TO THE MOST SUCCESSFUL EXTENSION SMALL FARM PROGRAMS FOR 1862 AND 1890 INSTITUTIONS IN 10 SOUTHERN STATES, 1979

	The Relationship of State and/or Federal Legislation Type of Institution			
	1862		1890	
State	State Legislation	Federal Legislation	State Legislation	Federal Legislation
Alabama	None	Smith-Lever	None	None
Arkansas[a]	None	1890 Program	--	--
Georgia[b]	State bill provided funds to start	None	None	Farm Bill 1977
Kentucky	None	Special Federal appropriation	None	None
Maryland[c]	--	--	--	--
North Carolina[a]	State Rural Development Committee	None	--	1890 Land Grant Colleges Farm Bill 1978
Oklahoma	None	Federal Legislation	None	Federal Legislation
Tennessee[d]	None	None	--	--
Texas	None	None	None	USDA
Virginia[a]	None	None	--	1890 and 1862 Land Grant

[a] 1890 did not answer the question

[b] Had grant from Coastal Plains to start program

[c] Did not answer the question

[d] 1890 did not answer the question

None of the 1890 states reported state legislation related to their programs. However, five states indicated federal legislation. The following federal legislation was reportedly related as indicated: "Farm bill 1977" (Georgia); "1890 Land Grant Colleges Farm Bill 1978" (North Carolina); "Federal Legislation" (Oklahoma); "USDA" (Texas); and "1890 and 1862 Land Grant Institutions" (Virginia). Three states (i.e. Arkansas, Maryland and Tennessee) did not respond to the question.

Regarding the Beginning, Length and 1979 Sources of Funds for Programs

When Program Began. As seen in Table VIII, the earliest program of the 1862 institutions began in 1965 (Kentucky). Other states indicated that their successful Extension small farm programs began in 1969 (Texas); 1972 (Virginia); 1973 (Georgia); 1974 (Alabama); 1977 (Arkansas and Oklahoma); and 1978 (Maryland, and Tennessee). The most recent 1862 program was started in 1980 (North Carolina).

The earliest program in the 1890's was started in 1972. Respondents from two states (i.e. North Carolina and Texas) began their programs in 1972. Other states began their program in 1973 (Virginia); 1974 (Maryland); 1976 (Oklahoma and Tennessee); 1977 (Alabama); while Georgia and Kentucky reported 1978. Arkansas did not report the beginning date for their program.

Thus, the successful Extension small farm program as indicated in Table VIII started earlier in the 1862 institution.

TABLE VIII

THE BEGINNING, LENGTH AND 1979 SOURCES OF FUNDS FOR THE MOST SUCCESSFUL EXTENSION SMALL FARM PROGRAMS FOR THE 1862 AND 1890 INSTITUTIONS IN 10 SOUTHERN STATES, 1979

State	When Program Began		Reported Length		1979 Source of Funding	
	1862	1890	1862	1890	1862	1890
Alabama	1974	1977	Indefinitely	Indefinitely	Smith-Lever	Private Organization, Federal Government
Arkansas[a]	1976	No information	"	"	USDA	No information
Georgia	1973	1978	"	"	State, USDA TVA	Federal 3C & 3D
Kentucky	1965	1978	"	"	TVA, Federal & State	Extension (Federal)
Maryland	1978	1974	"	"	1862 Federal	USDA and 1890
North Carolina	1980	1972	Will end in 2 years	"	Extension (1862 & 1890) Loans from FmHA	Federal and County Funds
Oklahoma	1976	1976	Indefinitely	"	1862 Special Federal Funds & Regular Ext. Funds	1890 Institutional (Federal Fund)
Tennessee	1978	1976	Until 1983	Ongoing (a Farmer stays for 4 years)	TVA, Federal, State, County	Extension
Texas	1969	1972	Indefinitely	Indefinitely	Federal	Regular Extension
Virginia	1972	1973	"	"	USDA	1890 and TVA

[a]1890 did not answer question

Length of Program. Eight of the 1862 institutions and nine of the 1890 institutions reported that their programs would last "indefinitely" as indicated in Table VIII. However, North Carolina's 1862 Program would end in two years (i.e. 1982) and Tennessee's 1862 program in 1983.

1979 Sources of Funds. The sources of funding mentioned for the small farm programs in both 1862 and 1890 institutions primarily come from federal money through section 3(c) and 3(d) of the Smith-Lever Act, FmHA, USDA and also funds were received from state, county and TVA (see Table VIII, page 33).

Numbers and Kinds of Staff Members in the Most Successful Extension Small Farm Program in Fiscal Year 1979

Table IX shows that a total of 382 staff members were working with the most successful 1862 small farm programs in fiscal year 1979. Of the 382 staff members, 119 were county part-time professionals, 82 county full-time paraprofessionals, 70 state part-time specialists, 61 county full-time professionals, 23 state full-time specialists, 14 area part-time professionals, 7 area full-time professionals, and 5 county part-time paraprofessionals. Others mentioned were state administrator part-time, and area and state specialists and county staff who provided backup training support.

In addition, it is noted that the state of Alabama reported having more staff members (i.e. 189) than any other state among the

TABLE IX

NUMBERS AND KINDS OF STAFF MEMBERS INCLUDED IN THE MOST SUCCESSFUL EXTENSION SMALL FARM PROGRAMS FOR THE 1862 AND 1890 INSTITUTIONS IN 10 SOUTHERN STATES, 1979

State	Type of Institution																			
	1862										1890									
Classification of Staff Members	County Full-time Professionals	County Part-time Professionals	County Full-time Paraprofessionals	County Part-time Paraprofessionals	Area Full-time Professionals	Area Part-time Professionals	State Full-time Specialists	State Part-time Specialists	Others	Total	County Full-time Professionals	County Part-time Professionals	County Full-time Paraprofessionals	County Part-time Paraprofessionals	Area Full-time Professionals	Area Part-time Professionals	State Full-time Specialists	State Part-time Specialists	Others	Total
Alabama	0	109	0	0	2	13	0	65	0	189	6	0	0	12	0	0	2	0	0	20
Arkansas	3	0	2	0	1	0	1	0	0	7	---------- No Information ----------									0
Georgia	1	6	10	5	0	0	0	1	0	23	0	0	2	17	0	0	11	0	0	30
Kentucky	10	0	10	0	0	0	15	0	0	35	0	0	4	0	0	0	0	0	0	4
Maryland	3	0	2	0	0	0	2	2	0	9	5	0	0	5	0	0	1	0	10[a]	21
North Carolina	0	3	3	0	0	0	0	1	1[b]	8	32	0	28	0	0	0	10	0	[c]	70
Oklahoma	0	1	6	0	0	1	0	1	0[d]	9	0	1	6	0	0	1	0	1	0	9
Tennessee	0	0	7	0	0	0	1	0	0	8	4	0	0	1	0	0	1	0	0	6
Texas	35	0	25	0	0	0	2	0	0	62	22	0	22	0	0	0	2	1	0	47
Virginia	0	0	17	0	4	0	2	0	0	32	7	0	16	0	0	0	2	0	0	25
Total	61	119	82	5	7	14	23	70	1	382	76	1	78	35	0	1	29	2	10	232

[a] Advisory Council
[b] State administrator part-time
[c] Community civic and social organization
[d] Area and State Specialists and county staff provide back-up and training support

1862 institutions. Other states in decreasing order of rank, were: Texas (i.e. 62); Kentucky (i.e. 35); Virginia (i.e. 32); Georgia (i.e. 23); Maryland and Oklahoma (i.e. 9 each); and North Carolina and Tennessee (i.e. 8 each).

With regards to the most successful 1890 Extension small farm programs, there was a total of a 232 staff members. Of the 232, 78 were county full-time paraprofessionals, 76 county full-time professionals, 35 county part-time professionals, 29 state full-time specialists, 2 state part-time specialists, one county part-time professional, one area part-time professional, an advisory council of 10 members and one state mentioned a community civic and social organization. None reported area full-time professionals. Arkansas did not report the number of staff members.

North Carolina reported having more staff members (i.e. 70) working with their program than any other state among the 1890 institutions. Other states, in decreasing rank order, were: Texas (i.e. 47); Georgia (i.e. 30); Virginia (i.e. 25); Maryland (i.e. 21); Alabama (i.e. 20); Oklahoma (i.e. 9); Tennessee (i.e. 6); and Kentucky (i.e. 4). Again, Arkansas did not report.

In comparing staffing patterns of the 1862 and 1890 programs, county part-time professionals (i.e. 119) and county full-time paraprofessionals (i.e. 82) were mentioned in largest numbers in the 1862 programs; while the successful 1890 Extension small farm program was staffed in largest numbers by county full-time professionals (i.e. 76)

and county full-time paraprofessionals (i.e. 78). Alabama accounted for most (i.e. 109) county part-time professionals and most (i.e. 65) state part-time specialists for 1862 states. The nine other states' programs for 1862 and 1890 institutions were very much alike in staffing patterns with county full-time paraprofessionals and professionals being in the majority.

Full-Time Staff Equivalents Devoted to the Most Successful Extension Small Farm Programs in Fiscal Year 1979

Table X provides information regarding the actual numbers of full-time staff equivalents (F.S.E's) devoted to the most successful Extension small farm program in fiscal year 1979. Among the 1862 institutions, the state of Texas had the largest reported full-time equivalency with 50 F.S.E's, though Alabama did not report. As noted earlier in Table IV (page 23), Texas had the highest number of farmers with 900 in 35 counties. This would indicate that Texas would have had to provide more staff time in order to reach and assist such a relatively large number of small farmers in their program. Other states reporting F.S.E.'s, in decreasing order included: Virginia (i.e. 23.0); Georgia (i.e. 14.0); Kentucky (i.e. 13.0); Tennessee (i.e. 7.5); Oklahoma (i.e. 7.0); Arkansas (i.e. 7.0); North Carolina (i.e. 6.0); and Maryland (i.e. 2.0). A total of 129.5 F.S.E.'s was spent by the 1862 institutions to reach and assist small farmers in Fiscal Year 1979.

Among the 1890 institutions, North Carolina reported spending the highest full-time staff equivalency with 35.0 F.S.E.'s. Other states

TABLE X

FULL-TIME STAFF EQUIVALENTS DEVOTED TO THE MOST SUCCESSFUL EXTENSION SMALL FARM PROGRAMS IN FY 1979 FOR THE 1862 AND 1890 INSTITUTIONS IN 10 SOUTHERN STATES

	Full-time Staff Equivalents Devoted in FY 1979	
	Type of Institution	
State	1862	1890
Alabama	No information	6.0
Arkansas	7.0	No information
Georgia	14.0	28.0
Kentucky	13.0	6.0
Maryland	2.0	8.5
North Carolina	6.0	35.0
Oklahoma	7.0	7.0
Tennessee	7.5	4.0
Texas	50.0	24.0
Virginia	23.0	17.4
Total	129.5	135.9

that reported spending F.S.E.'s, in descending order, included: Georgia (i.e. 28.0); Texas (i.e. 24.0); Virginia (i.e. 17.4); Maryland (i.e. 8.5); Oklahoma (i.e. 7.0); Kentucky (i.e. 6.0); Alabama (i.e. 6.0); and Tennessee (i.e. 4.0). A total of 135.9 F.S.E.'s was devoted exclusively to assisting small farmers in the 1890 programs. Arkansas did not report F.S.E.'s.

