

April 29, 2003

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Dear Dr. Cooper:

I am electronically submitting our 2002 Plan of Work Annual Report to Mr. Bart Hewitt for fiscal year 2002. If there are any questions, please contact me at [jhwalker@scsu.edu](mailto:jhwalker@scsu.edu) or (803) 536-8229 or Sharon Wade-Byrd at [zs\\_byrd@scsu.edu](mailto:zs_byrd@scsu.edu) or (803) 536-8697.

Sincerely,

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1890 Research and Extension

**2002 PLAN OF WORK ANNUAL REPORT**

**ACCOMPLISHMENTS AND RESULTS**

**IN SOUTH CAROLINA  
(State)**

**SOUTH CAROLINA STATE LAND-GRANT  
UNIVERSITY  
1890 RESEARCH & COOPERATIVE  
EXTENSION SERVICE**

**SOUTH CAROLINA STATE UNIVERSITY  
(Institution)**

**COOPERATING WITH THE  
U. S. DEPARTMENT OF AGRICULTURE**

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# **2002 ANNUAL REPORT OF ACCOMPLISHMENTS AND RESULTS**

## **SOUTH CAROLINA STATE UNIVERSITY**

**April 29, 2003**

### **INTRODUCTION**

South Carolina State University (SCSU) and Clemson University annually receive federal assistance from CSREES/USDA for programs and activities to respond to the demands and diverse opportunities of stakeholders through a plan of work delivery system, that evolves around five national goals. The plan of work illustrates programs' impact to stakeholders and the effectiveness of program management. The South Carolina Plan of Work covers the period of fiscal years October 1, 1999 through September 30, 2004. This Plan of Work involves the continual cooperation between South Carolina State University and Clemson University, as both institutions continue to strengthen the collaboration in meeting the national goals within the research, education, and economic mission areas of the U. S. Department of Agriculture. This plan of work is an integrated plan within the functional areas of research, extension and higher education.

In a collaborative effort, South Carolina State University's 1890 Evans-Allen Research and Cooperative Extension Program and Clemson University began addressing the requirements of the AREERA Act of 1998 by developing and conducting a planning process using the following three basic principles:

- 1) Partnership is essential to the delivery of effective programming.
- 2) Proper planning and program delivery requires information sharing, evaluation, and analysis of outcomes and results.
- 3) Stakeholder involvement is key to program development, priority setting and effective programming.

### **PURPOSE:**

This report depicts SCSU's 1890 Evans-Allen Research and Cooperative Extension Program Compliance with federal regulations relative to the performance plan within the five year plan of work. Furthermore, it highlights SCSU's total efforts to ensure equal access and opportunity relating totally to all aspects of program impacts and services. The 1890 Evans-Allen Research mission is to provide seed-based funding to faculty, staff and students to become engaged in organized research efforts/opportunities to build the research resource capacity of the institution to address problems and issues of concern to limited-resource stakeholders or clientele. The 1890 Cooperative Extension Program delivers research-based programs and activities to help stakeholders and clientele to enhance their quality of living and be better able to respond to environmental changes.

## **A. Planned Programs (National Goals)**

**GOAL 1: An agriculture system that is highly competitive in the global economy.**

### **Overview**

Presently, the decline of socially disadvantaged minority farmers is attributed to various social, economic and political conditions within the state. Chiefly among them are land loss, discrimination in access to credit, the insensitivity of government at the state and federal level to effectively address the root causes impacting them, and the lack of commitment to put into place the necessary impact programs that can provide comprehensive and prescriptive solutions for the farmers. Today, there are approximately (1,488) black owned and operated farms in South Carolina based on the (1997 Census report).

Moreover, the decline in black owned and operated farms are due to other factors; for example, reliance on conventional agricultural practices, pesticide contamination, soil erosion and degradation, and no crop insurance, etc. therefore, the overall mission of goal 1 was to assist socially disadvantaged farmers in reversing their economic decline through research, educational and technical outreach assistance. Through federal funds, two program Focus Areas were emphasized: 1) Retention of Small/Minority Farmers, and 2) Sustainable Agriculture.

### **Retention of Small/ Minority Farmers:**

Special initiatives or projects focused on: (1) 1890 Extension Meat Goat Project sponsored by Heifer International (HI), (2) Beef Cattle Improvement Project (BCIP) sponsored by Heifer International (HI), (3) Commercial Vegetable and Home Garden , (4) Agriculture in the Classroom, (5) 1890 Extension & Heifer International Pastured Poultry Project, and Edgefield Silvopasture Project sponsored by the USDA Agroforestry center. These initiatives/projects provided management training to farmers in the areas of production, marketing, decision making, risk, and enterprise management.

The 1890 Extension Meat Goat project worked with small limited resources participants' farmers in twenty South Carolina counties divided into five cluster areas. The Meat Goat Project consisted of 28 farmers in which 82% are African-Americans, 11% Caucasian-American, and 7% Native-Americans. A total of 22 marketing training and workshops conducted for the total participants farmers that resulted in 93% increasing their knowledge base, and 7% refreshing their knowledge in regard to meat goat enterprise. In addition, 54% of the participating farmers reported adopting knowledge acquired from training and workshops into their enterprise management, and 46% planned to adopt the knowledge learned.

The 1890 Extension Beef Cattle Improvement Project (BCIP) provided assistance to 111 small size beef cattle producers in the area of production, improving blood line, marketing, decision



making, risk and enterprise management over the years. One hundred eighteen (118) heifers and 18 bulls have been placed on limited resource farms to date. Ninety-two of 92 farmers are enrolled in this initiative and 73 were active participants . Fifty eight (58) families have been assisted through the animal Pass-on-Project, sixty two (62) heifers and three (3) bulls have been passed on to these families. The racial composition of the 1890 Extension Beef Cattle Improvement Project participant farmers is as follow 81% African-American, (18%) Caucasian-American, (1%) Native-American. During the 2001 - 2002-fiscal years, a total of 281 farm visits were made by county agents to provide training, workshops and farm tours, and follow up activities. Thirty monthly meetings, four quarterly meetings and four farm tours were conducted to assist the project participants in various counties.

The BCIP participants received 57 enterprise management trainings, workshops, and farm tours resulting in 82% that increased their knowledge base, 54% reported adopting the information received, and 44% planned to adopt the information received. The beef cattle production by these small size farmers have increased dramatically. Fifty four percent (54%) have high production translated into a calf a year per cow per farm, 36% have medium production averaging a calf per year every 13-18 months.

The 1890 Extension Commercial Vegetable and Home Garden Project assisted small limited resource farmers and home garden producers with production and marketing training. The racial distribution of this initiative consisted of 58% African-American, 7% Caucasian-American, and 33% Native-American. A total of 11 workshops, 5 trainings, and 5 farm tours were conducted to assist 63 small limited resource and home garden vegetable producers, in which 97% increased their knowledge, and 3% refreshed their knowledge. Among the participants to this initiative, 49% planned to adopt the knowledge acquired, and 51% adopted the practice learned. This project has provided participants with extra income and helped them to become more aware of the potential of home gardening as an alternative enterprise.

The 1890 Extension Ag-In the Classroom introduced agriculture to elementary grade school kids in many schools of two clusters we served. The racial distribution of this initiative is as follows: 74% African-American, 16% Caucasian-American, and 8% Native-American. There were a total of 6 elementary school participants in this initiative resulting in 93% of the participating kids increasing their knowledge on agriculture, and 7% refreshed their knowledge.

The Pastured Poultry and the Agroforestry Project introduced alternative enterprises to 6 small limited resource farmers. The racial composition of the participating farmers of the initiative consisted of 33% African-American, 33% Caucasian-American, and 33% Asian- American. There were 3 Agroforestry workshops conducted to assist 8 landowners that resulted in 75% increasing their knowledge, 38% planned to adopt, and 13% adopted the knowledge received. The Pastured Poultry Project currently is assisting 5 Small limited resource farmers where 40% are Caucasian-American, 40% Asian American, and 20% African-American. There were 4 workshops and two training conducted to assist 12 participating farmers, 84% increased their knowledge, and 16% refreshed their knowledge. Currently, 42% adopted new management practices and 33% indicated that they planned to adopt the practices recommended as a result of training.

