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February 28, 2001

Dear Dr. George Cooper:

We have electronically submitted our 2000 Plan of Work Annual Report to Bart Hewitt for fiscal year 2000, as requested in the July 1, 1999 Federal Register/Vol.64.35910-35919.

The 1890 Research and Cooperative Extension Services at South Carolina State University (SCSU) has followed guidelines for the "Annual Report of Accomplishment and Results" for the Agricultural Research and Extension Formula Funds per Agricultural Research, Extension, and Education Reform Act of 1998 (AREERA).

Sincerely,

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AN EQUAL OPPORTUNITY INSTITUTION

2000 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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2000 ANNUAL REPORT OF ACCOMPLISHMENTS AND RESULTS

SOUTH CAROLINA STATE UNIVERSITY MARCH 1, 2001

INTRODUCTION

Each land grant institution with a Cooperative State Research, Education and Extension Service (CSREES) received federal-assistance from (USDA) for programs and activities to actively become engaged in pro-active ways to ascertain and affirm a feasible systematic performance plan to respond to the demands and diverse opportunities of the new millennium. Every land grant institution has been given the charge to ensure that their institution ascertains high priority issues (for under-representation, underutilization, under-served groups, and outreach needs of different customer groups) for avid endeavors.

Knowingly, the aforementioned priority issues are essential to ensuring equal access and opportunities relating totally to all aspects of program benefits and services, 1890 Research and Cooperative Extension Services at SCSU established a tangible and comprehensive performance plan that is accountable with an evaluation strategy within the plan of work to collect accurate data. The plan of work illustrates and depicts how well benefits and services are being delivered by the employees in compliance with the local, state and federal rules and regulations. The South Carolina State University 1890 Research and Cooperative Extension Plan of Work preserves institutional autonomy for a 5-year prospective plan that covers the period of fiscal year October 1, 1999 through September 30, 2004. The institutional autonomy preserved for this Plan of Work does not exclude the continual cooperation between South Carolina State University 1890 Research and Cooperative Extension and Clemson University. Both institutions will continue to collaborate in meeting the National goals within the Research, Education, and Economics Mission Area of the U.S. Department of Agriculture. The South Carolina State University 1890 Research and Cooperative Extension Plan of Work is a integrated plan of the institution's individual functions of research, extension and higher education.

In a collaborative effort, South Carolina State University 1890 Research and Cooperative Extension 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) South Carolina State University 1890 Research and Cooperative Extension and Clemson University partnered in the program planning process.
- 2) Information from research and extension from both institutions was incorporated in the program planning process.
- 3) A structure was organized for a planning process incorporating team concepts, stakeholder involvement and representation, cooperation in the planning process both at the county and cluster levels, and focus the plan and resources where needed.

Using information gathered through an environmental scan, program experts, and stakeholder input, programs and research projects will be selected in order to meet the goals, trends, issues and program needs of our citizen clientele.

PURPOSE:

Primarily, this report is written in order to display South Carolina State University (SCSU), 1890 Research and Cooperative Extension Services' willingness to strengthen and maintain its compliance under the Department of Agriculture's nondiscrimination policies, rules, and regulations, that are applicable to State Extension, under the 7th code of Federal Regulations Part 15 (7CFR15). This report will depict SCSU 1890 Research and Cooperative Extension Service policies to provide equal opportunity in employment and personnel management for all persons; to prohibit discrimination due to race, creed, ethnicity, gender, national origin, sexual orientation, region, age, and/or disability; and to promote the full realization of equal employment opportunity through a Performance Plan within the Plan of Work.

Furthermore, it will show SCSU's efforts to ensure equal access and opportunity relating totally to all aspects of program benefits and services. As set forth in the Smith-Lever Act of May 18, 1914, SCSU is one of the land grant institutions in South Carolina responsible for dispensing helpful and beneficial information on subjects corresponding to agriculture, home economics, and related subjects to programs not enrolled in formal course work. Extension programs are constructed to deliver research knowledge to people situated in communities and beyond the campus. Concerns and information from individuals and communities are brought to campus for exploration and research to assist in alleviating issues the community faces.