Thus, the successful 1890 Extension small farm programs had provided more F.S.E.'s to the successful small farm activities than their 1862 counterparts, but the differences were not great and Alabama's 1862 program was not considered. It is surprising to note that the differences were relatively small since as indicated in Table IV (see page 24), the 1890 programs had many more farmers in their programs than did the 1862 programs.

Respondents' Opinion About the Degree to Which Staff-Time Devoted in 1979 was Sufficient

The data in Table XI show that five of the 1862 institutions (i.e. Alabama, Georgia, Maryland, Oklahoma, and Tennessee) reported that the time devoted to their successful Extension small farm programs was "just about right." Three states (i.e. Arkansas, Kentucky and Texas) indicated that the staff time devoted was "not enough." One state (i.e. Virginia) indicated that it was "too much;" while North Carolina gave no answer.

For the 1890 institutions, five states (i.e. Kentucky, Maryland, Oklahoma, Tennessee and Virginia) reported that the degree

TABLE XI

THE DEGREES TO WHICH STAFF TIME DEVOTED IN 1979 TO THE SUCCESSFUL EXTENSION SMALL FARM PROGRAMS FOR THE 1862 AND 1890 INSTITUTIONS IN 10 SOUTHERN STATES WAS SUFFICIENT

	Type of Institution							
	1862				1890			
	Degree to which Time was Sufficient				Degree to which Time was Sufficient			
State	Too Much	Just About Right	Not Enough	Not Available	Too Much	Just About Right	Not Enough	Not Available
Alabama		X					X	
Arkansas[a]			X					X
Georgia		X					X	
Kentucky			X			X		
Maryland		X				X		
North Carolina[b]				X			X	
Oklahoma		X				X		
Tennessee		X				X		
Texas			X				X	
Virginia	X					X		
Total	1	5	3	1	0	5	4	1

[a] Arkansas (1890) did not report staff time

[b] North Carolina (1862) did not report staff time

to which time devoted in 1979 to their successful Extension small farm program was "just about right" and four states (i.e. Alabama, Georgia, North Carolina and Texas) indicated that the time devoted was "not enough." Arkansas gave no answer and none reported it to be "too much."

Major Enterprises of Successful Extension Small Farm Programs in Fiscal Year 1979

The data in Table XII show the major enterprises of the most successful small farm programs in Fiscal Year 1979. Small farm program participants in both 1862 and 1890 institutions were reported engaged in crop enterprises (i.e. corn, cotton, soybean and vegetables) and also beef and swine production were identified as the primary livestock.

Thus, it seems that both 1862 and 1890 small farm programs indicated mixtures of various farm enterprises. Crop production enterprises (i.e. corn, soybean and vegetable) were most frequently mentioned by both 1862 and 1890 respondents; though livestock enterprises also were mentioned.

The Major Problems Facing Small Farmers in Fiscal Year 1980

The biggest problems facing small farmers in the most successful Extension small farm programs as reported by the 1862 and 1890 coordinators, as indicated in Table XIII, were: "Low prices," "inflation," "lack of adequate resources," "marketing," and "cost of credit."

TABLE XII

MAJOR ENTERPRISES OF THE MOST SUCCESSFUL EXTENSION SMALL FARM PROGRAMS IN FY 1979 FOR THE 1862 AND 1890 INSTITUTIONS IN 10 SOUTHERN STATES

	Type of Institution	
	1862	1890
State	Major Enterprise	Major Enterprise
Alabama	1. Corn 2. Cotton 3. Soybeans 4. Peanuts 5. Swine 6. Beef	1. Swine
Arkansas	1. Vegetables 2. Crops 3. Cotton 4. Soybeans	1. No information
Georgia	1. Feeder Pigs 2. Vegetables	1. Urban Gardens 2. Feeder Pigs 3. Asparagus Plots 4. General Agronomic Crops
Kentucky	1. Tobacco 2. Swine 3. Beef	1. Peppers 2. Beef 3. Corn 4. Swine
Maryland	1. Swine 2. Vegetables	1. Gardening 2. Poultry
North Carolina	1. Swine 2. Vegetables 3. Tobacco 4. Corn 5. Beef	1. No information
Oklahoma	1. Livestock 2. Horticulture 3. Crops	1. Livestock 2. Horticulture 3. Crops
Tennessee	1. Horticulure 2. Swine	1. Soybeans 2. Corn 3. Cotton 4. Beef Cattle 5. Feeder Pigs

TABLE XII (cont'd)

State	Type of Institution 1862 Major Enterprise	1890 Major Enterprise
Texas	1. Beef Cattle 2. Vegetables	1. Beef 2. Crops 3. Catfish Production 4. Vegetables
Virginia	1. Horticultural Crops	1. Vegetables 2. Feeder Pigs

TABLE XIII

THE MAJOR PROBLEMS FACING SMALL FARMERS IN THE MOST SUCCESSFUL EXTENSION SMALL FARM PROGRAMS IN FY 1980 FOR 1862 AND 1890 INSTITUTIONS IN 10 SOUTHERN STATES, 1979

	Type of Institution	
	1862	1890
State	Problem Faced	Problem Faced
Alabama	1. Low Volume 2. Inflation 3. Low prices for production	1. Farmers inability to secure finance 2. Low prices for commodities
Arkansas	1. Adoption of good management practices 2. Obtaining credit at reasonable rate 3. Changing attitudes	1. No information
Georgia	1. Resources acquisition 2. Credit limitation 3. Marketing	1. Planning 2. Budgeting 3. Management of operation 4. Securing finances
Kentucky	1. Cost of credit 2. Commodity price 3. Inflation	1. Inflation
Maryland	1. Financial resources (capital) 2. Management skills	1. Loans
North Carolina	1. Lack of available credit	1. No information
Oklahoma	1. The lack of adequate resources to improve operation 2. Deficient knowledge to improve operation	1. The lack of adequate resources to improve operation 2. Deficient knowledge to improve operation
Tennessee	1. Difficulty of gaining access to the marketing channel on fruits and vegetables	1. Adoption of new technology 2. Capital expenditure
Texas	1. Market	1. Limited resources to work with 2. Inflation
Virginia	1. Limited production resources 2. Low prices 3. High costs	1. Cost of inputs

The Main Strengths and Weaknesses of the Successful Extension Small Farm Programs in Fiscal Year 1979

The strengths of the program. As seen in Table XIV, the strengths of the successful 1862 Extension small farm programs were: "coordinator at district level facilitates involvement" (Alabama); "staff assists clients in maintaining and improving farm operations" (Arkansas); "increases efficiency of resources used" (Georgia); "paraprofessional assistance" (Kentucky), "able to get something started" (Maryland): "effective paraprofessionals" (Oklahoma); "the support of the county Extension leaders and the availability of research based information" (Tennessee); "some farmers make substantial changes" (Virginia), North Carolina reported none.

The 1890 programs cited strengths were: "seeing participants succeed has caused other farmers to want to be included in the program" (Alabama); "the provision of manpower and technology so that the small farm project may be carried out" (Georgia); "the leadership provided by the area director and county agents" (Kentucky); "it reaches the hard to reach" (Maryland): "effective paraprofessionals" (Oklahoma); "farmers having adequate time to work off farm to supplement income" (Tennessee); "paraprofessional working with clientele" (Texas); "one-to-one educational consultation" (Virginia). Arkansas and North Carolina did not respond.

The weaknesses of the program. Coordinators of the most successful 1862 Extension small farm programs indicated the following weaknesses of their programs: "lack of paraprofessionals" (Arkansas); "not enough counties involved" (Kentucky); "not enough funds to do the job" (Maryland); "difficult

TABLE XIV

THE MAIN STRENGTHS AND WEAKNESSES OF THE MOST SUCCESSFUL EXTENSION SMALL FARM PROGRAMS FOR THE 1862 AND 1890 INSTITUTIONS IN 10 SOUTHERN STATES, 1979

	Type of Institution			
	1862		1890	
State	Strength	Weakness	Strength	Weakness
Alabama	Coordinator at district level facilitated involvement	None	Seeing participants succeed has caused other farmers to want to be included in the program	None
Arkansas	Staff assists clients in maintaining and improving farm operations	Lack of paraprofessionals	No information	No information
Georgia	Increases efficiency of resources used	None	Provision of the manpower and technology so that the small farm project may be carried out	Lack of interest and motivation
Kentucky	Paraprofessional assistance	Not enough counties involved	The leadership provided by the area director and county agents	None
Maryland	Able to get something started	Not enough funds to do the job	It reaches the hard to reach	None
North Carolina	None	Difficult to coordinate among agencies	No information	No information
Oklahoma	Effective Paraprofessionals	Inadequate funds	Effective paraprofessionals	Inadequate funds
Tennessee	The support of the county extension leaders and the availability of research based information	1. The possibility of using paraprofessionals who may not be sufficiently trained or paid to do the job 2. Need more information aimed at small farms	Farmers having adequate time to work off farm to supplement income	Supply of land relatively fixed and little left for capital investment
Texas	No information	No information	Paraprofessional working with clientele	Limited specialist staff
Virginia	Some farmers make substantial changes	Cost/benefits may be negative	One-to-one educational consultation	Inadequate funds for demonstration and to expand program

to coordinate among agencies" (North Carolina), "inadequate funds" (Oklahoma); "the possibility of using paraprofessionals who may not be sufficiently trained or paid to do the job necessary" and "need more information aimed at small farmers" (Tennessee); "cost/benefit may be negative" (Virginia). Two states (i.e. Alabama and Georgia) reported no weaknesses; while Texas did not respond.

For the 1890 institutions, the coordinator cited weaknesses such as: "lack of interest and motivation" (Georgia); "inadequate funds" (Oklahoma); "supply of land relatively fixed and little left for capital investment" (Tennessee); "limited specialist staff" (Texas); and "inadequate funds for demonstration and to expand program" (Virginia). Three states (i.e. Alabama, Kentucky and Maryland) reported no weaknesses to their programs; while Arkansas and North Carolina did not respond.