A research cooperative agreement funded with Evans-Allen Research Funds looked at the impact of NAFTA on South Carolina, Georgia and North Carolina in the Southeast Region. According to 1997 Census data on exports, South Carolina exported \$.685 billion dollars worth of commodities to Mexico in 1996, with food products accounting for \$65.5% of sales. Preliminary results based upon farm surveys across the southeast region suggest that farm size may be a factor affecting competitive efficiency under NAFTA. The state of South Carolina was divided into three distinct geographical areas: The Piedmont, Northern Coastal Plains and Southern Coastal Plains. To build the model, farms were divided into regions by size of small, medium and large. The size was based on planted acreage of the four major South Carolina crops: cotton, soybeans, wheat and corn. This data also indicated that medium and large farms may benefit the most from NAFTA. The results for the average representative small farm model clearly suggest that the average small farms are negatively affected by free trade. This project suggests that small farmers need to look at cooperative development to increase their ability to competitively take advantage of free trade initiatives.

### **Sustainable Agriculture:**

The Small Farmer Outreach Training & Technical Assistance program is working to help to reverse the economic decline of socially disadvantage farmers in South Carolina, and increase their participation in the local, state, and national programming, and establish farmer networks and cooperatives as means of improving their income. This program initiative promotes programs, activities to preserve farmlands, conserve and foster sustainable agricultural policies, and encourage efforts to increase and satisfy consumer demand for food grown on the farm. A growing number of farmers have begun to adopt viable alternative practices with the goals of reducing input cost, preserving their resource base, and protecting human health. The total number of participants in the programs was twenty five (25) farmers during the fiscal year 2001 - 2002 of which 88% indicated they had adopted viable alternative practices with the goals of reducing input costs.

The Small Farmers Outreach Training & Technical Assistance Program provided leadership, enterprise management, decision making skills, and risk management training to participant farmers. The program also conducted sustainable farm tours and assisted selected farmers to attend sustainable national conferences. The impact of this program has been in the area of helping farmer develop good risk management practices and become more astute in financial planning. Of the 88% who adopted the recommended practices, half have indicated that they see positive results in their overall farm operations.

The small Scale Aquaculture-Vegetable farm in South Carolina project has introduced the aquaponics technology to small limited resources farmers with existing ponds. This initiative has selected and assisted nine (9) participants with the production of caged Tilapia. The racial distribution of this initiative is consisted of 67% African-American, 22% Asian-American, and 11% Caucasian-American. This project has resulted in three farmers expanding their operations with our farmers becoming the fingerling feeder for the other farmers. One farmer has expanded his variety of fish. All reported excellent in terms of sales.

During the reporting period of 2001-2002, approximately eighteen (18) farm families were

recruited to participate in the “Occupational Hearing Loss” Project. The research purpose of the study evaluates hearing impairment and auditory processing problems among farm families occupationally exposed to noise and solvents. Three age groups are participating in the study. Approximately 96 children ages 9, 12 and 15 years (32 children in each age level, 16 males and 16 females, equals numbers of African-American and Caucasian children). There were sixty (60) subjects between the ages 18 - 30, and 60 subjects above 50 years. Twenty farmers had initially agreed to participate in the project. However, after consulting with the environmental hygienist, it became evident that subject selection needed to depend mainly on the crop. The chemical atrazine was selected as a very commonly use agent. Restriction to a single crop for statistical power of the data limited the subject pool. The researchers have begun to set-up an electrophysiology laboratory. A portable state of the art data recording port was purchased, in order to allow on-site data collection. Testing materials for diagnostics in cognition and speech have been purchased. Training and programming the data acquisition system is underway. One potential impact of this project is the development of a testing laboratory that test farmers and their families as well as help to educate farmers on the dangers of having noise and chemicals as it relates to health and safety on the farm. It also will provide safety suggestions regarding noise safety and proper use of chemicals and pesticides.

**a) Extension (E) and Research (R) results supported w/agriculture research and extension formula funds (i.e., outputs)**

- EXT1: 1) There were twenty five (25) workshops, thirty five (35) trainings, and thirty one (31) tours conducted to support sustainable agriculture programs and activities.  
2) Forty-eight (48) farmers indicated that they increased their knowledge base.  
3) There were eighteen (18) farmers that indicated that they adopted the recommended practices to use continually on their farms, and forty (40) planned to adopt the knowledge learned.
- EXT2: 1) A total of two hundred thirty-seven (237) farmers participated in trainings during the fiscal year 2001-2002 and 98 or 41% of these farmers adopted practices learned in their respective trainings.
- RES1: 1) The NAFTA research project has reported one publication being submitted for editorial review in a referred or non-referred journals for this reporting cycle.  
2) There were two (2) presentations made at conferences, symposiums and/or workshops.  
3) A data matrix was developed to study the impact of NAFTA on trade flows of fruits and vegetables from South Carolina and is now being used. The analysis will reveal the amount of trade creation and trade diversion attributable to NAFTA in South Carolina as well major determinants of the flows in-and out-of South Carolina to Mexico. Bilateral econometric trade models are being developed.  
4) One brochure was developed and disseminated to farmers.
- RES2: 1) The Soil pH research project has not reported any publications in referred or non-referred journals for this reporting cycle.

- 2) There were three poster presentations at conferences/meetings for this reporting cycle.
- 3) The Soil pH research project reported no training seminars/workshops conducted during the collection of the soil samples across targeted farms throughout the state.
- 4) The number of farmers adopting pH practices and their economic impact on farmers' yield and income has not been determined during this annual reporting cycle.
- 5) Eight (8) undergraduate students were trained in Soil pH biological and chemical techniques on a continuous basis
- 6) Two (2) abstracts were developed by the research students for paper presentations.

- RES3: 1) Farmers' attitudes/perceptions as it relates to economic benefits in the aquaculture research project has been positive. Currently, there are nine farmers participating in the project. There are three in Orangeburg, one in the Low Country, three in the Pee Dee and two in the Piedmont area. One farmer has purchased additional tanks to increase stocking of Tilapia fish and another adopted the raceway expansion production system.
- 2) The integrated management practices utilized by participating farmers has resulted in several farmers (3) expanding their operations and increasing their investments with their own personal resources.
  - 3) There were two demonstrations concerning aquaculture and hydroponic integrated practices, where a total of seven farmers participated. Their assessment of the demonstrations was very positive. Non-participating farmers who attended the demonstration expressed interest in setting up an aquaculture project model.
  - 4) To date, of the nine farmers who are participating in the research project, all nine are currently adopting the practices of the project and increasing their market potential.
  - 5) There is one (1) undergraduate and two (2) graduate students being trained in small-scale aquaculture and vegetable production enterprising using various aquaponic and hydroponic methods and techniques.

- RES4: 1) The Occupational Hearing Loss research project is assessing approximately ten farm families from the pilot study.
- 2) There is one (1) undergraduate student and one (1) post-master staff member involved in this research project.
  - 3) During this reporting cycle, there were no referred journal articles.
  - 4) Two poster presentations were made at professional conferences/workshops.
  - 5) The researcher presented a paper at one seminar.

HE1: A total of five (5) B.S. and four (4) M.S. students graduated from the School of Agribusiness and Economics during the reporting period.

**For fiscal year 2002, the following successes were highlighted:**

- EXT1: 1) Fifty eight (58) families have been assisted through the animal Pass-on-Project, sixty-two (62) heifers and three (3) bulls have been passed on to families.  
2) Twenty eight (28) farmers reported an increase in income as a result of the 1890 agriculture assistance.  
3) Ninety three (93) farmers adopted information and integrated into their farming operations.  
4) Twelve (12) farmers utilized the simplified farm Record Keeping System.  
5) Overall, ninety-one (91) farmers adopted the recommended practices.  
6) Forty four (44) made progress toward retaining farms/farm enterprises.
- EXT1: 2) Twenty-five (25) small/minority farmers who integrated sustainable practices into their farming operations enhanced their water quality.
- RES1: The NAFTA project is still ongoing. A programmatic recommendation for development in Extension Outreach Activity to Fruit and Vegetable Farmers has not been completed.
- RES2: The Soil pH project is still ongoing. The final Research Performance Report and the development of a soil test laboratory for small-scale, minority farmers, integrated with 1890 Extension's agricultural production programming. This lab is scheduled for operation to serve small farmers in 2004.
- RES3: The Aquaculture project is still ongoing. The final Research Performance Report and integration of workshops/demonstrations of small-scale aquaculture and vegetable production enterprising through continued Extension programming is not yet completed, pending completion of the project. At completion, an aquaculture demonstration program will be put in place to help other farmers who may have an interest in doing this type of alternative farm enterprise.
- RES4: The Occupational Hearing Loss project is still ongoing. The final Research Performance Report and establishment of an on-going Hearing Health Program, in collaboration with 1890 Extension Outreach Programming, are not completed, pending the outcome of the project.
- HE1: Five (5) B.S. and four (4) M.S. students graduated from the areas of Biological Sciences and Agribusiness and Economics. The total number of students employed in the agricultural field included three (3) with a B.S. degree and three (3) with a M.S. degree.