A. Planned Programs (National Goals)

The Plan of Work for South Carolina State University 1890 Research and Cooperative Extension addressed five specific goals as part of their reporting requirements enacted in the Agricultural Research, Extension, and Education Reform Act of 1998 (AREERA) Public Law 105-185. The goals are identified as follows:

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

Overview

Presently, the decline of socially disadvantaged minority farmers was attributed to various social, economic and political conditions within the state. Chiefly among them were land loss, discrimination in access to credit, the insensitivity of government at the state and federal levels to effectively address the root causes impacting them, and the commitment to put into place the necessary impact plans that can provide comprehensive, yet prescriptive solutions. The 1997 Census data stated that South Carolina had approximately 1,488 black operated farms compared to the 20,000 black-operated farms in 1964.

In addition, conventional agricultural practices resulted in pesticide contamination, soil erosion and degradation, decline in genetic diversity of crops and livestock, loss of wetlands and native prairies, and human health risks from nitrates and pesticides. The 1890 Research and Extension at South Carolina State University promotes programs and activities that preserve farmlands, conserve and foster sustainable agricultural policies, practices and encourages efforts that increase and satisfy consumer demand for foods that are grown on farms that employ such practices. Therefore, the overall mission of Goal 1 was to assist socially disadvantaged farmers in reversing their economic decline through educational and technical assistance. Through Federal funds and Evans-Allen Research, the following two Program Focus Areas: 1) Retention of Small/Minority Farmers, and 2) Sustainable Agriculture accomplished the following:

Retention of Small/Minority Farmers:

To assess information that would candidly deal with the issues of concern to the State of South Carolina, retention of small-scale minority farmers, special initiatives were developed. These initiative were: (1) Heifer Project International (HPI) Meat Goat Project, that provided goat management training to farmers in the areas of controlled breeding, pasture management, herd health and nutrition and increased farm profitability, in which 89 farmers participated. There were 2 meat goat marketing workshops that resulted in 7 families receiving five nannies that bred 99 goats; (2) Heifer Project International (HPI) Beef Cattle Project provided assistance to farmers in the areas of raising beef cattle, improving the blood-line, livestock production and management of their existing herds. Nine bulls were placed on 9 separate farms to serve approximately 27 small farmers and 8 heifers on five of the original 9 farms; and (3) Heifer Project International (HPI) Pastured Poultry Project assisted 9 small farm operations to establish pastured poultry as an alternative farming enterprise by placing 100 chicks onto their farms. As it relates to research under this program area, a grant was funded by Evans-Allen Research to look at the Impact of NAFTA on South Carolina and the Southeast Regional states Georgia and North Carolina. Specific focus was on examining the NAFTA trade implications for the growing Southeastern economy, especially the product trade to Mexico.

Sustainable Agriculture:

To assess information that would candidly deal with the issues of concern to the State of South Carolina, for sustainable agriculture, the Small Farmer Outreach Training & Technical Assistance Program (SFOTTAP) initiatives was developed. his program assisted the SC Department of Agriculture and SC Commerce Department in setting up a tour of small farms for the Ambassador of Gabon, Africa and other members of his delegation. 1890 Cooperative Extension assisted SC (USDA) Farm Service Agency in setting up a of a tour for the former USDA Secretary, Dan Glickman, to access the impact drought had on crops in South Carolina (SC). SFOTTAP, also, provided assistance to the Cainhoy Community that was threatened by the SC Ports Authority concerning condemnation and prices of their homes, displace and receive less than the value of their current homes and stop a landfill from being placed in the Helen Community. In addition, 1890 Cooperative Extension also provided assistance to over 650 Black farmers in preparation of their application to join the Class Action Lawsuit filed against USDA, pertaining to discrimination.

As it relates to research under this program area, three grants were funded by Evans-Allen Research. The grants looked at Soil pH and Plant Growth, Sustainable Small-Scale Aquaculture/Vegetable Farms in South Carolina, and Occupational Hearing Loss Among Farmers & their Families: Effect of Combined Exposure to Noise & Chemical. Viewing the soil pH and plant growth, an exploration into the role of acidity or alkalinity (pH ranges) that may accomplish crop improvement and weed control, without using chemicals was conducted with 23 undergraduate students. The students were being trained in high-tech research in the discipline of biology and chemistry. As a result of the Sustainable Small-Scale Aquaculture/Vegetable Farms, 9 small-scale farmers were selected. According to race, 6 (66.7%) were Black, 2 (22.2%) Asian, and 1 (11.1%) White. Contracts were signed with the farmers to establish a greenhouse enclosed by a hydroponics system to over-winter tilapia fingerlings and grow vegetables. The aquaponics technology were adopted and modified to suit the farmers limited resources constraints, similar to the systems used in the Virgin Islands.