III. EXTENSION EDUCATIONAL EFFORTS FOR ASSISTING SMALL FARMERS

Subject Matter Areas in Which Extension Made the Greatest Contribution in Fiscal Year 1979

Table XV shows the subject matter areas in which Extension made the greatest contribution to the most successful Extension small farm programs in the 1862 and 1890 institutions in Fiscal Year 1979. According to the data in the table, the subject matter areas in which small farmers had received assistance from Extension were: "management, marketing, vegetables and livestock (i.e. swine)" (Alabama); "management marketing and vegetable production" (Arkansas); "planning of production program"

TABLE XV

SUBJECT MATTER AREAS IN WHICH EXTENSION MADE THE GREATEST CONTRIBUTION TO THE MOST SUCCESSFUL EXTENSION SMALL FARM PROGRAMS IN FY 1979 FOR THE 1862 AND 1890 INSTITUTIONS IN 10 SOUTHERN STATES

	Type of Institution	
	1862	1890
State	Subject Matter Area	Subject Matter Area
Alabama	1. Management 2. Marketing 3. Vegetable production 4. Livestock (swine)	1. Management 2. Marketing 3. Feeding
Arkansas	1. Management 2. Marketing 3. Vegetable production	1. No information
Georgia	1. Planning of production program	1. Vegetable production 2. Soil testing 3. Record keeping
Kentucky	1. Management 2. Soil testing 3. Use of Fertilizer	1. Vegetable production 2. Management
Maryland	1. Livestock production 2. Vegetable production	1. Farming 2. Marketing 3. Safe use and repair machinery 4. Conservation of energy 5. Agronomy and Horticulture 6. Swine production
North Carolina	1. Management 2. Farm and home planning	1. No information
Oklahoma	1. Farm planning 2. Soil testing 3. Vegetable production	1. Farm planning 2. Soil testing 3. Vegetable production
Tennessee	1. Horticulture 2. Production and marketing 3. Swine production 4. Home gardening	1. Farm and home planning 2. Management
Texas	1. Production management	1. Catfish production 2. Vegetable production
Virginia	1. Soil testing 2. Marketing 3. Vegetable production	1. Vegetable production

(Georgia); "management, soil testing and use of fertilizer" (Kentucky); "livestock and vegetable production" (Maryland); "management," and "farm and home planning" (North Carolina); "farm planning, soil testing and vegetable production" (Oklahoma); "horticulture production and marketing, swine production and home gardening" (Tennessee), "production management" (Texas); "soil testing, marketing and vegetable production" (Virginia).

Thus, in each of the 1862 programs, "management," "production," and "marketing" were the most frequently mentioned subject matter areas in which Extension reportedly had made the greatest contribution to their program in Fiscal Year 1979. Specific attention was given to vegetables, soil testing and livestock.

At the same time, respondents from the 1890 institutions reported that "management, marketing and feeding" (Alabama); "vegetable production, soil testing and record keeping" (Georgia); "vegetable production and management" (Kentucky); "farming, marketing, safe use and repair machinery, conservation of energy, agronomy and horticulture and swine production" (Maryland); "farm planning, soil testing and vegetable production" (Oklahoma); "farm and home planning and management" (Tennessee); "catfish production and vegetable production" (Texas); and "vegetable production" (Virginia) were the subject matter areas in which Extension had made the greatest contributions to the successful Extension small farm programs in Fiscal Year 1979. Arkansas and North Carolina did not respond.

Of these, "management," "production" and "marketing" again were the most frequently mentioned subject areas in which Extension had aided the small farmers. As with 1862 institution, specific attention was focused on vegetables, soil and livestock. Some new and different subjects were included, however, in the 1890 listing (e.g. catfish, machinery and energy use).

The Basic Extension Teaching Methods Used in the Most Successful 1862 and 1890 Extension Small Farm Programs in Fiscal Year 1979

As seen in Table XVI, the basic teaching method used in disseminating agricultural information to the small farmers in the most successful 1862 Extension small farm programs were "demonstration," the "one-on-one" approach, "farm visits," "surveys," "result demonstration," "group meetings" and "aide training." Seven states (i.e. Alabama, Arkansas, Georgia, Kentucky, Oklahoma, Tennessee, and Texas) reported using "demonstration (method and result)" as a teaching method for their programs. "One-on-one" was reportedly used by four states (i.e. Georgia, Kentucky, Maryland and Texas); while "tours" was reported by two states (i.e. Alabama, and Arkansas). Other basic Extension teaching methods mentioned by coordinators of the successful 1862 Extension small farm programs were: "aide training," "group meeting," and "individual consultation" (Arkansas); "small group sessions" and "individual discussion," (Oklahoma); "farm visits and surveys" (Tennessee); and "personal visit by paraprofessional" (Virginia). None of the 1862 institutions mentioned "mass contact" methods (i.e. radio, bulletins, newstories, etc.). North Carolina did not report.

TABLE XVI

THE BASIC EXTENSION TEACHING METHODS USED IN THE MOST SUCCESSFUL EXTENSION SMALL FARM PROGRAMS FOR THE 1862 AND 1890 INSTITUTIONS IN 10 SOUTHERN STATES, 1979

State	Type of Institution	
	1862	1890
	Teaching method	Teaching method
Alabama	1. Demonstration 2. Tours	1. Personal contact 2. Tours 3. Group meetings 4. Workshops 5. Mass media (radio, newspaper)
Arkansas	1. Aide training 2. Result demonstration 3. Tours 4. Group meeting 5. Individual consultation	1. No information
Georgia	1. One on one approach 2. Result demonstration	1. One on one approach 2. Demonstration 3. Field trip
Kentucky	1. One on one approach 2. Simple demonstration	1. Farm Visit 2. Result demonstration
Maryland	1. Individual contact	1. One on one 2. Demonstration plot 3. Mass media (Publication) 4. Meetings 5. Office visit
North Carolina	1. No information	1. No information
Oklahoma	1. Method demonstration 2. Individual discussion 3. Small group sessions	1. Method demonstration 2. Individual discussion 3. Small group session
Tennessee	1. Farm visits 2. Surveys 3. Demonstrations	1. No information
Texas	1. One on one 2. Group Demonstrations	1. Educational program 2. One on one 3. Method-result demonstration
Virginia	1. Personal visit by paraprofessional	1. Personal contact 2. Result demonstration

In each of the successful 1890 Extension small farm programs, coordinators reported using "personal contact," "tours," "workshops," "mass media (i.e. radio, newspaper)", "one-on-one approach," "demonstration," "field trip," "farm visit," "educational program" and "office visit." Six states (i.e. Georgia, Kentucky, Maryland, Oklahoma, Texas, and Virginia) reported using "demonstration (result and method);" while four states (i.e. Alabama, Georgia, Maryland and Texas) reported using the "one-on-one approach" as the basic Extension teaching method for their program. Other Extension teaching method cited were: "tours," "group meeting," "workshops," "mass media (i.e. radio, newspaper)," (Alabama), "field trip" (Georgia), "farm visit" (Kentucky), "mass media (publication)," "meetings" and "office visit" (Maryland), "individual discussion" and "small group session" (Oklahoma); "educational program" (Texas); and "personal contact" (Virginia). Arkansas, North Carolina and Tennessee did not report Extension teaching methods.

Some differences were noted with regards to use of the basic teaching methods between 1862 and 1890 programs. In the 1890 programs, mass media (i.e. radio, newspaper and publication) was reportedly used by two states (i.e. Alabama and Maryland); while none of the 1862 programs mentioned using mass media as teaching methods. In the main, individual contact predominated in both types of institutions.

The Most Effectice Extension Teaching Methods of the Successful Extension Small Farm Programs for Fiscal Year 1979

Respondents from four states (i.e. Alabama, Arkansas, Oklahoma and Tennessee) reported that "demonstration (method and result)" was the most effective Extension teaching method used in their most successful Extension small farm programs in the 1862 institutions for fiscal year 1979; while three states (i.e. Georgia, Kentucky, and Texas) reported using the "one-on-one approach" as shown in Table XVII. Arkansas reported four other "most effective" teaching methods used (i.e. "aide training," "tours and field days," "group meeting" and "individual evaluation") in their program. Other states reported that "individual contact" (Maryland); "individual discussion" (Oklahoma); "farm visit" (Tennessee); "personal visit by paraprofessional" (Virginia) were the most effective Extension teaching methods used in their respective programs. North Carolina did not respond.

Similarly, five states (i.e. Georgia, Kentucky, Oklahoma, Texas and Virginia) reported that "demonstration (method and result)" was the most effective teaching method used in their 1890 programs; while "one-on-one" was cited by two states (i.e. Georgia and Maryland) as the most effective Extension teaching method. Georgia reported three "most effective" Extension methods (i.e. "one-on-one," "demonstration" and "field trip"); while Alabama (i.e. "personal contact" and "group meeting"); and Oklahoma (i.e. "method demonstration" and "individual discussion") reported two each. Tennessee mentioned "farm visit" as a "most effective" method. Arkansas and North Carolina did not respond.

TABLE XVII

THE MOST EFFECTIVE EXTENSION TEACHING METHODS OF SUCCESSFUL EXTENSION SMALL FARM PROGRAMS IN FISCAL YEAR 1979 FOR THE 1862 AND 1890 INSTITUTIONS IN 10 SOUTHERN STATES

State	Type of Institution	
	1862 Most effective method	1890 Most effective method
Alabama	1. Demonstration	1. Personal contact 2. Group meeting
Arkansas	1. Aide training 2. Result demonstration 3. Tours and field days 4. Group meeting 5. Individual evaluation	1. No information
Georgia	1. One on one	1. One on one 2. Demonstrations 3. Field trips
Kentucky	1. One on one	1. Personal demonstration
Maryland	1. Individual contact	1. One on one
North Carolina	1. No information	1. No information
Oklahoma	1. Method demonstration 2. Individual discussion	1. Method demonstration 2. Individual discussion
Tennessee	1. Farm visit 2. Demonstration	1. Farm visit
Texas	1. Face to face	1. Method and result demonstration
Virginia	1. Personal visit by paraprofessional	1. Result demonstration

Thus, it seems that "demonstration (i.e. result and method)" and the "one-on-one" approach were generally the "most effective" Extension teaching methods mentioned for both 1862 and 1890 programs for 1979.

IV. FACTORS CONTRIBUTING TO SUCCESS OF THE 1862 AND 1890 SMALL FARM PROGRAMS

Degrees to Which the Program Goals were Achieved in 1979

The data in Table XVIII dealing with the extent to which the 1862 most successful Extension small farm program goals were achieved in 1979, indicated that "some degree" of achievement was made in eight states (i.e. Alabama, Arkansas, Kentucky, Maryland, North Carolina, Oklahoma, Tennessee and Virginia). Two states (i.e. Georgia and Texas) indicated that goals were reached to a "great degree."

Among the 1890 institutions, six states (i.e. Alabama, Georgia, Kentucky, Maryland, Oklahoma and Virginia) indicated "some degree" of progress was made towards attainment of their successful Extension small farm program goals; while two states (i.e. Tennessee and Texas) indicated a "great degree" of achievement. Arkansas and North Carolina 1890 coordinators did not respond to the question.

Texas was the only state in which respondents from both 1862 and 1890 institutions that indicated that a "great degree" of achievement had been made in their programs. Five states (i.e. Alabama, Kentucky, Maryland, Oklahoma and Virginia) reported the same degree of achievement in both 1862 and 1890 institutions.