### **Benefits to Clientele and Stakeholders - Impacts**

Under **Goal I**, in regard to clientele and stakeholders, the Pass-on-Project is one of great demand. Farmers are always interested in how they can become a part of the program. The project allows for families to interact with one another in raising heifers and bulls. Once the animal has developed and given birth, the animal is passed on to another family.

An African-American small farm family used their own resources to purchase a 206 acre tract of land. They hoped to one day build a pig nursery and build their future home. With the 1890 Extension program assistance, the couple was able to develop a farm plan and then assist in securing financing from the Pee Dee Farm Credit. Through an integrator, the couple received approximately 3,900 pigs to raise until they were six weeks old, thus allowing them to deliver about six batches a year, bringing in an annual income of \$81,000. Since both are retired, this new source of income will provide their son full-time employment. In addition, they completed the S.C. Confined Animal Manure Managers Certification Program to be better equip to manager their farm waste.

Moreover, the 1890 Extension Program agents assisted a group of small farmers to identify alternative crops that would grow in the Southern region. Five small farmers agreed to plant two to six acres of Romaine and head lettuce between December and February. Once the lettuce was planted and grown on plastic mulch, using a low trickle drip irrigation system, it was then harvested between the months of March and April. The farmers cooperating in the lettuce initiative produced over 125,000 pounds of lettuce and earned a total of \$17,000.00. They marketed their lettuce to fast food restaurants on the eastern seaboard, which allowed them collectively to increase their income significantly.

### **State's Own Assessment of Accomplishments**

In assessing the accomplishments of the South Carolina Plan of Work Performance for 2001, the 1990 Census Data estimated that South Carolina State University's 1890 Evans-Allen Research and Cooperative Extension Program is potentially able to provide service to 72,669 under-served/under-represented persons. Of that number, 39,968 (55%) were males and 32,701 (45%) were females. Of the 1,448 black farms in South Carolina, approximately 848 (57.5%) black farmers received assistance from the SCSU Extension Program. The clientele/stakeholders served by SCSU's 1890 Extension Program indicated their satisfaction via verbal feedback and comments from the various programs they attended. As a result, renewed interest in a statewide farm cooperative has been rejuvenated.

To build support for the small farm initiative, the 1890 Cooperative Extension Program is expanding partnerships and collaborations with other sources such as Clemson Extension and SFOTTAP to bring to small farmers other programs that will help them to sustain their efforts.

**Source of Funding:** (*Section 1444* - \$244,515; *Section 1445* - \$322,865 estimate)  
**FTE's** - 5.0

**Key Theme** - Agricultural Profitability

**Description**

Given that the amount of foreign agricultural and non-agricultural trade of the United States has increased substantially since NAFTA became effective as of January 1994, USDA has forecasted that US exports and imports would continue to grow. Although, such changes have resulted in reduction and/or elimination of domestic income, employment, purchasing power for the farm and non-farm sectors alike. Therefore, a researcher with the Evans-Allen 1890 Research Program developed a representative farm model to evaluate the impacts of NAFTA. The first objective focuses specifically on examining the NAFTA trade implications for the growing Southeastern economy, particularly fruit and vegetable products that were being traded in Mexico, and estimating the dollar volume of trade creation and diversion, output and employment creation in the vegetable and fruit industries attributable to NAFTA in South Carolina.

**Impact** - Preliminary results from farm surveys suggest that the average large and medium size farmers of wheat, soybeans, corn and cotton in South Carolina are expected to benefit from NAFTA and the international free trade agreements. Meanwhile, the small-sized farms are expected to face stiffer competition, with many fruit and vegetable producers going out of business; therefore, indicating farm size as a factor affecting competitive efficiency under NAFTA. For the small-sized farms, the possibility for cooperative development may increase their competition in the free trade market.

**Source of Federal Funds** - Evans-Allen (\$76,753)

**Scope of Impact** - Georgia, North Carolina, and South Carolina

**Key Theme** - Aquaculture

The research project has provided knowledge and experience of a new alternative farm-enterprise to project staff and small-scale farmers. There are no other examples of such systems in South Carolina. The system introduced does not require high investment. However, some farmers have not generated income from the system either due to personal health problems or other reasons unknown. Some farmers were able to sell all their fish without any problem within a few days of advertising

on their farm sites or through word of mouth at an average price of \$2.50 a pound. Two significant problems participants faced were breeding fish lost during the over-wintering phases because of (1) poor water quality, (2) variations in temperature and (3) general tank system maintenance.

**Impact** – A total of nine participants are being served. There are three in Orangeburg, one in the Low Country, three in the Pee Dee, and two in the Piedmont area. Project participants worked on several significant project activities. These activities ranged from over-wintering installations to innovative breeding/holding facilities. Project personnel, as well as participants, have made great strides in performing technical enhancements to existing systems and providing continued preventative maintenance. Participants are embracing innovative methods utilized via Tilapia producers throughout the Southeast. The aquaponics system can be used to demonstrate growing fish and vegetables at the same time. The facility can also be utilized to train farmers and students in the value of composting. Also, the facility can be used to generate data on the economics of production of fish and vegetables.

**Source of Federal Funds** - Evans-Allen (\$61,783)

**Scope of Impact** - South Carolina

## **Key Theme** - Small Farm Viability

### **Description**

One 1890 Agricultural Extension specialist is developing a comprehensive program to assure viability of small farmers in the state. The program assists farmers in obtaining management training in the areas of controlled breeding, pasture management, herd health and nutrition, improving blood-line, livestock production, and establishing pastured poultry as an alternative farming enterprise, and increase farm profitability. The Heifer Project International (HPI) Meat Goat, Beef Cattle, and Pastured Poultry Projects are three components of the program. Each project is conducted at different intervals to allow farmers to take advantage of all three programs. The programs are presented via workshops and through demonstration field trips to expose and promote the concepts of integrating programming.

**Impact** - It was reported that a total of 237 farmers participated in trainings during the fiscal year 2001-2002. Ninety eight or 41% of these farmers adopted practices learned in their respective trainings. A growing number of farmers have begun to adopt viable alternative practices with the goals of reducing input cost, preserving their resource base and protecting human health.

**Source of Federal Funds** - (Section 447180) USDA Office of Outreach, (\$70,046)



## **Scope of Impact - South Carolina**

### **Key Theme - Plant Germplasm**

#### **Description**

Farmers in South Carolina are continuously faced with low yields for row crops, which ultimately affect the local and national food supply. Therefore, a researcher with the Evans-Allen Research Program is conducting research to determine if soil pH manipulation can increase food supply and control weeds. To date, the research has surveyed the soil pH in six South Carolina counties, where soil samples were collected at a depth of 6 to 12 inches deep. By manipulating soil pH, the researcher looks to determine which pH allows various plants to grow best, in order for the farmer to have the best yields and better weed control growth. This type of knowledge of soil pH on seed germination is extremely important to the physiology and distribution of plant growth in studying the effects of young seedling growth.

**Impact** - Preliminary studies indicate that all soil samples have a strong natural buffer system that resists alternation without the use of chemicals. Respiration studies were performed from selected crops and weeds. All samples were collected after 15 days of growth in petri disk germinators. The respiration rates were higher for cucumbers, string beans, garden peas, soybeans, and okra seedlings at a pH of 4, 9, 4, & 6 and 10 respectively. To date, ten (10) farmers have received feedback from their soil that was tested. This project has eight (8) undergraduate students who are biology and chemistry majors being trained in chemical and biological laboratory techniques.

**Source of Federal Funds** - Evans-Allen (\$56,929)

## **Scope of Impact - South Carolina**

### **GOAL 2: A safe and secure food and fiber system.**

#### **Overview**

According to Healthy People 2000 Food Safety Objectives (1995), food-borne illnesses in the United States have led to a major cause of economic burden, human suffering, and death. While foodborne diseases, their causes and effects are better understood today, emerging risks need to be monitored for several reasons: (a) the food supply of the United States is changing dramatically, especially the conditions under which animals are raised; (b) consumers are changing, for an ever increasingly number of elderly or immune-suppressed persons who are at higher risk of severe illness has to be taken into consideration; and (c) new and emerging food-borne pathogens have been

identified, which can cause diseases unrecognized 50 years ago. It is estimated that 6.5 to 33 million people become ill from microorganisms in food each year, and an estimated 9,000 of these individuals die as a result. According to a 1998 report released by the United States Department of Agriculture, it indicated that \$5.2 to \$28.2 billion was spent for food-borne illnesses from meat and poultry alone.