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

EXT1: 1) There were ninety-five (95) workshops, ninety-two (92) demonstrations, and Fifteen (15) tours conducted.

2) One-hundred and sixty-five (165) farmers indicated that they increased their knowledge base.

3) There were sixty-eight (68) farmers that adopted the recommended practices to use continually upon their farms.

EXT2: 1) A thousand and fifty-five (1055) farmers participated in training, of which six-hundred and eighteen (618/58.6%) farmers adopted the practices.

RES1: 1) The research project has not reported any publications in referred or non-referred journals for this reporting cycle.

2) There were no presentations at conferences nor meetings for this reporting cycle.

3) The research project has not reported any training seminars/ workshops conducted to targeted audiences and the assessment of impact.

4) The adoption of policy and/or trade options by Fruit and Vegetable Farmers in South Carolina has not yet been completely assessed, therefore could not be reported.

5) The research project has not reported any course development in international trade.

6) One (1) MS thesis by Marquette Screen entitled "Determinants of Apple Consumption in the United States was completed as a result of the project.

RES2: 1) The research project has not reported any publications in referred or non-referred journals for this reporting cycle.

2) There were no presentations at conferences nor meetings for this reporting cycle.

- 3) The research project has not reported any training seminars/workshops conducted to targeted audiences, nor the assessment of impact.
- 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) Thirty undergraduate students have been trained in high-tech research in biology and chemistry and four graduate students, as a result of the project.

HE1: There were three (3) B.S. and five (5) M.S. graduates in Science of Agribusiness.

a. **The Highlights successes for fiscal year 2000 in Research & Extension were the following:**

EXT1: 1) There were two farmers that reported an increase in income as a result of 1890 assistance.

2) The 1890 Agricultural Extension specialist assisted one (1) farmer to retain his farm during the fiscal year of 2000.

3) Forty-six (46) farmers adopted the record keeping cash flow plan recommended by 1890 Agricultural Extension agents.

4) Two farmers adopted information and integrated into their farming operation.

EXT1: 2) There were fifteen (15) small/minority farmers who integrated sustainable practices into their farming operation and the enhancement of the quality of water.

RES1: The project is still ongoing. Therefore, the final Research Performance Report and programmatic recommendations for development in Extension Outreach Activity to Fruit and Vegetable Farmers has not been submitted.

RES2: The project is still ongoing, therefore the final Research Performance Report and the development of soil test laboratory for small-scale, minority farmers, integrated with 1890 Extension's agricultural production programming has not been completed.

RES3: The Final Research Performance Report and integration of workshops and demonstrations through continued Extension programming has not been completed.

RES4: The project is still ongoing. Therefore, the final Research Performance Report and establishment of an on-going Hearing Health Program, in collaboration with 1890 Extension Outreach Programming, has not been completed.

HE1: There were three (3) B.S. and five (5) M.S. graduates in Science of Agribusiness, which only two (22.2%) reported concerning employment, were employed in the Agricultural field.

b. There were three reported impacts to the clientele and stakeholder. 1) the HPI Beef Cattle Project, that reported 10% of the participating farmers adopted the herd health program on their farm, during the first stage of the project. After 11 months and four

herd health training and demonstrations, collected data indicated an increased of 60% in the adoption of herd health practices among the remaining participating farmers.

It is anticipated that the program participants will improve their herd health through continued training; 2) The Soil pH and Plant Growth Project indicated that thirty undergraduate students have been trained in high - tech research in biology and chemistry, as a result of the project. Second, students enhanced their training and knowledge base in the following areas: environmental safety procedures, gel electrophoresis, DNA electron microscopy, fingerprinting, thin layer chromatography, plant tissue culture, spectrophotometric and centrifugation method, and computer skills. In addition, four graduate students also received training in biological and chemical techniques.