TABLE XVIII

DEGREES TO WHICH MOST SUCCESSFUL EXTENSION SMALL FARM PROGRAM GOALS WERE ACHIEVED IN FY 1979 FOR THE 1862 AND 1890 INSTITUTIONS IN 10 SOUTHERN STATES

	Type of Institution					
	1862			1890		
	Extent to which goals were achieved			Extent to which goals were achieved		
State	To a Great Degree	To Some Degree	To Little Degree	To a Great Degree	To Some Degree	To Little Degree
Alabama		X			X	
Arkansas[a]		X				
Georgia	X				X	
Kentucky		X			X	
Maryland		X			X	
North Carolina[a]		X				
Oklahoma		X			X	
Tennessee		X		X		
Texas	X			X		
Virginia		X			X	
Total	2	8		2	6	

[a]Arkansas (1890) and North Carolina (1890) did not answer the question

Examples of Progress Made Toward the Purposes of the Successful Extension Small Farm Programs in Fiscal Year 1979

The information in Table XIX consists of examples of progress made toward the purposes of the successful Extension small farm program in Fiscal Year 1979. Examples in the 1862 institutions included "changes in marketing practices" and addition of "new production techniques" (Arkansas); "income generation" and "changes in enterprise combination" (Georgia); "moved several families out of small farm into normal Extension activities" (Kentucky); "adoption of significant practices" (North Carolina); "small farmers began the practice of soil samples" and "small farmer followed recommended fertilizer practices" (Oklahoma); "identification of farmers" and "direct one-on-one contact with program assistants was established" (Tennessee); "increased income" (Texas); "increases in net farm income" (Virginia). Alabama and Maryland did not respond.

For the successful 1890 Extension small farm programs, respondents indicated that their purposes had progressed since "number of pigs weaned per litter increased beyond target" (Alabama); "small farm 'curb harvests' were developed where local products could be sold by small farmers and gardeners" (Georgia); "use of USDA agencies" and "pond development" (Kentucky); "farmers making $1,000.00 in gardening" (Maryland); "small farmers began the practice of taking soil samples" and "small farmers followed recommended fertilizer practices" (Oklahoma); "farmers were able to maintain a complete set of records of progress

TABLE XIX

EXAMPLES OF PROGRESS MADE TOWARD THE PURPOSES OF THE SUCCESSFUL EXTENSION SMALL FARM PROGRAMS IN FY 1979 FOR THE 1862 AND 1890 INSTITUTION IN 10 SOUTHERN STATES, 1979

State	Type of Institution	
	1862 Progress made	1890 Progress made
Alabama	1. No information	1. Number of pigs weaned per litter increased beyond target
Arkansas	1. Changes in marketing practices 2. New production techniques added	1. No information
Georgia	1. Income generation 2. Changes in enterprise combination	1. Small farm curb harvests were developed where local products could be sold by small farmers and gardeners
Kentucky	1. Moved several families out of small farm into normal extension activities	1. Use of USDA agencies 2. Pond development
Maryland	1. No information	1. Farmer making $1,000 in gardening
North Carolina	1. Adoption of significant practices	1. No information
Oklahoma	1. Small farmers began the practice of soil samples 2. Small farmers followed recommended fertilizer practices	1. Small farmers began the practice of soil samples 2. Small farmers followed recommended fertilizer practices
Tennessee	1. Identification of farmers and direct one-to-one contact with program assistants was established	1. Farmers were able to maintain a complete set of records of progress and accomplishments
Texas	1. Increased income	1. Introduction of catfish in small farm ponds at $0.48 per pound
Virginia	1. Increases in net farm income	1. Establishment of farmers' market (vegetable)

and accomplishments" (Tennessee); "introduction of catfish in small farm ponds at $0.48 per pound" (Texas); "establishment of farmers' market (i.e. vegetables)" (Virginia). Arkansas and North Carolina did not respond.

The progress made towards their program purposes in both 1862 and 1890 institutions reflects the priorities given to the program purposes as indicated in Table III (see page 22). Most of the progress made in both types of institutions was toward improving the agricultural production practices of small farmers, helping farmers to increase income, making changes in enterprises and establishing producer markets.

The Reasons Coordinators Felt Programs Were Successful in Fiscal Year 1979

The information in Table XX shows the reasons why coordinators of the successful 1862 and 1890 small farm program felt they were successful in Fiscal Year 1979. In 1862 institutions, reasons reported by coordinators for the success of their programs were: "length of time the program has been in existence" and "program results and involvement" (Alabama); "large number of participants that increased income" and "they became aware of the services of other agencies" (Arkansas); "increased income" and "improvement of living standards and conditions" (Georgia); "individual family development" (Kentucky); "reports from farmers, agents and paraprofessional" (Maryland); "positive responses of clientele during farm visits and the change in farm practices" (Oklahoma); and "efforts have been made to improve farm marketing" and "coops have been formed in some areas to establish farmers' markets" (Tennessee). North Carolina, Texas and Virginia did not report any reasons.

TABLE XX

THE REASONS COORDINATORS OF THE MOST SUCCESSFUL EXTENSION SMALL FARM PROGRAMS FOR THE 1862 AND 1890 INSTITUTIONS IN 10 SOUTHERN STATES FELT PROGRAMS WERE SUCCESSFUL

	Type of Institution	
	1862	1890
State	Reason felt successful	Reasons felt successful
Alabama	1. Length of time the program in existence 2. Program results and involvement	1. Number of pigs weaned 2. Amount of supplemental income received 3. The impact program assistants made through the program
Arkansas	1. Large number of participants that increased income. 2. They became aware of the services of other agencies.	1. No information
Georgia	1. Increased income 2. Improvement of living standards and conditions	1. Comments made by program assistants 2. Visual inspection of target areas
Kentucky	1. Individual family development	1. The small but continuous progress or participants
Maryland	1. Reports from farmers, agents and para-professionals	1. Farmers received $1,000 per garden
North Carolina	1. No information	1. No information
Oklahoma	1. Positive responses of clientele during farm visits and the change in farm practices	1. Positive responses of clientele during farm visits and the change in farm practices
Tennessee	1. Efforts have been made to improve farmers marketing. 2. Coops have been formed in some areas to establish farmers' markets	1. Farmers adopting management practices increased their net farm income
Texas	1. No information	1. Practices adopted 2. Increased income of participant
Virginia	1. No information	1. Evaluation reports from technicians and supervising agents

With regards to the 1890 institutions, reasons cited were: "number of pigs weaned," "amount of supplemental income received" and "the impact program assistants made through the program" (Alabama); "comments made by program assistants" and "visual inspection of target areas" (Georgia); "the small but continuous progress of participants" (Kentucky); "farmers received $1,000 per garden" (Maryland); "positive responses of clientele during farm visits and the change in farm practices" (Oklahoma); "farmers adopting management practices increased their net farm income" (Tennessee); "practices adopted" and "increased income of participants" (Texas), and "evaluation reports from technicians and supervising agents" (Virginia). Arkansas and North Carolina did not respond.

Thus, coordinators had utilized to personal observations, responses of clientele and staff and records and reports as the basis for judging the outcomes of their "most successful" small farm programs. Increased income, adopted practices, increased production and improved living levels attested to the success of these programs.

Factors Which Contributed to the Success of the Most Successful Extension Small Farm Programs in Fiscal Year 1979

The information in Table XXI shows the factors which reportedly contributed to the success of the most successful Extension small farm programs for the 1862 institutions in Fiscal Year 1979. Respondents reported that the factors were: "the committment of agents and supervisors" (Alabama); "well-trained paraprofessionals," "cooperation with

TABLE XXI

FACTORS WHICH CONTRIBUTED TO THE SUCCESS OF THE MOST SUCCESSFUL EXTENSION SMALL PROGRAMS FOR THE 1862 AND 1890 INSTITUTIONS IN 10 SOUTHERN STATES, 1979

State	Type of Institution	
	1862 Success Factor	1890 Success Factor
Alabama	1. The committment of agents and supervisors	1. The effect the program had on the community 2. The impact of the program assistants
Arkansas	1. Well trained paraprofessionals 2. Cooperations with other agencies 3. Support from university	1. No information
Georgia	1. Cooperation of paraprofessionals, extension agents, specialists and small farmers	1. Time spent by agricultural program specialist developing sound programs to be implemented at the county level 2. Training of program technicians
Kentucky	1. Employment of paraprofessionals permitted them to work more on a one-on-one basis	1. Leadership of area director 2. Interest, enthusiasm 3. Ability of paraprofessional
Maryland	1. Availability of funds to do this special job	1. Earlier one-on-one contact enables extension to identify "Hard to Reach" farmers 2. Contact with all has increased
North Carolina	1. No information	1. No information
Oklahoma	1. Well-trained paraprofessionals and supportive extension personnel	1. Well-trained paraprofessionals and supportive extension personnel
Tennessee	1. Attitudes and abilities of the program assistants 2. Leadership and interest of the county extension leaders'	1. The close working relationship between the farmers and the extension personnel
Texas	1. No information	1. Good working relationship between 1890 and 1862 Institutions
Virginia	1. Personal contact	1. Sincerity of technicians and supervising agents 2. A sound small farm program development plan

other agencies" and "support from the university" (Arkansas); "cooperation of paraprofessionals, Extension agents, specialists and small farmers" (Georgia); "the employment of paraprofessionals permitted them to work more on a one-on-one basis" (Kentucky); "availability of funds to do this specific job" (Maryland); "well-trained paraprofessionals and supportive Extension personnel" (Oklahoma); "attitude and ability of the program assistants" and "leadership and interest of the county Extension leaders" (Tennessee); "personal contact" (Virginia). North Carolina and Texas did not respond.

In the successful 1890 Extension small farm programs, respondents reported the factors which contributed success to the Extension small farm programs were: "the effect the program had on the community" (i.e. possibly a mis-interpretation) and "the impact of the program assistants" (Alabama); "time spent by agricultural program specialists developing sound programs to be implemented at the county level" and "training of program technicians" (Georgia); "leadership of area director," "interest, enthusiasm" and "ability of paraprofessional" (Kentucky); "earlier one-on-one contact enables Extension to identify 'hard to reach' farmers" and "contact with all has increased" (Maryland); "well-trained paraprofessionals and supportive Extension personnel" (Oklahoma); "the close working relationship between the farmers and the Extension personnel" (Tennessee); "good working relationship between 1890 and 1862 institutions" (Texas); "sincerity of technicians and supervising agents" and "a sound small farm program development plan" (Virginia). Arkansas and North Carolina did not respond.

Thus, in both 1862 and 1890 programs, factors which respondents felt had contributed to their program success included utilization and cooperativeness of paraprofessionals, Extension agents, specialists, other program assistants and the value of prior one-on-one contacts. Also mentioned was support from the 1862 and 1890 land grant institutions and good relations between the two.