### **Food Safety, Security and Quality:**

To ascertain information that would directly address the issues of food-borne illness in the State of South Carolina, a researcher from 1890 Evans-Allen Research Program is continuing to experiment with insect pest management techniques that include use of the insect's own chemical communication signals (pheromones) to reduce health risks. This project, called "Genetic Evaluation of Insect Responses to Integrated Pest Management Techniques," looks at using genetic analyses in identifying the chromosomal location of genes involved in the regulation of pheromones in fruit flies. This research may result in designing specific inhibitors to proteins which could be manufactured and used to disrupt mating in targeted Fruit-Fly species. This project will provide important information on the long-term effect of pheromone-based control measures and help determine how complex the genetic basis of pheromone regulations is in evolving a successful pheromone-based pest management program. One impact of the project is the training of undergraduate students in this type of research and the development of a lab-base to be integrated with ongoing institutional delivery and training.

#### **a. Research (R) results supported w/ agricultural research and formula funds (i.e., outputs).**

- RES1: 1) The researcher reported that he completed the crosses designed to homogenize the backgrounds of lines that are hybrids for different regions of the Tai-Y and Canton-S 3<sup>rd</sup> chromosome.
- 2) The project has been extended for one year.
- 3) This research project did not report any publications in referred or non-referred journals for this reporting cycle.
- 4) There were no presentations at conferences or meetings for this reporting cycle.

**Source of Funding:** (*Section 1445* - \$48,838)

**FTE's** - 3.0

### **GOAL 3: A healthy, well-nourished population.**

#### **Overview**

Nutrition is essential for growth and development, health, and well-being. Behaviors to promote health should start early in life with breastfeeding and continue through life with the development of

healthful eating habits. Nutritional or dietary, factors contribute substantially to the burden of preventable illnesses and premature death in the United States. Reports demonstrated that dietary factors are associated with 4 of 10 leading causes of death: coronary heart disease (CHD), some types of cancer, stroke, and type 2 Diabetes. These health conditions are estimated to cost society over \$200 billion each year in medical expenses and lost productivity. Many dietary components are involved in the relationship between nutrition and health. A primary concern is consuming too much saturated fat and too few vegetables, fruits, and grain products that are high in vitamins and minerals, carbohydrates (starch and dietary fiber), and other substances that are important to good health. The 2000 Dietary Guidelines for Americans focus on staying healthy, and persons aged 2 years and older should follow the ABC's for good healthy: **A**im for fitness, **B**uild a healthy base, and **C**hoose sensibly. The Food Guide Pyramid is an educational guide that recommends the appropriate number of servings from different food groups each day and other principles of the Dietary Guidelines for American.

In 1988-94, nearly 55 percent of the U.S. Adult population was defined as overweight or obese, compared to 46 percent in 1976-80 (Healthy People 2010). Adults defined as obese by a BMI of 30 or greater has increased from 14.5% to 22.5%. A similar increase in overweight and obesity also has been observed in children above 6 years in both genders and in all populations. A Surgeon General's Report on Nutrition and Health (2000) suggested that being overweight was a risk factor for Diabetes Metillus, hypertension, stroke, coronary heart disease and some types of cancer and gallbladder diseases. Therefore, a minute change in lifestyle, such as reducing one's intake of fatty acids and increased physical activity levels, reduces the number of death attributed to lifestyle factors annually in South Carolina and the Nation.

The overall mission of **Goal 3** is to provide healthy, well-nourished population through research and education on nutrition. The development of more nutritious foods enables people to make health promoting choices. Focus on assessment of nutrition behaviors of pre-adolescents, elderly adults, and teens can determine the prevalence of obesity to promote positive lifestyle behaviors. *Through the 1890 Extension Program and Evans-Allen Research Program, the following were accomplished for this reporting period:*

### **Nutrition Education, Diet, and Health**

#### **Key theme-Human Health and Nutrition**

##### *Food Stamp Nutrition Education Program (FF-NEWS)*

#### **Description**

The purpose of this project is to provide a nutrition education intervention program to help food stamp recipients and low-income individuals (based on the poverty guidelines provide by the Federal government) prepare nutritious meals consistent with their cultural traditions or ethnicity. The intervention encourages understanding and adoption of practices recommended by the United States Dietary Guidelines for Americans and the Food Guide Pyramid to foster a healthy diet while improving the participants' overall quality of life. Participants are learning how to improve safe food

handling practices when preparing and storing food within the home, while enhancing their thirty food shopping skills in preparing healthy low costing meals. The program utilizes a curriculum titled: Families First -Nutrition Education and Wellness Systems (FF-NEWS). The curriculum was developed by a multi-state collaboration with four states (Texas, Oklahoma, Arkansas, and Louisiana). The four modules included within the curriculum address nutrition, health related concerns, budget management, and food safety.

The interventions are conducted in the following three counties: Barnwell, Calhoun, and Orangeburg (DSS sites). The primary target audiences are food stamp participants located at the Department of Social Services offices. A secondary audience is low income individuals who meet food stamp eligibility and free and reduced lunch services. Council on Aging sites also participates in the program.

**Impact:** The FF-NEWS program enrolled a total of 116 families of the 1,412 direct and indirect contacts made. Of these contacts, 728 were adults who participated through the Family Life, Job Club and E. B. T. class sessions at the **Department of Social Services**. These sessions lasted from 30 minutes to three hours depending upon the Department of Social Services requests. Our **Senior sites** (Council on Aging) totaled 414 contacts for nutrition intervention which represented 29.3 percent of our total program population served. In our **community outreach services**, 270 children/youth received direct or indirect contact representing 19.1 percent of the participants. The program ethnic demographic figures reflected 1,033 (73.2%) were of African American decent, while 168 (11.9%) were of Caucasian heritage with 4 (.3%) being American Indian. In this population, females represented the greater number of participants served with a total of 921 representing 65.2 percent. The 116 families who completed family profile forms 65 years and older represented 30.2 percent of the population, while 0-17 represented the least likely population to be enrolled for nutrition education with a 6.0 percentage. Within the 1,412 contacts, 57.6 percent participated in special interest group encounters, while single contacts representing 28.6 percent of the total population served.

Based on the FFNEWS enrollment form that captures interest/knowledge about nutrition & program awareness, the following impact was made: Prior to intervention, 73.5% of the participants had no awareness of nutrition education. As a result of intervention, 84.3% of the participants indicated that they now use the Food Guide Pyramid and 93.1% of the participants indicated that they wanted to learn more about preparing healthy meals.

**COLLABORATIONS:**

Council On Aging

Department of Social Services (Orangeburg, Calhoun, Barnwell Counties)

Orangeburg Area Development Center

**Source of Federal Funds-** Food and Nutrition Services-(\$21,970)

**KEY THEME: Human Nutrition and Obesity**

## **Description**

The 1890 Evans-Allen Obesity research project entitled: “Assessment of Nutrition and Exercise Behaviors of Preadolescents in Bamberg, Calhoun, and Orangeburg Counties” focuses on identifying health seeking (diet and exercise) behaviors of preadolescents in an attempt to implement an intervention program that will reduce the incidence of obesity, a major risk factor for the development of chronic diseases later in life. The objectives of this project are to: 1). Determine preadolescents knowledge and understanding of the dietary guidelines for fat, calories, cholesterol, fiber, calcium and sodium; 2). Determine the degree to which preadolescents are following the recommended dietary guidelines; 3). Examine preadolescents perception of health risks associated with intake of excess dietary fat, sodium and calories; 4). Determine the prevalence of obesity in preadolescents in Bamberg, Calhoun and Orangeburg Counties; 5). Identify constraints to and motivating factors for developing healthy lifestyle behaviors; 6). Develop and pilot test a nutrition and exercise intervention program for preadolescents in Bamberg, Orangeburg and Calhoun Counties to promote positive lifestyle behaviors which may prevent the development of chronic diseases later in life; and 7). Develop a nutrition extension service activity with 1890 Extension service. Project findings are being utilized to assist Cooperative Extension Service with developing effective nutrition and exercise programs for preadolescents.

## **Impact**

This project has provided information to assist the 1890 Cooperative Extension Nutrition Program Staff in developing nutrition programs for its clientele and stakeholders. As a result, the researcher has collaborated with a researcher at the University of South Carolina in a project funded by the Kellogg Foundation on partnering with six HBCU’s in the state to address obesity issues and other health disparities affecting African Americans in high risk communities in South Carolina.