Lastly, (3) small-scale farmers and extension agents were trained in sustainable aquaculture and agriculture practices to help promote harmony between agriculture and the environment. This allowed farmers to saved money by reducing the cost of inputs and receiving higher priced premiums for their organic vegetables via targeted niche markets. This project generated data to evaluate economic viability and development of alternative aquaponics technology to suit the needs of small-scale farmers in South Carolina. In addition, one graduate student completed his thesis on a related topic, i.e., composting, and two undergraduate students (in engineering technology and agribusiness) received field experience in construction of greenhouses and hydroponics systems.

- c. In assessing the accomplishments of the South Carolina Plan of Work performance for 2000, the 1990 Census Data estimated that South Carolina State University 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. Of the 1,498 black farms in South Carolina, over 700 black farmers received assistance from SCSU. For the Fiscal Year October 1, 1999 - September 30, 2000, the actual number of 14,084 (19.4%) under-served/under-represented clients were contacted and served. Of that number, 6,279 (15.7%) were males and 7,805 (23.9%) were females.

As it relates to race, 2,641 whites, 11,145 blacks, 19 Native Americans, 271 Hispanics and 24 Asian Americans were served. Under Goal 1, SCSU 1890 actually served 2,739 persons. Of that number, 2,050 (74.85%) were males and 679 (25.15%) were females who received services. As it relates to race, 1,082 (39.50%) whites, 1,588 (58%) blacks, 4 (.15%) Native Americans, 42 (1.5%) Hispanics and 23 (.84%) Asian Americans were served. The need to expand is evident, although financial constraints limit our ability to all seven cluster rather than three at the present time. Additional funding would enable us to establish county offices within the

aforementioned cluster areas and house a County Director, an Area Specialist, etc. By broadening the clientele base, 1890 Research and Extension would have an opportunity to assist more people than it is presently serving.

If the Office of 1890 Research and Extension had received money from the state, we would have been able to provide training for the current staff as well as hire more qualified, trained personnel to carry out the mission of 1890.

- d. **Source of Funding:** (*Section 1444* - \$139,699.78; *Section 1445* - \$195,960.84)
FTE's - 8.9

Key Theme - Agricultural Profitability

- a. A researcher from the School of Agribusiness developed a representative farm model, now in operation at South Carolina State University, to evaluate the impacts of NAFTA on fruits and vegetables trade at the state and regional levels in South Carolina, and the rest of the Southeastern regions to other NAFTA countries. By utilizing the School of Business graduate students, the project developed and disseminated NAFTA-related strategies that benefited small farmers. Computerized links between NAFTA expansion effects and 1890 Cooperative Extension and Outreach efforts were established. A random sample of 300 farmers in South Carolina were selected for analysis of NAFTA impacts on farmers. Cooperating Institutions/Organizations: School of Agribusiness, 1890 Research and Cooperative Extension at South Carolina State University, SC Department of Agriculture, South Carolina agricultural department personnel in the areas of marketing, promotion and exports, and participating small-scale farmers.
- b. **Impact** - This research provided an in-depth look at the impact of NAFTA on the Fruit and Vegetable Markets in South Carolina and the Southeast region. Focus was especially on the NAFTA trade implications for the growth in the Southeastern economy and the product trade to Mexico. A MS thesis by Marquette Screen entitled "Determinants of Apple Consumption in the United States" was completed.
- c. **Source of Federal Funds** - Evans-Allen (\$62,216.75)
- d. **Scope of Impact** - South Carolina

Key Theme - Aquaculture

- a. A researcher from the School of Agribusiness, addressed the issues of training small farmers and Extension agents on sustainable production practices, to have competitive ability to integrate their production activities and target speciality market niches for their products to South Carolinians. Therefore, by selecting in advance crops, fish varieties and production practices, preferred by this high consumption, but under-served clientele, small-scale farmers may be able to increase their income and provide pertinent information to evaluate the impacts of sustainable practices in aquaculture and organic vegetable production for small-scale farmers. The programs were presented via workshops and demonstration field trips to expose and promote the concepts. Cooperating Institutions/Organizations: School of Agribusiness, School of Engineering Technology and Sciences, 1890 Research and Cooperative Extension at South Carolina State University, Clemson University Department of Forestry and Resources, and participating small-scale farmers.
- b. **Impact** - Nine small-scale farmers were able to develop an alternative agriculture business through experimenting with sustainable aquaculture enterprises that focused on enhancing their profitability with organic vegetable and fish marketing. The project focus was geared toward increasing farm income by utilizing aquaponics technology.
- c. **Source of Federal Funds** - Evans-Allen (\$79,159.09)
- d. **Scope of Impact** - South Carolina