Suggested Improvement of Successful Extension Small Farm Programs for the 1862 and 1890 Institutions

As shown in Table XXII, the Alabama coordinator suggested that "additional resources were needed" to improve the reportedly successful Extension small farm programs in the 1862 institutions. Other state coordinators cited the following suggestions for improvement of their programs: "addition of an adequate number of paraprofessionals" (Arkansas); "espanding to more counties" and "to provide more training for paraprofessionals" (Georgia); "increase volume of farmers" and "improve educational materials" (Kentucky); more Extension resources put into the program" (Maryland); "more supervision needed" (North Carolina); "addition of fiscal resources" (Oklahoma); "develop information aimed at educational and production level of small farms" (Tennessee). Texas and Virginia did not respond. Thus, staff and funds were the two largest needs. Program expansion also was suggested in at least five states.

In the 1890 institutions, coordinators from the following states suggested improvement as indicated: "farmers need to be aided to more fully incorporate recommended practices in their operations"

TABLE XXII

HOW THE MOST SUCCESSFUL EXTENSION SMALL FARM PROGRAMS COULD BE IMPROVED FOR THE 1862 AND 1890 INSTITUTIONS IN 10 SOUTHERN STATES, 1979

State	Type of Institution	
	1862 Suggested Improvement	1890 Suggested Improvement
Alabama	1. Additional resource needed	1. Farmers need to be aided to more fully incorporate recommended practices into their operation
Arkansas	1. Addition of adequate number of para-professionals	1. No information
Georgia	1. Expanding to more counties 2. Provide more training for paraprofessionals	1. More technical assistance needed
Kentucky	1. Increase volume of farmers 2. Improve educational materials	1. More recognition by administrators as to the value of the program
Maryland	1. More extension resources put into the program	1. Additional funding and staffing
North Carolina	1. More supervision needed	1. No information
Oklahoma	1. Addition of fiscal resources	1. Addition of fiscal resources
Tennessee	1. Develop information aimed at the educational and production level of small farms	1. Farmers should travel beyond their own area more to see other ways of using new methods
Texas	1. No information	1. Increase staffing 2. Increase salary of paraprofessionals
Virginia	1. No information	1. More in-depth training of technicians in subject matter and program planning and evaluation 2. More publicity

(Alabama); "more technical assistance needed" (Georgia); "more recognition by administrators as to the value of the program" (Kentucky); "additional funding and staffing" (Maryland); "addition of fiscal resources" (Oklahoma); farmers should travel beyond their own area more to see other ways of using new methods" (Tennessee); "increase staffing" and "increase salary of paraprofessionals" (Texas); "more indepth training of technicians in subject matter and program planning and evaluation," and "more publicity" (Virginia). Arkansas and North Carolina did not respond.

Thus, 1890 coordinators tended to mention some of the same staff and funding needs suggested by their 1862 counterparts. Other specific improvements cited by the coordinators could be classified under such heading as staff training, more technical assistance and greater publicity.

CHAPTER V

APPLICATION OF FINDINGS TO AN AGRICULTURAL SITUATION IN THE GAMBIA

A. SITUATION

General Information About The Gambia

The Gambia has a total area of 10,367 square kilometers (i.e. 4,003 square miles), with a population estimated at 584,505 in 1979. The Gambia is a relatively underpopulated country by African standards. It is located on the bulge of West Africa and comprises a narrow strip of land 11 to 32 kilometers (i.e. 7-20 miles) wide along the lower reaches of The Gambia River. It extends inland 320 kilometers (i.e. 200 miles) from the Atlantic Ocean and is completely surrounded by Senegal. The Gambia lies between 16° and 13° West latitude and between 13° and about 13.50^{o} North longitude.

The Gambia has a distinct climate and geographical structure. It is subtropical with a marked hot and wet season (i.e. June - October), and cooler dry season (i.e. November - April). May is a transition month. Annual rainfall varies from 76 to 140 centimeters (i.e. 30 - 55 inches) which comes only in the rainy season. Temperatures range from 16° C to 43° C (i.e. 60° F - 110° F) with daily temperatures exceeding 32° C (i.e. 90° F) from April to June.

The country is made up of the following divisions: Western, Lower River, MacCarlty, Upper River and North Bank Division. The headquarters of the divisions are Brikama, Mansakonko, Georgetown,

Basse and Kenewan, respectively. There are 35 districts which comprise six areas. Banjul, the national capital, is located on an island near the mouth of The Gambia River.

The Gambia is clearly a rural economy almost entirely dependent on agriculture. Thus, agriculture is the principal pillar of The Gambia economy and likely to remain so for some time. The percent of population engaged in agriculture is 85 percent to 90 percent and is expected to drop some if the present rate of urbanization persists (5). In 1978, its land/man ratio was estimated at 56.4 inhibitants per square kilometer.

Structure of The Gambia Agriculture

In an agricultural system where modern equipment is not used, the most important determinants of farm size are the capital and the nature of equipment used in farming. There is a definite limit to the acreage which a family employing the hoe as its major implement can bring under cultivation.

Traditionally, farming in The Gambia is carried out by individual family units (i.e. wife or wives, unmarried children and the man). The work on the farm is divided between men and women in the family. The men are responsible for the production of groundnuts (i.e. peanuts), millet, cotton and sorghum; while the women assume responsibility for cultivation of rice and vegetables. The size of the farm worked by any family will vary with the number of active adults in the family.

In The Gambia, there is no estate or large scale production of crops. Cultivation is generally by hand although in certain areas some 10 - 15 percent of the farmers use animal-drawn implements for plowing and cultivating. Oxen, horses and donkeys are employed as draft animals. Whatever the means of production, the fact remains that The Gambia is a country of small farm holders. Productivity and crop yields have traditionally been low under the conditions of ignorance of modern technology, lack of credit, insufficient Extension service and persistent drought (5).

In The Gambia, about 80 percent of the farm families work in traditional agriculture at subsistence or semi-subsistence levels. The average farm family owns five hectares of land.

The major field crops consists of groundnuts, cereals (bulrush millet, sorghum, rice and maize) and cotton. The order of sowing for rain grown crops is generally early millet, maize, groundnuts, and finally late millet and sorghum. The major export crop is groundnuts.

Customary Land Tenure

In much of The Gambia, as in much of tropical Africa, land is communally owned. It is useful to point out that though land is communal, the production organization is familial. The product reaped from the communal land belongs to individual families. This traditional land tenure has been condemned by its critics as not being conducive to a substantial increase of agricultural production in Africa. A

perusal of the African development literature inevitably leads one to the conclusion that there is a rather general agreement that traditional land tenure operates to impede agricultural progress by:

1. failing to provide for security of tenure by the farmers;
2. discouraging conservation and improvement of natural resources;
3. failing to encourage the credit and investment necessary for agricultural development; and
4. causing uneconomic fragmentation of land and thus poor utilization of the land (13:175-180).

In The Gambia, there is no private ownership of land. The land occupied by the community belongs to the community and cannot be bought or sold without consent of the community authorities through either the chiefs, Alkalies (i.e. headmen) or the elders as the case may be. Thus, every individual is assured of security of tenure.

Generally, then, there is a village, clan, lineage, or household control over the occupation and employment of land by individual members of relevant units. An allotment to an individual member is in practice always transmissible by that individual to his descendent. As Gershenberg (6:54-5) has pointed out, plants, trees, and houses put on the land by the allottee, under customary law, belong to the allottee, in the true sense of the word and not the group having ultimate title to the land. If for some reason, the allottee is forced to give up his land allotment, he has the right to take improvements with him or demand commensurate compensation.

However, there is a positive aspect of the traditional tenure system. The unavailability of credit has often been noted as constituting one of the major obstacles to agricultural development, and this credit constraint has been attributed to the absence of freehold tenure. Since farmers do not own the land, they lack collateral with which to borrow.

This criticism is based on the observation that profit making organizations require some form of security before they make advances and that farmers who do not have freehold title to their land cannot pledge their land as security. As Oluwasanmi (14:57-8) has clearly pointed out "... lending institutions, particularly commercial banks, are always reluctant ... where there is no clear title to land to make longterm loans ... land cannot be easily turned into cash." The illiquid nature of land assets makes lending agencies cautious in mortgage financing.

Agricultural Extension in The Gambia

The Extension service in The Gambia can only be understood in terms of agriculture and its development. It has been an intergal part of the work of the veterinary and agriculture departments which together have generally been the heart of the Ministry of Agriculture. The responsibility of the Extension Service is usually confined rather strictly to agriculture and livestock. In other words, extension has traditionally laid emphasis on export crops for economic stability of the country (12).

Extension services at the farmer's level are largely centered on mixed farming centers (MFC's). These centers of which there are 24 in number, are located in each division. The centers, are utilized for demonstration of crop production, ox-training, seed multiplication and trial work for which they are well suited. The programs in the centers are strictly voluntary and a primary purpose is to increase the farmers' consciousness of agricultural skills.

Since the Extension Service is an integal part of the Ministry of Agriculture, it is important to examine the organizational structure of the Ministry. The Ministry of Agriculture is headed by a Permanent Secretary who is the administrative head. He also advises the Minister who is the political head of the ministry. Also, the Permanent Secretary coordinates the activities of the various departments such as Forestry, Agriculture, Animal Husbandry, and Fisheries. Each department is manned by a Director who executes government policies.

The Extension workers in The Gambia receive one year of training at the Yundum training college and most of the personnel do not have the bachelor's degrees. Those workers who are graduates from universities have not received specialized training in Agriculture. The Extension workers receive training in crop production, use of fertilizer, and other agricultural practices. There also are village Extension personnel who receive their training in the field and are responsible for introducing agricultural innovations such as improved groundnut seeds, rice, corn, etc. to interested farmers.

The fundamental objectives of the Extension Service are to develop both local and national stability and promote the progress of

the rural areas. More specifically the objectives may be summarized as follows: a) teaching improved practices to the farmers both in cultivation and processing of crops; b) teaching of improved methods of livestock husbandry; c) multiplication and distribution of improved planting materials; d) organization of young farmer's clubs, and 3) training farmers to use the ox-plow. Thus, the service is indeed directed to help the farmers to improve their economic well-being (5:35).

It is difficult for the Extension Service to carry out its objectives very effectively because of the natives' age-old belief in and practice of the traditional system. Thus, Extension workers find it very difficult to cause farmers to change their farming ways.

The Extension Service in The Gambia was not established by an act of parliament, though, the constitution had some influence on its activities. It is financially supported by the government budget.

Due to the relatively high rate of illiteracy and low income of the small holders in The Gambia, the use of sophisticated methods of instruction like newspaper advertisements, television, telephone, etc. are not applicable. Demonstrations, short courses, and motion pictures are employed to stimulate the farmers. However, face to face contact is the rule. Village meetings and farm visits are most frequently used.

Special Projects to Assist Small Farmers

The Gambia's biggest disappointment has been in its lack of greater success in agriculture. The country remains, after 15 years of independence, completely dependent on agriculture for its wealth, and more particularly on groundnuts for foreign exchange earnings. The

growth of the agricultural sector of the economy has been very slow; while the majority of the population is dependent on agriculture for its livelihood.