**Source of Federal Funds:** \$52,118

**Scope of Impact:** South Carolina

**Extension (E) & Research (R) results supported w/ agricultural research and extension formula funds (i.e., outputs).**

- EXT1: 1) Sixty-eight planned programs were reported during this reporting period, with five hundred and thirty-five (535) participants. Four hundred and seventeen (417 (77.9%) participants increased their knowledge base concerning nutrition education, diet, and health; whereas, one-hundred and eighteen (22.1%) refreshed their knowledge pertaining to the subject.
- 2) Thirty-four (34) program clients participated in the healthy lifestyle practice initiatives. However, a surprisingly twenty-five (73.5%) participants indicated they have adopted the practice of a healthy lifestyle to develop healthier lifestyle behaviors.

3) Twenty-seven (27) program clients participated in the dietary analysis and nutritional assessment plan sessions. All twenty-seven (100%) participants indicated that they planned to adopted the assessment plan.

**The Highlights/successes for fiscal year 2002 in Research & Extension were the following:**

- RES1: 1) One hundred and eighty-two (182) pre-adolescent clients are participating in the study.  
2) The researcher has collaborated with a researcher at the University of South Carolina, resulting in a major health disparity project involving six HBCU's in the state.

HE1:1) Two (2) B. S. and five (5) M. S. students graduated in Nutritional Sciences.

HE2:1) One (1) B. S. and zero (0) M. S. students graduated in Health Education.

**Source of Funding:** (*Section 1444* - \$39,519; *Section 1445* - \$52,118)  
**FTE's** - 6.0:

**Key Theme - Human Health Extension**

**Description**

The primary goal of the 1890 Extension nutrition intervention program is to help families select and prepare meals consistent with their cultural traditions while improving their overall health. Thirteen lessons for unit buying and food safety techniques are conducted in the FF:NEWS Programming. The main three lessons taught are basic food safety, basic sanitation and safety practices and extended food resources: budgeting.

**Impact** - The FF:NEWS program is increasing participants' consciousness in the area of food safety and healthy and nutritious eating practices. The program is increasing interest among participants who want to know more about how to prepare healthy meals and the selection of the kind of food they need to purchase and consume for a healthier life style.

**Source of Federal Funds** - Food and Nutrition Services (\$21,970)

**Scope of Impact** - South Carolina

**Key Theme - Human Nutrition - Research**

- a. Impact - As a result of the data collected on anthropometric measurements, food and exercise recalls, self-esteem and nutrition/exercise questionnaire, preliminary results

indicated a need for aggressive interventions to reduce the incidences of obesity among pre-adolescents.

- b. Source of Federal Funds - Evans-Allen (\$52,118)
- c. Scope of Impact - South Carolina

#### **GOAL 4: Greater harmony between agriculture and the environment.**

##### **Overview**

South Carolina has experienced increased threats to water quality, wildlife, and forestry over the past two decades. Although the state attracts newcomers because of its climate, low taxes, and aesthetically pleasing environment, this influx of newcomers poses a great threat to the environment in South Carolina. The Environmental Protection Agency (EPA) report states, about 49% of the nation's surveyed rivers, lakes, and estuaries were not clean enough for fishing or swimming (Allen, 1995). Therefore, the usage and management of natural resources requires a great deal of public education on water quality, wildlife, forestry, and other environmental issues.

In order to accomplish the mission of **Goal 4**, attention was placed on *Program Focus Area 451: Natural Resources and the Environment*.

##### **Natural Resources and the Environment:**

##### **Overview**

*Under Focus Area 451: Natural Resources and the Environment*, the following accomplishments are noted:

##### **Description**

A new research project was funded entitled: "A Thorough Assessment of Toxic Chemicals and Remediation of Drinking Ground Water Sources in Rural Areas." This project has the goal of assessing drinking water from well systems that supply water to rural communities in South Carolina. Drinking water that may be contaminated adversely impacts the health of well based water systems and is a hazardous health problem. In Orangeburg County alone, the Department of Health and Environmental Safety has documented serious ground water contamination in well-based water systems in rural areas. The hazardous materials found in these systems are believed to contribute to problems associated with genetic damage, birth defects and cancer. Toxic chemicals such as arsenic, sodium, and lead are being assessed. Problems such as brain damage, gastrointestinal damage, kidney dysfunction and others are due to prolonged exposure to toxic chemicals found in drinking water from well-based water systems.

**Impact:** This project has led the researcher to collaborate with a researcher in the Department of Oceanography at Florida State University, and with a company called “Environmental Physics, Inc. in Charleston, SC that has resulted in a \$300,000 award from the Department of Defense on the development of a reliable approach for rapid assessment of radioactive contamination of environmental samples. Another impact of this project is that undergraduate students involved with the project are getting individual experience in water quality research as laboratory specialists, which is also involving field experience in obtaining water samples and analyzing results.

Another important goal/impact of this project is its collaboration with the local utility company to find ways to educate users in rural areas on the risk and need to become proactive in ensuring that their well water systems are tested periodically.

**Source of Federal Funds - Evans-Allen (\$46,373)**

**Scope of Impact - South Carolina**

**GOAL 5: Enhanced Economic Opportunity and Quality of life for Americans.**

### **Overview**

The overall mission of **Goal 5** was to provide family development and resource management educational programs to improve the well-being of the family structure as well as enhance parenting skills, manage resources, care for children and dependent elderly family members through assessment skills. In addition, the focus was to build partnerships within the community with public and private organizations. In order to accomplish the mission, 1890 Evans-Allen Research and Extension Program at South Carolina State University directed their attention to two Program Focus Areas: 1) 4-H Youth and Family and 2) Community, Leadership and Economic Development. Through the Evans-Allen Research Funds, the 4-H Youth and Family component accomplished the following:

### **Youth and Family:**

To ascertain information that would directly address the issues of youth and family to the State of South Carolina, one extension and four research projects were initiated: (1) *The Learning to Improve Future Earnings* (LIFE Skills) Extension project. This project had a total of five classes being held for the Department of Social Services’ Temporary Assistance for Needy Families (TANF); (2) *Comparison of Teachers’ Perceptions of Academic Indicators in Rural and Urban Schools in South Carolina*. The project findings indicated there were no statistically significant differences found between teachers in rural and urban schools. The data indicated that teachers placed a high degree of control over the learning environment on external forces. The study has been completed and the researcher has written her final bulletin. The bulletin is “in press”; (3) *Adolescent Violence and Acting-out After a College Student Mentoring Experience* in 5<sup>th</sup> and 6<sup>th</sup> Grades. Currently, this project is in its fifth year. Data was collected on the first four years on mentoring between college mentors and children. The children who participated in the program indicated they had a positive experience. The research data is currently being analyzed. (4) *The Impact of the Personal Responsibility and Work Opportunity Reconciliation Act on Welfare*



*Recipients* (PRWORA) was to query the extent rural poor needed public assistance to maintain their material well-being, and the most effective strategies to move from welfare to work. Findings indicate that affordable childcare and transportation are major issues that confront these recipients; and (5) *Determinants of Perceptions, Aspirations and Goal Attainments of Rural Single Teen Mothers*, was to examine the impact of familiar and other social support systems relative to the psycho-sociological well-being and the quality of life of rural single teen mothers. The project findings indicated members of the experimental group exhibited improvement in all aspects with regards to their quality of life as opposed to their control group cohorts. The data showed that three major functions of this research project with regard to the experimental group were achieved when (1) their level of self-esteem increased; (2) they developed a keener sense of responsibility and (3) felt a belonging to society. Using the Self-Esteem Index (SEI), the majority of the participants made positive behavioral changes in their life-styles resulting in positive changes overall. The final bulletin for the study has been written and is “in press”.

To help improve the quality of life of youth and families in the Marlboro Cluster, several programs were initiated: Mini Society Program. The Mini-Society Program was started in cooperation with Kaufman Foundation and the Clemson Extension Office. The program is an experienced-based instructional system targeted primarily for teaching entrepreneurship, economics, and citizenships concepts to students ages 8 to 12. Our program reaches 40 youth enrolled in the 3<sup>rd</sup> and 4<sup>th</sup> grades at Bennettsville Elementary School After School Program (Alpha Program). The program operates for a total of 21 hours. **Talking with TJ Conflict Resolution Series.** The Talking with TJ Conflict Resolution Series is a program designed to teach 2<sup>nd</sup> and 4<sup>th</sup> graders how to resolve conflicts with peers without using violence. Through the program, children learn important skills of managing anger and choosing alternatives to violence, respecting different points of view when trying to resolve a problem, and using friendly words, rather than fighting words, to communicate feelings and ideas. This program encourages children to work and play in more caring and cooperative ways. The program was started in September 2002 in Chesterfield County at Jefferson Elementary School. It has expanded to Marlboro and Florence counties. **Teen Leadership Connection.** The mission of the Teen Leadership Connection Program is to empower youth with personal success through opportunities to participate in a broad range of youth leadership development activities which minimize life-style risk and maximize life options. The goal of the project is to increase success in leadership and academic achievement, improve school attendance, and reduce school violence among middle school students. There are eight lessons taught in this curriculum. **Workforce Preparation Classes.** In cooperation with the Cheraw, SC Boys and Girls Club, the SCSU 1890 Extension Program was able to conduct classes that helped teens learn about the work environment. Classes ranged from resume’ writing to resolving conflicts peacefully on the job. The youth stated they learned how to conduct themselves on the job while in the class. The class lasted for a total of 10 meetings. **Community Action Tutorial Sites.** These sites were put in place to help limited resource children with completing their homework. Not only are these centers there to help with homework, but the youth who attend receive a nice snack, participate in organized games and also went on educational tours. **Youth Agricultural Tours.** The youth agricultural tours were done in cooperation with the Clemson Extension Office, local farmers, and local community leaders. The purpose of the tours was to provide youth with a better understanding of the agricultural process.

The tours were broken up into two tours. The first tour was called “Germination” the planting process and the early stages of growth. The next tour was called “The Upkeep” the maintenance of gardens and fields and “The Harvest” the harvesting of produce. **Community Garden Club.** In Little Rock, South Carolina a group of Native American tribe members wanted the youth of their tribe to learn more about gardens and how to grow food. The decision was made to start a youth garden project. One acre of land was donated for use. The youth were given lessons on growth, upkeep, and harvesting crops. **Youth Fishing Workshop.** This workshop taught the youth participants the basics of fishing and how to make fishing poles out of cane poles. SCSU 1890/Save the Children Summer Camp and the Berea Association Summer Camp. This camp provided youth several activities for the summer. They enjoyed computer classes, arts and crafts, fishing workshops, drug prevention workshops, tours of the state penitentiary, reading and writing classes, math classes, workshops on music, and much more. **Community, Leadership and Economic Development.** The 1890 Youth Services Program served more than 1164 youth between the ages of 8 to 18. The primary objectives of this program were to learn practical hands-on-life skills and ascertain leadership skills to enable them to become leaders of the 21<sup>st</sup> Century.

### **The Highlights for Extension**

- EXT1: 1) Thirty (3) planned programs were conducted with 850 participants. There were thirty (30) home visits reported and at least five impact statements from the program.
- 2) Six hundred fifty (650) participants indicated that they increased their knowledge base, whereas, one hundred sixty four (164) state that they refreshed their knowledge base.
  - 3) There were 200 participants who stated that they would adopt the recommended practices to use continually in life.
- EXT 2: 1) Twenty (20) planned programs were conducted with 314 participants, where 65% of the participants adopted the practice and 95% increased their knowledge.

### **KEY THEME: Child Development and Building Family Strengths**

#### **Description**

To ascertain information that would directly address the issues of youth and family to the State of South Carolina, the extension objectives initiated: (1) The Building Family Strength. This project conducted training sessions for Extension Agents and program assistants, with a total of six participants. The curriculum focused on the positive qualities of families. It encouraged families to recognize their strengths and build on them; (2) Another program, the Parent Education Parent Support Program and Skills for Taking Control of Your Future successfully facilitated five classes with a total twenty-nine participants. This program was designed for adaptability to a variety of audiences, time configurations and settings. Topics and lesson content were selected to address the needs of working low-income individuals. The program focuses on client ways to nourish their children’s soul needs; and in the process grow themselves. This program provides a powerful new

way for parents to look at the challenges of parenthood; (3) The Child Care Training program addressed the five main content areas associated with completed hours needed for child care centers. Important aspects of child development are curriculum, nutrition, health and safety. This training provides meaningful activities and learning experiences for child care providers. Eleven training sessions were conducted this reporting year, reaching three hundred sixty-one participants; (4) The Children, Youth and Families at Risk Program focuses on the human ecological principle of working across the lifespan in the context of the family and community. Counties participating in this program and one county, in particular, has converted its extension office into a multi-centered community center offering a variety of services to clientele; and (5) The Storytelling and Technology Summer Program was implemented to work with child care centers. It focused on enhancing reading and technology experiences of four year olds. Five day care centers were involved in a four week session.

**Impact :**

- 1) Six (6) participants attended and completed the training on Building Family strengths. The sessions conducted focused on self-esteem, spirituality, and values.
- 2) Twenty nine (29) participants attended a session on Skills for Taking Control of Your Future.
- 3) Three hundred sixty-one (361) participants attended and completed the child care Training to obtain credit hours toward recertification for licensing purpose. Topics included Understanding Children which is in the area of Child Development, Developmental Appropriate Activities for children birth to two, Enhancing Storytelling Experiences; Learning Styles, Temperament, Intellectual Development; and Make Take. Fourteen (14) participants attended community meeting to assist in the early stage of CYFAR.
- 4) Ninety-three (93) participants attended and completed the Storytelling and Technology four week session. The program involved five child care centers.

This project has led to the creation of a plan to buy a mobile technology center unit that will be able to go into outlining rural areas to provide the same reading and technology experiences to rural children who are not now being exposed.

**Collaborations:**

Allendale Adult Learning Center  
Orangeburg County Adult Education  
Early Childhood Education State Education Department  
Richland County School District One  
ETV

**Source of Federal Funding:** CSREES (CYFAR) \$30,026

**KEY THEME: Housing**

## **Description**

As a part of the Extension Program's Community Development efforts, a Homeownership Fair was used as an outreach method to engage low income families in learning about homeownership. The objectives were how to avoid or reduce concern for first-time or first generation home buyers in buying/owning a home; help them understand deceptive practices by lenders; help them understand and select appropriate professional services and become successful, long term homeowners. The total attendance was fifty participants which included 32 black females; 14 black males; 2 white females; and 2 white males.

**Impact:** This partnership with the South Carolina State Finance and Housing Authority was the result of a \$2,500 grant to conduct the homeowners' training workshop. Because of the success, the relation with the S. C. Housing Authority has increased in the area of technical assistance and inclusion in other community development programming for targeted communities.

### **Collaborations:**

Coldwell Banker Middleton and Associates Realtor  
Century 21 The Moore Group  
Consumer Credit Counseling Service  
USDA Rural Development  
Denmark-Voorhees Community Development  
Orangeburg County Planning Commission  
Orangeburg County Building Inspection/Permits

### **Future Plans**

To organize a homebuyers club that will give professional and personal assistance to persons who are willing to commit to a series of lessons that will help potential homeowners' dreams become a reality.

**Source of State Funding:** South Carolina Housing Authority-\$2,500.00

### **KEY THEME: Financial Management and Consumer Education**

## **Description**

A program activity called "The Real Deal" program has been used by Extension Specialists with area public schools. The purpose of "The Real Deal" program is designed to help individuals (of all ages) learn how to shop smart through the recognition of scam, fraud, & rip-offs. As a pilot program, it focuses on helping students understand the pitfalls of credit card debt and help to understand how to avoid debt crisis at young ages.

## **Impact**

The potential impact of this program is that it enhances consumer's education and awareness about personal financial management. Participants have shown great interest in personal financial decision-making and understanding consumer education and decision-making.

### **Key Theme: Community, Leadership and Economic Development**

#### **Description**

Under the second *Focus Area 552, Community, Leadership and Economic Development*, the South Carolina State University, 1890 Research and Extension Program continues to strengthen its ongoing affiliation with community development corporations by promoting collaboration building with local, state and federal agencies.

The NCOCDC in partnership with the 1890 Research and Extension Program of South Carolina State University applied for a Department of Housing & Urban Development Historically Black Colleges and Universities Grant to assist in the process of bringing affordable housing to the New Brooklyn Community. Five hundred forty-nine thousand nine hundred forty-five dollars (\$549,945.00) was awarded by HUD in September of 2002. In support of the application, letters were received from the county, the State Housing, Finance and Development Authority, and the Federal Home Loan Bank of Atlanta.

To increase opportunities for rural business entrepreneurial ship among socially disadvantaged communities, the 1890 Research and Extension Program was awarded \$150,000.00 by USDA/RBS to provide entrepreneurial and economic development support to rural businesses. The program objectives are: (1) to improve business income through refined management and financial analysis, including assisting with loan applications, (2) to enhance the business management, marketing and bookkeeping skills of small and limited resource individuals and businesses, (3) to educate business owners and individuals about alternative programs, services and resources, (4) to assist individuals in expanding their businesses through participation in alternative business workshops and programs, and (5) to develop cooperative networks among businesses and communities.