During recent years there have been projects aimed at improving the income and quality of living of the small farmers. The basic approach has been to reach these people by providing tangible goods and services such as new seeds, fertilizers, training and Extension. Clearly, these new approaches have helped meet the needs of the small farmers. The projects identified have been initiated by technical assistance from agencies like USAID and the government has sought to promote equitable agricultural and rural development in the areas. These projects have helped small farmers adopt new technology, develop new enterprises and increase their farm income.

The Mixed Farming Centers Program. The mixed farming center has been one of the oldest projects initiated for reaching and introducing new technology to the farmers. It was established by the British colonial administration in 1950, and The Gambian government took control after independence in 1965. The objectives of the centers have been to improve the agricultural practices of The Gambian farmers through replacement of traditional tools with the ox-drawn plow, training of farmers in the scientific care of livestock and use of other farming innovations. The centers are distributed throughout the country within 15 mile intervals so that small farmers can have access to Extension assistance (12:32).

Each center has an 11-week training program for farmers. To participate in the program, a farmer must provide two plow oxen and the center provides food, lodging and allowance to the participants. Training takes place during the dry season and includes instruction such as plowing, production of farm implements, product storage and marketing, use of fertilizers and other basic farming practices.

Each year the Ministry of Agriculture decides on a major theme (e.g. methods for growing groundnuts, basic farm management and practices) which will be emphasized in all the activities of the Mixed Farming Centers, especially during the demonstration days. A new innovation is first introduced to the trainees for trial and, if results are favorable farmers will likely adopt it.

The mixed farming centers have been generally successful in spreading new practices to small farmers. Evidences of accomplishment included: a) average farm size increased from one-half acre to about three acres; b) increases were noted in net income per acre of groundnuts using improved practices; and c) a high rate of acceptance of intermediate technology of oxenization has occurred (12:37).

Mixed Vegetable Scheme. The mixed vegetable scheme was launched in the western division in 1971. The purposes were to introduce improved varieties of onions, expand production of vegetables, reduce reliance on imports and create income generating opportunities for women.

The initial project started with 30 participants in each village who formed local women's societies. Each woman participant

cultivated about ten beds of onions (i.e. 24 feet by three feet). The Ministry of Agriculture and The Gambia Cooperative Union provided the fertilizer and improved seed free of charge and in turn bought the onions produced. The women were supervised daily by Extension workers (12:41).

The project was very successful because from 1971 to 1973, the number of participants grew from 30 to 960. In November 1974 there were 4,295 participants. The measures of success were the increased income benefit (i.e. the average increase in on-farm income was $19.00; while the average farm income per year was $299.00), the establishment of women as innovators and the spread of the scheme throughout The Gambia (12:46).

B. APPLICATION OF FINDINGS TO THE DEVELOPMENT OF PROCEDURES FOR SMALL FARM EDUCATIONAL PROGRAMS IN THE GAMBIA

Appropriate steps to consider in any application of the previous findings of this study to The Gambia situation would appear to include the following:

1. In order to develop an educational small farm program similiar to the successful Extension small farm programs in the 1862 and 1890 institutions in the southern region, consideration should be given to the available source of information of the socioeconomic, cultural conditions and agricultural needs of the small farmers in The Gambia.

2. A national survey could be conducted by the Ministry of Agriculture asking small farmers for their ideas and suggestions in how the Extension Service could help them with their problems in agriculture and home economics. Due to the vast illiteracy problem in The Gambia, an Extension worker could make home visitations and conduct the survey by reading the questionnaire in the local languages. From the survey, projects could be developed to assist the small farmers with their problems. Specific purposes for the projects and criteria for participation should be clearly spelled out.
3. Consideration should be given to use paid farmers from the villages as Extension workers to work in their home areas through one-on-one contact. Due to their familiarity with the community and practical knowledge of farming, the village Extension workers would have the responsibility to visit every farm in their area regularly and use their own farms for demonstration and trial of new practices before suggesting them to other farmers.
4. The appropriate Extension teaching methods which have proven to be most effective in disseminating agricultural information to small farmers in the Southern Region in the United States could be used in The Gambia situation including one-on-one contacts, farm visits, demonstrations, mass media (i.e. radio, newspaper) and group meetings.

5. Some subject matter areas which should be considered for use in The Gambia small farm programs are: a) management, b) production, and c) marketing. Specific attention should be focused on food and cash crops, livestock, vegetables, poultry and soil.
6. Consideration should be given to reduce the high rate of illiteracy through adult education in order for farmers to profit from Extension Services.
7. Considerable emphasis should be placed on training of Extension workers on concepts as well as in practices related to small farmers.
8. Small farm programs should be periodically evaluated to help in future planning and working with small farmers on an individual and group basis.

CHAPTER VI

SUMMARY, IMPLICATIONS AND RECOMMENDATIONS

This study dealt with reviews of selected Extension-related 1862 and 1890 institutions' small farm programs in the Southern Region of the United States; examining certain characteristics of reportedly successful Extension-related small farmer programs; and applying results to The Gambia.

The specific objectives of this study were: (1) to identify successful Extension-related small farm efforts in 1862 and 1890 institutions in the Southern Region of the United States for Fiscal Year 1979; (2) to study, characterize and compare the successful Extension-related small farm programs identified in the Southern Region; (3) to compare 1862 and 1890 Extension educational efforts utilized for assisting small farmers; (4) to analyze 1862 and 1890 small farm programs in terms of factors contributing to success; (5) to apply the findings of the study regarding the successful Extension-related small farms programs in the 1862 and 1890 institutions to the development of procedures for a small farm educational program in The Gambia.

Two methods of procedure were used to gather information for this study. First, library research was used to review the small farm programs in the United States and in The Gambia. Second, a mail questionnaire was developed and sent to 36 small farm coordinators in sixteen southern states representing both 1862 and 1890 institutions. Nineteen of the 36 questionnaires were returned representing programs

in 10 states. States included Alabama, Arkansas, Georgia, Kentucky, Maryland, North Carolina, Oklahoma, Tennessee, Texas and Virginia.

In analyzing the data from the returned questionnaires, answers were classified and systematically recorded according to 1862 and 1890 small farm coordinators' responses to each item.

A. MAJOR FINDINGS

Identification of the Successful Extension-Related Small Farm Program in the Southern Region for Fiscal Year 1979

Regarding the names and most successful small farm programs in 1979.

1. Thirty-three different Extension small farm programs were rported, 18 conducted by the 1862 and 15 by the 1890 institutions in the 10 states reporting.

2. Nineteen "most successful" Extension small farm programs were identified by coordinators as they saw it, nine conducted by the 1862 institutions and ten by the 1890 institutions.

Regarding state small farm coordinator's definition of "Small Farm"

1. Eleven coordinators defined small farm as "gross sales of $20,000 or less."

2. Three coordinators defined it as "gross sales of less than $10,000 per year."

3. Other coordinators either amended the above definition or did not report.

4. None of the coordinators reported using the new (i.e. 1979) suggested USDA definition.

Characteristics of the Successful Extension-Related Small Farm Programs Identified in the Southern Region

Regarding the purposes of successful Extension Small Farm Programs. Respondents of the 1862 programs tended to emphasize "increasing farm income," "improving family living standards" and "raising quality of living" as main purposes for their successful small farm programs; while respondents of 1890 programs perceived "teaching production practices" as their principal purpose for assisting small farmers.

Regarding counties and farmers involved in the most successful Extension Small Farm Programs.

1. There were 2,765 farmers in 153 counties involved in the successful 1862 Extension small farm programs in 1979 for an average of 18.1 per county.

2. There were 4,113 farmers in 101 counties involved in the 1890 Extension small farm programs for an average of 40.7 per county.

3. Average numbers of farmers participating ranged from 4.1 to 85.7 for 1862 institutions; and from 1.0 to 107.8 for 1890 institutions.

4. The state of Oklahoma had the lowest number of farmers (i.e. 25) in seven counties in the 1862 institutions and the state of Tennessee was low for the 1890 institutions with 4 farmers in 4 counties.

Regarding criteria for selection of farmers for participation. Five 1862 institutions and four 1890 institutions indicated "farm income level below average" as their primary criterion for selection of farmers for participation in their most successful programs. The farmers' "potential" and need for help were among other criteria included.

Regarding Extension's relation to the most successful Small Farm Programs. Coordinators from 1862 and 1890 institutions agreed upon "providing leadership" and "administering of the program" as Extension's relations to their successful programs.

Regarding relationship of state and/or federal legislation to the program.

1. Only two 1862 institution coordinators and none from 1890 institutions reported that there was state legislation that provided funds related to their program or otherwise affected it.

2. Coordinators from four 1862 institutions and five 1890 indicated that there was federal legislation related to their programs.

Regarding the beginning, length and 1979 sources of funds for the program.

1. The successful Extension small farm program identified had started earlier in the states with the 1862 institutions. The earliest program reported had begun in 1965 and the most recent one in 1980. The 1890 programs did not start until 1972 or later.

2. Eight coordinators from 1862 institutions and nine from 1890 institutions indicated their successful Extension small farm programs would last "indefinitely." Coordinators from two 1862 institutions indicated that their programs would end in 1982 and 1983, respectively.

3. Most of the coordinators from both 1862 and 1890 institutions indicated that funding for their successful Extension small farm programs in 1979 had come from USDA, TVA, Federal and Extension sources. In addition, one 1890 institution coordinator mentioned a private organization.

Regarding numbers and kinds of staff members working with successful Extension Small Farm Programs.

1. There were 382 staff members working in ten states in the successful 1862 Extension small farm program in Fiscal Year 1979. The enumeration included 119 county part-time professionals; 82 county full-time paraprofessionals; 70 state part-time specialists; 61 county full-time professionals; 23 state full-time specialists; 14 area part-time professionals; 7 area full-time professionals and 5 county part-time paraprofessionals. One state mentioned state administrator part-time and area and state specialist and county staff who provided back-up training support.

2. There were 232 staff members working in ten states in the successful 1890 Extension small farm program. The enumeration included: 78 county full-time paraprofessionals; 76 county full-time professionals;

35 county part-time professionals; 29 state full-time specialists; 2 state part-time specialists; one county part-time professional; one area part-time professional and an advisory council of ten members.

3. The largest numbers of staff members in the 1862 program were county part-time professionals (i.e. 119) and county full-time paraprofessionals (i.e. 82). Largest numbers in the 1890 programs were county full-time professionals (i.e. 76) and county full-time paraprofessionals (i.e. 78). The state of Alabama in the 1862 institutions accounted for most (i.e. 109) county part-time professionals and most (i.e. 65) state part-time specialist. The nine other states in both 1862 and 1890 institutions were very much alike in staffing pattern with county full-time paraprofessionals and professionals being in the majority.

Regarding full-time staff equivalents (FSE's) devoted to the program in 1979. There were 129.5 full-time staff equivalents (FSE's) devoted to the most successful 1862 Extension small farm programs in Fiscal Year 1979 and 135.9 FSE's devoted in the 1890 programs. This ignores 189 1862 workers in Alabama whose FSE's were not reported. Among the 1862 states reporting, the state of Texas had the largest full-time staff equivalency with 50.0 FSE's; while the state of North Carolina among 1890 institutions had the largest full-time staff equivalency of 35.0 FSE's.

Regarding sufficiency of staff-time devoted to the successful 1862 and 1890 Extension Small Farm Programs.

1. Five 1862 coordinators reported the staff-time devoted to their successful Extension small farm program in 1979 was "just about right." Three indicated that it was "not enough" and one reported it was "too much."

2. Five 1890 coordinators reported staff-time devoted to their most successful small farm program was "just about right;" while four reported "not enough."

Regarding major enterprises of participants in the most successful Extension Small Farm Programs in 1979. Crop production was the major enterprise are engaged in by small farmers in the successful 1862 and 1890 Extension small farm program. The predominant crop enterprises were corn, soybeans, and vegetables, although livestock enterprises also were engaged in (i.e. primarily swine and beef).

Regarding the major problems facing small farmers in Fiscal Year 1980.

1. "Inflation," "lack of credit," "marketing," "management practices," and "low prices" were the biggest problems facing small farmers according to state coordinators in both the 1862 and 1890 institutions.

2. "Lack of adequate resources" also was cited by 1890 coordinators.

Regarding main strengths and weaknesses of the successful Extension Small Farm Program in Fiscal Year 1979.

1. Most 1862 coordinators indicated the strengths of their programs were: "staff assists clients in maintaining and improving farm operations," "coordinator at district level facilitates involvement," "effective paraprofessional assistance," "support of the county extension leaders" and "availability of research-based information."

2. The 1890 coordinators indicated strengths were: "effective paraprofessionals," "one-on-one educational consultation," "the provision of manpower and technology," "leadership provided by area director and county agents," "farmers having adequate time to work off farm to supplement income."

3. The 1862 coordinators reported weaknesses including "lack of paraprofessionals," "not enough counties involved," "not enough funds," and "information aimed at small farmers needed."

4. The 1890 coordinator cited the following weaknesses: "lack of interest and motivation," "inadequate funds" and "limited specialist staff."

Extension Educational Efforts for Assisting Small Farmers

Regarding subject matter areas in which Extension made greatest contributions in Fiscal Year 1979.

1. State coordinators in both 1862 and 1890 institutions most frequently mentioned management, production and marketing as subject matter areas in which Extension reportedly had made the greatest contributions to the successful Extension small farm programs in

Fiscal Year 1979. Specific attention was focused on livestock, vegetables and soil testing. However some new and different subjects were included in the 1890 institutions (e.g. catfish, machinery and energy use).

Regarding basic Extension teaching methods used in Fiscal Year 1979.

1. The basic Extension teaching methods used in the dissemination of agricultural information to small farmers in the most successful 1862 Extension small farm programs were: "demonstration," "the one-on-one approach," "farm visits," "surveys," "result demonstration," "group meetings," and "aide training." None of the states in the 1862 institutions reportedly used mass media contact with small farmers.

2. State coordinators of the successful 1890 Extension small farm program reported using "personal contact," "tours," "workshop," "mass media" (i.e. radio, newspaper), "the one-on-one approach," "demonstration," "field trip," "farm visit," "educational program" and "office visit" as their basic teaching methods. Coordinators in two states reported using mass media (i.e. radio, newspaper and publication) also.

Regarding most effective Extension teaching methods in Fiscal Year 1979. Most coordinators in both 1862 and 1890 institutions reported using demonstration (i.e. method and result) and one-on-one approach as the "most effective" Extension teaching methods used in FY 1979.

Factors Contributing to the Success of the 1862 and 1890 Small Farm Programs

Regarding the extent to which the program goals were achieved in Fiscal Year 1979.

1. Eight coordinators in the 1862 institutions indicated that their successful Extension small farm program goals were achieved to "some degree," while two indicated that goals were reached to a "great degree."

2. Six coordinators in the 1890 institutions indicated "some degree" of progress was made toward attainment of their successful Extension small farm program goals; while two indicated a "great degree" of achievement.

Regarding examples of progress made toward the purposes of the successful Extension Small Farm Program in Fiscal Year 1979. State coordinators of both of the 1862 and 1890 institutions indicated that "improving of agricultural production practices of small farmers," "helping farmers to increase income," "making changes in enterprises and establishing producer markets," were prime examples of progress made towards the purposes of their successful Extension small farm programs in Fiscal Year 1979.

Regarding the reasons coordinators felt programs were successful in Fiscal Year 1979. Results indicated that "increased income," "adopted practices," "increased production" and "improved living levels of small farmers" were reasons why state coordinators felt programs were successful in Fiscal Year 1979.

Regarding factors which contributed to the success of the Extension Small Farm Programs. In both 1862 and 1890 institutions, the factors which state coordinators felt had contributed to their programs' success included utilization and cooperativeness of para-professionals, Extension Agents, specialists, other program assistants and the value of prior one-on-one contact. The support from the 1862 and 1890 land grant institutions and good relations between the two was noted by the state coordinators.

Regarding suggested improvements of the successful Extension Small Farm Programs.

1. Most state coordinators in the 1862 and 1890 institutions suggested staffing and funding as their largest needs to improve their successful Extension small farm programs.

2. Those from some states suggested program expansion, staff training, more technical assistance and greater publicity.

Agricultural Situation in The Gambia

Regarding general information about The Gambia. The Gambia with a total area of 10,367 square kilometers and with a population estimated at 584,505 in 1979 is located on the bulge of West Africa. The Gambia clearly has a rural economy entirely dependent on agriculture. The percent of population engaged in agriculture is between 85 to 90. In 1978, its land/man ratio was estimated at 56.4 inhibitants per square kilometer.

Regarding The Gambia agriculture. The Gambia is a country of small farm holders. Farming is carried out by individual family units (i.e. wife, wives, unmarried children and the man). The work on the farm is divided between men and women in the family. The men are responsible for the production of groundnuts, millet, cotton and sorghums; while the women assume responsibility for cultivation of rice and vegetables.

There is no estate or large scale production of crops. Cultivation is done by hoe and 10 - 15 percent use animal drawn implements. Productivity and crop yield have traditionally been low.

About 80 percent of the farm families work in traditional agriculture at subsistence or semisubsistence level. The average farm family owns five hectares of land. Also, about 75 percent are illiterate.

Regarding customary land tenure. The Gambia, land is communally owned but the production organization is familial. The traditional land tenure has operated to impede agricultural progress.

In The Gambia, there is no private ownership of land. The land occupied by the community belongs to the community and cannot be bought or sold without the consent of the community authorities. Lending institutions require collateral to give out loans to farmers, but since farmers do not own land, they do not get loans from them because they do not have freehold title to their land.

Regarding Agricultural Extension in The Gambia. The agricultural Extension work in The Gambia can only be understood in terms of agriculture and its development. It has been an integral part of the work of the

Veterninary and Agricultural Department of the Ministry of Agriculture. The responsibility of the Extension Service is limited rather strictly to agriculture and livestock.

Extension services at farmers' levels are largely centered on the Mixed Farming Centers (MFC's). The 24 centers are utilized for demonstration of crop production, ox-training, and seed multiplication.

The Extension workers receive one year of training at the Yumdum Training College in crop production, emphasizing use of fertilizer and other agricultural practices. There also are village Extension personnel who receive their training in the field. The ages old belief in and practice of the traditional systems by farmers are main problems faced by the Extension worker in executing their basic objectives effectively.

The Extension service frequently uses demonstrations, short courses, motion pictures, face to face contacts, radio, village meetings and farm visits as their educational methods to disseminate agricultural technology.

Special Projects to Assist Small Farmers

Regarding the Mixed Farming Centers. The Mixed Farming Centers (MFC's) were established by the British Colonial Administration in 1950 for the purposes of improving the agricultural practices of The Gambian farmers through replacement of the traditional tools with the ox-drawn plow, training of farmers in the scientific care of livestock and use of other farming innovations.

The Mixed Farming Centers program has been generally successful in spreading new practices to small farmers. Evidences of accomplishment at the time of this study included: a) average farm size had increased from one-half acre to about three acres; b) net income per acre of groundnut had increased due to using improved practices; and c) a high rate of acceptance of the intermediate technology of oxenization had occurred.

Regarding the Mixed Vegetable Scheme. The Mixed Vegetable Scheme was first launched in the western division in 1971. Its purposes were to introduce improved varieties of onions, expand production of vegetables, reduce reliance on imports and create income generating opportunities for women. The project started with 30 participants. The Ministry of Agriculture and The Gambia Cooperative Union provided the fertilizer and improved seeds free of charge and also bought the produce.

The project was viewed as being very successful since the number of participants grew from 30 in 1971 to 4,295 in November 1974, income increased dramatically and women were established as innovators.

Application of Findings to the Development of Procedures for Small Farm Educational Programs in The Gambia

Appropriate steps to consider in any application of the previous findings of this study to The Gambia situation would appear to include the following:

1. Consideration of available sources of information on the socioeconomic and cultural conditions and agricultural needs of area small farmers.

2. A national survey of small farmers for ideas and suggestions on how the extension service could help with their problems.

3. Appropriate use of paid farmers (i.e. paraprofessionals) as Extension agents.

4. Appropriate use of Extension educational methods including one-on-one contact, farm visits, demonstrations, mass media and group meetings.

5. Subject matter areas such as: marketing, production and marketing should be considered for use in The Gambia small farm programs.

6. Consideration of ways to reduce the high rate of illiteracy.

7. Consideration emphasis on training of Extension workers.

8. Evaluation of small farm programs periodically for future planning.

B. IMPLICATIONS

Based on the findings of the study and experience of the researcher, the following implication is drawn:

Since each state coordinator was able to identify and characterize a "most successful small farm program" in their state in Fiscal Year 1979 and since there were evidences of scope (i.e. staffing and participants) and economic improvement, therefore it may be implied

that these were "successful" Extension-related small farm programs in the Southern Region.

Characteristically, "small farm" programs reported by 1862 and 1890 coordinators were very much alike and included among others the following attributes:

a. Names used for successful small farm programs typically mentioned small farm, rural poor and limited resource audiences involved.

b. Definition of small farm was those with gross sales of $20,000 or less.

c. Primarily criteria for selection were based on farm income level below average.

d. Crop enterprises were the major one enterprises engaged in by small farmers.

e. Major problems faced were "inflation," "lack of credit," "poor marketing management," "low practice use" and "low prices."

f. Most farmers have been assisted in increased income, adopted practices, increased production and improved living levels.

C. RECOMMENDATIONS

Use of Findings

1. It is recommended that the findings of this study be used by appropriate district, state and USDA staff for the development of small farm educational programs.

2. The Agricultural Extension Service in The Gambia, through the use of its agents in the field should implement and execute educational programs to benefit the needs of small farmers in the rural areas, since the economy of the country is entirely dependent on their resources.

3. The Agricultural Extension Service should use the findings of this study to develop agricultural research and methods of disseminating new information to small farmers.