The Rural Business & Economic Development Program now has a total number of 497 participants in this program. It is collaborating with 15 organizations / agencies such as the Department of Juvenile Justice (providing an after school entrepreneurship program for high school students), the South Carolina Vocational Rehabilitation Department (providing computer application training for 22 clients), and the Sumter, South Carolina Empowerment Zone (providing technical assistance to individuals interested in expanding or starting new businesses in Sumter).

This reporting year, the Rural Business & Economic Development Program has counseled 73 clients for business technical assistance. Of those who received technical assistance, eight (8) individuals have completed business plans and four (4) individuals received assistance with loan applications. Highlights of the technical assistance offered through our programs are: (1) providing assistance with the expansion of a children's day care center from a home based operation to a freestanding facility. This helped the owner secure financing to acquire a building for her daycare center in the

amount of \$70,200; (2) assisting a seamstress to acquire a loan to purchase a larger building for her business in the amount of \$35,800, providing computer application training for 22 vocational rehabilitation clients to help them strengthen their employment skills to enter the job market, and (4) implementing an entrepreneurship program with the Department of Juvenile Justice's youths.

**Impact: Entrepreneurship**

Eight (8) business plans were completed, of which 4 were used to attempt to secure financing. Two (2) loan applications were successfully funded in the amount of \$106,000.

**Impact: Classes Offered (Entrepreneurship)**

Using a pre/post test evaluation scheme, the results indicated that participants in the Entrepreneurial Classes had an average improvement score of 29%.

**Impact: Classes Offered (Computer Applications)**

Using a pre/post test evaluation scheme, the results indicated that participants enrolled in the Computer Applications Classes had an average improvement score of 8%.

**Impact: Classes Offered (Beginning Investment Course)**

Using a pre/post test evaluation scheme, the results indicated that participants enrolled in the Beginning Investment Courses had an average improvement score of 12%.

**Program:** Rural Business & Economic Development program seeks to facilitate the necessary improvement in the lives of rural South Carolinians that fosters economic sustainability of individuals as well as communities. This program consists of a series of related activities that build business and education experiences. These two combine to offer readily available and effective techniques for use in everyday problem solving in rural business.

**Source of Funding:** USDA/RBS Cooperative Agreement No. RBS 01-19 (\$131,884)

**Program Goals:** The Center for Entrepreneurship and Rural Development (CERD) is dedicated to increasing economic development in rural areas. Through entrepreneurial and economic development education and support, CERD strives to help rural communities raise their standard of living using the principles of continuous improvement and collective action.

**Program Objectives:**

- Improving business income through refined management and financial analysis, including assisting with loan applications.
- Enhancing the business management, marketing and bookkeeping skills of small and limited resources individuals and businesses.
- Educating business individuals about alternative programs, services and resources.

- Assisting individuals in expanding their business through participation in alternative business workshops and programs.
- Developing cooperative networks among businesses and communities.

## **Key Components: Entrepreneurship Services Offered**

### **The Rural Business League (RBL)**

The Rural Business League is a network of business owners and executives who are dedicated to developing their community. Using this concept has proven to be a successful strategy in working with rural enterprises. Through the American Business League, entrepreneurial have established chapters in rural counties. This organization provides a forum for business leaders to express their thoughts and ideas about economic development and impact legislation. Rural business owners and executives learn to mobilize and work for legislation and economic development efforts that will positively impact their communities.

### **Business Consulting**

Business Consulting Services provide businesses with advice related to particular areas of their business. Business owners and executives can receive assistance in marketing, human resources, operations, accounting, bookkeeping, finances, international trade, and other areas. Consultations can take place over the phone, at a CERD regional office, or onsite. All consultations are done by appointment.

### **Business Workshops / Seminars**

Business Workshops provides business owners and executives with workshops that provide business management advice. These workshops are taught in a practical way by professionals who have several years of experience in business. The Business Workshops are designed to encourage questions, feedback, and idea exchange. Because of this, many business owners prefer learning new business concepts in a workshop format versus any other option.

### **Website Development (Architecture & Graphic Design) for Small Business**

Making web technology transparent to clients is essential. Removing the barriers of communication between them and the virtual community is the move of the business world today. This service allows clients to expand their businesses and increasingly use technology in their business operations.

### **Entrepreneurship Course for Youth**

The Entrepreneurship Course is dedicated to providing high school students with the opportunity to learn and practice the principles of Entrepreneurship. Our goal is to cultivate world – class business leaders who have a character and the ability to make a difference within the world around them. The Entrepreneurship Course seeks to teach high school students about the principles of entrepreneurship. After students learn these principles, they are given the opportunities to practice these principles within their communities through establishing small

businesses.

### **External Linkages / Collaborations: Entrepreneurship**

1. Department of Juvenile Justice, Columbia, SC

Per a Memorandum of Understanding, 1890 Research and Extension has established a cooperative agreement with Allendale County Department of Juvenile Justice to assist in providing business planning educational activities for 20 clients.

2. Sumter Empowerment Zone / City of Sumter, Sumter, SC

Per a Memorandum of Understanding, 1890 Research and Extension Program has established a cooperative agreement with Sumter Empowerment Zone, which will assist in providing small business consultation and entrepreneurship educational activities for the Sumter Empowerment Zone in the communities they serve.

3. Town of Estill, SC

Per a Memorandum of Understanding, the 1890 Research and Extension has established a cooperative agreement with The Town of Estill, South Carolina, to provide small business consultation and entrepreneurship educational activities.

4. Save the Children Foundation, Bennettsville, SC

Per a Memorandum of Understanding, the 1890 Research and Extension has established a cooperative agreement with Save the Children to provide educational activities for 43 clients.

### **Success Stories**

*Category: Business Development/Expansion*

**Outcome:** Expansion of a Day Care Center from home based to freestanding.

**Description:**

Kelly's Kids is a Daycare Center located in Orangeburg, South Carolina. Ms. Camilla Kelly started the Daycare Center at her home in 1998. We assisted Ms. Kelly with expansion plans and securing financing to acquire a new building to house her daycare. She secured a loan for \$70,200 and purchased a building of 1900 square feet. Her business has increased by 90% from 16 children to 31 children. She has hired three new employees.

*Category: Business Development/Expansion*

**Outcome:** Expansion of Alteration Shop to a larger building, adding employees & services.



## Description

Andy's Alterations is located in Beaufort, South Carolina. Mrs. Phyllis Ann Sullivan, began as a sole proprietor almost ten years ago. Recently, we assisted Mrs. Sullivan with expansion plans and services for financing of \$35,800 to acquire an 1100 square feet building.

Consequently this has allowed Mrs. Sullivan to expand her alteration business to include a new line of rental wedding gowns as well as purchase additional equipment. Additionally she has added two new employees and her business increased by 25%.

### **External Linkages/Collaborations: Computer Applications**

SC Vocational Rehabilitation Center, Orangeburg, SC

Family Health Centers, Inc, Orangeburg, SC

### **Success Stories: Computer Applications**

*Category: Computer Applications Course*

**Outcome: Business Partnership Award**

## Description

South Carolina State University was recognized during the South Carolina Vocational Rehabilitation Association's annual meeting in Columbia, South Carolina. The 1890 Outreach Services program has provided computer application training for 22 clients at no cost to the Vocational Rehabilitation Department.

### **External Linkages/Collaborations: Beginner Investing Course**

1. Edisto High School, Cordova, SC
2. Calhoun County High School, St. Matthews SC
3. William J. Clark Middle School, Orangeburg, SC
4. Brookdale Middle School, Orangeburg, SC
5. Felton Laboratory School, Orangeburg, SC
6. Department of Juvenile Justice, Columbia, SC
7. M.H. Newton Family Life Center, Sumter, SC

8. South Sumter Resource Center, Sumter, SC

9. Estill Middle School, Estill, SC

HE1: Thirty (30) B. S. and ten (10) M. S. students graduated in Family and Consumer Sciences.

HE2: Seventy-two (72) B. S., forty-five (45) M. Ed., and thirty-nine (39) M. A. T. students graduated in education.

RES2: The Final Research Performance Report and recommendations to Middle School Counselors, Teachers and Administrators for program development in addressing violence and acting-out behavior in the early adolescent years is in the process of being completed.

RES3: The Final Research Performance Report and development of a pilot program for single teen mothers, and recommendations for Extension educational programming involving single teen mothers is in the process of been completed.

RES1: The Final Research Performance Report and recommendations to supporting Extension educational programming for project activity in targeted counties is in the process of been developed.

HE1: The number of B.S. and M.S. graduates in Family and Consumer Sciences who obtain employment in family or consumer related fields was not reported at the time of this report.

HE2: The number of B.A., M.Ed., and M.A.T. graduates in Education who obtain employment in education related fields was not reported at the time of this report.

The 1890 Cooperative Extension county agents were certified by the national Restaurant Association which allowed them to provide training to other food handlers (cafeteria workers, fast food employees). In addition, a Food Safety video “Ask Sofia Safe About Food Safety” is continued to be used to conduct workshops. Furthermore, as result of this project, two (2) undergraduate students were trained in insect pest management techniques.

In assessing the accomplishments of the South Carolina Plan of Work performance for 2002, the 1990 Census Data estimated 1890 Research and Cooperative Extension Program was potentially able to provide service to 72,669 under-served/under-represented persons. Of that number, 39,968 (55%) were males and 32,701 (45%) were females. Under **Goal 5**, 6,694 persons participated in this program area. The total data by sex included 2,878 (43%) males and 3,816 (57%) females. As it relates to race, 1269 whites, 5180 blacks, 152 Native Americans, 15 Asians and 78 Hispanics.

The need for expansion is apparent, but the financial resources are already amplified in this area. Additional funds would enable the 1890 Extension Program to better serve the clientele whom they serve.

**Source of Funding:** (*Section 1444* - \$382,827; *Section 1445* - \$135,912 estimate)  
**FTE's** - 7.0

**Key Theme** - Jobs/Employments

### **Description**

The primary goal of the Impact of the Personal Responsibility and Work Opportunity Reconciliation Act on Welfare Recipients was to query the impacts of (PRWORA), their coping of termination of public assistance, level of success programs have with transition of welfare recipients from welfare to work.

### **Impact**

The potential impact of this research is that its findings may provide key information that will lead policymakers to become more knowledgeable about the effects of self-sufficiency.

**Source of Federal Funds** – Evans-Allen (\$154,395)

**Scope of Impact** – South Carolina

**Key Theme** – Conflict Management

An 1890 Evans-Allen research project has concentrated on determining information about the various factors impacting middle school children and the effects of adolescent mentoring.

**Source of Federal Funds** – Evans-Allen (\$104,824)

**Scope of Impact** – South Carolina

### **Stakeholder Input Process**

Efforts were concentrated on developing on-going assessment tools such as reporting stakeholder and clientele feedback through weekly reporting on activities conducted in workshops and forums within cluster areas served. Successful efforts were made to work with Clemson University in developing one state holder Advisory Council for 1890 and 1862 schools. Joint meetings were held with the 1862 Council to move toward one Advisory Council. The merger of 1890 and 1862

Advisory Councils has created greater synergy in moving toward a stakeholder input process that, in the wake of declining program dollar support, is allowing for better programmatic collaboration in program delivery and project development between Clemson and South Carolina State.

The State Extension Advisory Council is made up of 34 members, two from each cluster and six (6) at-large members. Membership is for three years. As a member of the state council, the role and function is much broader than the service on a local committee. Members are kept fully informed on Extension programs through regular meetings and written materials submitted by the 1890 and 1862 Directors.

Members chosen for inclusion on the overall Council are not only leaders and innovators in their field, but community leaders as well. They are individuals deeply involved in their community and respected by their peers and by the community at-large.

Nomination for Council membership comes from local committees, from the advisory board itself and from at-large nominations. A request for at-large nominations will be sent to the system by October of each year. The Cooperative Extension Service Directors will issue an invitation to serve. Officers of the Council will include a Chairman, Vice-Chairman, and Secretary. Standing committees include: executive, program, budget and finance, and recognition. The Executive Committee shall consist of all officers and committee chairs. The Council elects the officers and the chairman appoints the committee chairs. Council Chairman serves as chair of the Executive Committee.

The Council Chairman appoints a Nominating Committee for report prior to the last regularly scheduled meeting each year. Officers are elected by majority membership present at voting. Terms of council membership, officers and committee appointments are by calendar year.

#### Responsibilities of Council Committees

Executive – The Executive Committee advises the chairman on overall operation of the Council. The committee also makes recommendations on council meeting agenda. The Executive Committee is made up of the chairman, vice-chairman, secretary, and committee chairs.

Program – The Program Committee monitors the overall Extension program activity and makes recommendations. The committee receives the Extension Plan of Work and narrative reports. They review the plan and make overall recommendations to the Council.

Budget and Finance – The Budget and Finance Committee has two main functions:

- (1) Plan and implement any fund-raising activity of the Council and provide oversight for their use.
- (2) Coordinate any Extension budget promotion activity conducted by the Council.

Meeting Frequency – The advisory council meets at least two times per year and will normally not meet more than four times per year. Meeting locations will vary but most will be centrally located in the state.

### **Program Review Process**

We are in the process of combining our Merit Review Process with Clemson University in order to have one Merit Review System. The Merit Review Panel membership consists of 12 members as follows:

- One program coordinator
- Two county agents
- One professor from the School of Education or the School of Business
- One instructor/professor from the Department of Family and Consumer Sciences
- Two persons representing agencies or organizations who work with limited resource customers
- Three persons from county advisory councils
- Two persons involved in 1890 Research

The Associate Administrator of the Cooperative Extension Program serves as the committee chair. Members have staggered two to four year terms with one fourth being rotated off and replaced each year. The panel's responsibility is to conduct reviews for the duration of the five year Plan of Work. They meet once per quarter to review programs and projects and determine if curriculums are appropriate to provide the desired educational experiences. The group's focus is on changes in social, economic or environmental conditions, or the development of/or modifying a curriculum in order to obtain the desired outcome as prescribed in the plan of work. Such a panel has the support of the 1890 Research and Cooperative Extension Administrator and the University Administration to provide service as a requirement of the AREERA Act of 1998.

The 1890 Research Peer Review Committee of South Carolina State University is composed of four subcommittees, which is representative of the four research problem areas to the 1890 Evans-Allen Research Program. The panels are made-up of six-member subcommittees, with the 1890 Senior Associate Research Director holding the position of chairperson for each subcommittee. The subcommittees, with the assistance of other peer professionals, evaluate project proposals, which are developed for funding consideration departmentally from academic areas of the university. Upon receipt of a project proposal to the Senior Associate Research Director, the project proposal is submitted to the Director of 1890 Research and Cooperative Extension.

Once approved by the Director and the Senior Associate Research Administrator, the project is submitted to the appropriate Peer Review Subcommittee for review. After the subcommittee reviews the merits of a project proposal, its findings are submitted to the Senior Associate Research Director, who then communicates with the proposal writer at the Department level as to the findings of the review and further action. After the subcommittee approves of a proposal, the Senior Associate Research Director then submits the project proposal to the 1890

Research Director for further review through the State Experiment Station. Thus, the proposal is prepared and submitted to Cooperative State Research, Education and Extension Service (CSREES), USDA for final review and official approval. Once approved by CSREES, authorization is given to the 1890 Research Director to fund the proposal from the appropriated funds of Evans-Allen. As to date, there has been no significant change to the 1890 Extension or Research Program Peer Review Process.

## **Multi and Joint Collaborations**

### **Multi-State/Multi-Institutional (Extension)**

(1) *Families First: Nutrition Education, and Wellness System (FFNEWS)*: A nutrition education intervention program designed to help families select and prepare meals consistent with their cultural traditions while improving their overall health. This program is conducted by a multi-state consortium of 1890 Cooperative Extension Programs in the following states: OK, TX, SC, LA, AR and MO. The two critical issues addressed and identified by stakeholders in the 5-Year Plan of Work were Children & Youth, and Health & Nutrition. There were a total of eight hundred and eighty-seven (887) under-served and under-represented South Carolina participants for the fiscal year 2001 in the FFNEWS program. Outcomes described in the 5-Year Plan of Work for Health and Nutrition was met. All participants received information regarding nutrition information by participating in classes. Three persons, who were formerly welfare recipients, are now funded through a grant as volunteer assistants. As a result of this planned program, FFNEWS was able to do outreach to more than three-hundred (300) migrant worker participants whose primarily language is Spanish.

### **Multi-State (Research)**

*Comparative Study on the Impact of NAFTA, on South Carolina & the Southeastern Region*: This is a study that evaluates the impact of NAFTA on fruit and vegetable trade at the state and regional levels in South Carolina and the Southeast region. Preliminary results based upon farm surveys across the southeastern region suggest that farm size may be a factor affecting competitive efficiency under NAFTA. This data also indicated that medium and large farms may benefit the most from NAFTA.