For Further Study

1. Additionally, the participants themselves could be surveyed to find out:

   a. What they are really like?

   b. What practices they are using and not using?

   c. What influenced them (especially those in the Extension-related "successful" small farm programs) to adopt or reject recommended practices.

2. A study should be conducted to identify the types of market outlets and distribution system for small farm products in each state and the region.

3. A study should be made to assess the comparative advantage of various enterprises in terms of potential for farm income in each state and region.

4. A study should be made in The Gambia to identify, develop and test the types of training and assistance programs effective in improving the incomes of the small farm population.

5. A survey of individual small farmers in The Gambia should be made to find out:

a. What they are really like?

b. What practices they are using and not using?

c. What influenced them to adopt or reject the recommended practices?

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APPENDICES

APPENDIX A

The University of Tennessee
INSTITUTE OF AGRICULTURE

Agricultural Extension Service
P.O. Box 1071
Knoxville, Tennessee 37901

March 24, 1980

Selected Extension-Related
Small Farm Program Coordinators
in the South

Dear Coordinator:

As an M. S. degree candidate and graduate student doing research in Agricultural Extension at the University of Tennessee, I am conducting a study of successful Extension-related small farmer educational programs in this Region. You were suggested as a person likely to be well-acquainted with small farmer efforts in your state or area.

Would you please be kind enough to take a few minutes of your time to complete the attached questionnaire and return it to me in the enclosed stamped and self-addressed envelope? Thanking you in advance for the help, I remain

Yours truly,

Baboucar Gai
Graduate Student
Agricultural Extension Education

att: Small Farm Survey

P.S. Copies of an abstract will be available later for those interested in receiving them. BG

The Agricultural Extension Service offers its programs to all eligible persons regardless of race, color, or national origin and is an Equal Opportunity Employer.
THE UNIVERSITY OF TENNESSEE AND THE U.S. DEPARTMENT OF AGRICULTURE COOPERATING

The University of Tennessee
INSTITUTE OF AGRICULTURE

Agricultural Extension Service
P.O. Box 1071
Knoxville, Tennessee 37901

March 24, 1980

Dear

We are currently involved in studying Extension-related small farmer programs in the 16 states with 1862 and 1890 institutions. One of our graduate students, Mr. Baboucar Gai, is trying to identify some factors possibly associated with successful work of this kind. Would you please help by completing the attached brief questionnaire or by referring it to the one on your staff who has responsibility for small farm programs?

Thank you for the assistance. Best wishes to you in your work.

Sincerely,

Robert S. Dotson
Professor and Head
Agricultural Extension Education

enclosure: Small Farm Survey

The Agricultural Extension Service offers its programs to all eligible persons regardless of race, color, or national origin and is an Equal Opportunity Employer.
THE UNIVERSITY OF TENNESSEE AND THE U.S. DEPARTMENT OF AGRICULTURE COOPERATING

(Institution) (State)

REGIONAL EXTENSION-RELATED SMALL FARMER
EDUCATIONAL PROGRAM SURVEY

Please help us identify and characterize successful Small Farm programs in your State or Area by answering the following questions:

1. Do you have one or more Small Farm Programs in your State or Area?_____Yes _____No. If Yes, please name each Small Farm Program:
   a) Program #1 (e.g. In Tn, Small Farm)_____
   b) Program #2 (e.g. in TN, Rural Poor)_____
   c) Program #3 (e.g. in TN, Mtn. County)_____
   d) Program #4 (e.g. in TN. Spec. Opportunity)_____
   e) Program #5 _____

2. Which of the above-named programs is the most successful? _____

3. In the case of the above-named successful program, how would you define the term " Small Farm"? _____

4. As you see it, what are the purposes of the successful Small Farm Program identified in #2 above? _____

5. About how many counties are involved in the Program named in #2 Above?_____

6. About how many farmers are involved in the Program named in #2 above? _____

7. How are farmers selected for participation in the Program? (i.e. What are criteria, bases or rules?) _____

8. What is Extension's relation to the Program identified in #2 above? _____

9. What State and/or Federal legislation, if any, is related to the Program? _____

10. When did the program begin?_____When will it end?_____

11. What is the source of funds for the Program? _____

12. How many staff members in each of the following categories are included in the Program: a) County full-time professionals_____; b) County part-time professionals_____; c) County full-time paraprofessionals_____; d) County part-time paraprofessionals_____; e) Area full-time professionals_____; Area part-time professionals_____; f) State full-time specialists_____; g) State part-time specialists_____; h) Other (Please specify) _____

13. About how many full-time staff equivalents were devoted to the Program in #2 above in FY-1979? _____

14. Do you feel the amount of staff time devoted to the Program in FY-1979 was (please check): _____a) Too much? _____b) Just about right? _____c) not enough?

15. What basic Extension teaching methods are used in the Program? _____

16. Which teaching method(s) proved most effective in FY-1979? _____

17. To what extent do you feel Program purposes were achieved in FY-1979? (Please check) _____a) Great degree? _____b) Some degree? _____c) Little/none?

18. If progress was made toward Program purposes in FY 1979, would you give an example? _____

19. What were the major enterprises in FY-1979? _____

20. In what subject matter areas did Extension make the greatest contributions in FY-1979 (e.g. farm and home planning, management, soil testing, pest control, marketing, feeding, vegetable production)? _____

21. What do you see to be the biggest problems facing small farmers in FY-1980?

22. What do you feel the main strengths and weaknesses of the Program in #2 above are? _____

23. How do you feel the Small Farm Program in #2 above could be improved? _____

24. What makes you feel the Program in #2 above has been successful? _____

25. In your opinion, what factors have contributed to the success of the program in #2 above? _____

26. If you would be willing to share them, please send copies of any plans, progress reports or other materials related to the successful Small Farm Program mentioned in #2 above. Thank you!

(If you would like a copy of the abstract of this study, please check here. _____)

Your Name _____
Title _____
Address _____
_____
_____

Date _____

Please return at your early convience (or, hopefully by April 20, 1980) to:

Baboucar Gai, Grad. Student
Agr. Extension Education
P.O. Box 1071
Knoxville, TN 37901

APPENDIX B

State Coordinators Responsible For Small Farm Programs In The Southern Region

State	1862 Coordinator	1890 Coordinators
Alabama	Dr. Roy Ledbetter Assistant Director -ANR Auburn University Auburn, Alabama 36830	James I. Dawson Associate Dean for Extension Alabama A&M University P. O. Box 52 Normal, Alabama 35762 Algie Key District Agent Robert Russa Moton Hall Tuskegee Institute Tuskegee, Alabama 36088
Arkansas	Ruben H. Johnson State Leader - Agriculture P. O. Box 391 Little Rock, Arkansas 72203	Dr. S. J. Parker State Coordinator P. O. Box 82 Pine Bluff, Arkansas 71601
Delaware	W. T. McAllister Assistant Director Agricultural Hall University of Delaware Newark, Delaware 19711	Dr. Willie G. Adams Small Farm Programs Delaware State College Dover, Delaware 19901
Florida	Clarence Edmond Florida Cooperative Extension Service University of Florida Gainesville, Florida 32611	Dr. B. B. Archer Assistant Dean P. O. Box 320 Florida A & M University Tallahassee, Florida 32307
Georgia	Ronald C. Atkinson Farm Management Specialist University of Georgia Athens, Georgia 30602	Dr. Glenwood Hill Agricultural Program Specialist Fort Valley State College Box 4061 Fort Valley, Georgia 31030
Kentucky	Shirley H. Phillips N-322 University of Kentucky Lexington, Kentucky 40506	Dr. Henry Brooks Kentucky State University Box 123 Frankfort, Kentucky 40601

State	1862 Coordinator	1890 Coordinator
Louisiana	Dr. Gerald G. Giesler Associate Specialist (Farm Management) Knapp Hall University Station Baton Rouge, Louisiana 70803	A. O. Williams Administrate Head Sou. University & A & M College Baton Rouge, Louisiana 70807
Maryland	J. M. Curtis Director Cooperative Extension Service University of Maryland College Park, Maryland 20742	Charles Davis Project Leader University of Maryland Eastern Short Princess Anne, Maryland 21853
Mississippi	Dr. Rupert J. Johnston Leader for Extension Agricultural Economics P. O. Box 5426 Mississippi State University Mississippi State, Miss 39762	W. C. Boykin Administrative Head Alcorn State University Lermern, Mississippi 39096
Missouri	Dr. Edward Wiggins Associate Professor 228 Mumford Hall University of Missouri Columbia, Missouri 65211	Dr. Mortimer H. Neugille Associate Dean Lincoln University Jefferson City, Missouri 65101
North Carolina	D. G. Harwood, Jr. Assistant Director Cooperative Extension Service North Carolina State University P. O. Box 5157 Raleigh, North Carolina 27650 Carlyle Bledsoe District Supervisor - TVA Programs North Carolina State University Asheville, North Carolina 28804	Dr. Dalton McAfee A&T State University P. O. Box 21928 Greensboro, North Carolina 27420
Oklahoma	James L. Mosley Assistant Director -RD 139 Agriculture Hall Oklahoma State University Stillwater, Oklahoma 74074	Gilbert Tampkins Administrator 1890 Extension Program Langston University Langston, Oklahoma 73050

State	1862 Coordinator	1890 Coordinator
South Carolina	Dr. J. B. Copeland Associate Director-CES 103 Barre Hall Blemson University Clemson, South Carolina 29631 Dr. J. F. Pittman Professor Agriculture Economics 248 Barre Hall Clemson University Clemson, South Carolina 29631	R. L. Hurst Box 1765 Orangeburg, South Carolina 29115
Tennessee	Dr. Ray Humberd Professor and Leader Agriculture Economics P. O. Box 1071 University of Tennessee Knoxville, Tennessee 37901	Dr. Richard J. Winston Assistant Professor Plant and Soil Science Tennessee State University P. O. Box 650 Nashville, Tennessee 27203 Dr. Alvin E. Wade Assistant Professor Agricultural Economics P. O. Box 650 Tennessee State University Nashville, Tennessee 27203
Texas	Dr. D. C. Pfannstiel Director Extension Service Texas A&M University College Station, Texas 77840	Hoover Carden Praire View A&M University P. O. Drawer B Praire View, Texas 77445
Virginia	Dr. M. F. Ellmore Director Ag. & Natural Resources Hutcheson Hall VPI & SU Blacksburg, Virginia 24061	Milton D. Harding, Sr. Director-1890 Programs Box 540 Virginia State University Petersburg, Virginia 23808

VITA

Baboucar Bala Gai was born November 30, 1954 in Banjul, The Gambia. He attended Elementary School in Bureng and graduated from Armitage High School, Georgetown.

In the fall of 1974, he entered DePauw University, Greencastle, Indiana where he received his Bachelor of Arts degree in Botany and Bacteriology in 1978.

In January 1979 he entered the Graduate School of The University of Tennessee, Department of Agricultural Extension. He was awarded the Master's degree in December 1980.