Key Theme - Small Farm Viability

- a. The 1890 Agricultural Extension specialist developed a comprehensive program to assure viability of small farmers in the state. The program was to assist farmers in obtaining management training in the areas of controlled breeding, pasture management, herd health and nutrition, improve blood-line, livestock production, establish pastured poultry as an alternative farming enterprise, and increase farm profitability. The Heifer Project International (HPI) Meat Goat, Beef Cattle, and Pastured Poultry Projects were three components of the program efforts to make small farms viable in the state. Each project was conducted, at different intervals, to allow farmers to take advantage

of all three programs. The programs were presented via workshops and demonstration field trips to expose and promote the concepts.

Cooperating Institutions and Organizations: School of Agribusiness, 1890 Research and Cooperative Extension at South Carolina State University, SC Department of Agriculture, Clemson University Cooperative Extension, USDA-FSA, USDA-Rural Development, and participating small-scale farmers.

- b. **Impact** - It was reported that a total of 269 small farmers participated in such endeavors throughout the fiscal year 2000, where 135 (50.2%) Black farmers and 134 (49.8%) White farmers were served. Of this number, 165 (61.3%) indicated that they increased their knowledge base and 68 (25.3%) of 165 adopted the practices to use continually upon their farm.
- c. **Source of Federal Funds** - USDA Office of Outreach, (\$155,014)
(Section 447180)
- d. **Scope of Impact** - South Carolina

Key Theme - Plant Germplasm

- a. A researcher, from the School of Applied and Professional Sciences, developed a research proposal to look at crop improvement and weed control, due to its major thrusts in agriculture for ages. An exploration into the role of acidity or alkalinity (pH ranges) that may accomplish crop improvement and weed control, without the use of chemicals was the major focus of this project. Data from the research indicated that acid rain, organic matter, herbicide and pesticide residues were some of the important factors that altered pH in the soil. This type of knowledge of soil pH on seed germination was extremely important to the physiology and distribution of plant growth, for it will assist in studying the effects of young seedling growth. Cooperating Institutions/Organizations: School of Engineering Technology and Sciences, 1890 Research and Cooperative Extension at South Carolina State University, and participating farmers in South Carolina.
- b. **Impact** - Thirty undergraduate students were trained in high-tech research in biology and chemistry, as a result of the project. Students enhanced their training and knowledge base in the following areas: environmental safety procedures, gel electrophoresis, electron microscopy, DNA fingerprinting, thin layer chromatography, plant tissue culture, spectrophotometric and centrifugation method, and computer skills. In addition, four graduate students received training in biological and chemical techniques.

- c. **Source of Federal Funds** - Evans-Allen (\$68,148.01)
- d. **Scope of Impact** - South Carolina

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

Overview

Foodborne illnesses in the United States has led to a major cause of economic burden, human suffering, and death (Healthy People 2000 Food Safety Objectives, 1995). While foodborne diseases, their causes and effects, are better understood today, emerging risks need to be monitored for several reasons: 1) First, the food supply of the United States is changing dramatically. The conditions under which animals are raised have changed greatly. 2) Second, consumers are changing. There are an increasing number of elderly or immune-suppressed persons who are at higher risk of severe illness. 3) Finally, new and emerging foodborne pathogens have been identified, which can cause diseases unrecognized 50 years ago. Each year, an estimated 6.5 to 33 million people become ill from microorganisms in food, and an estimated 9,000 of these individuals die. According to the United States Department of Agriculture (1998), foodborne illnesses from meat and poultry alone account for \$5.2 to \$28.2 billion of these costs. During the fiscal year 1998-1999, South Carolina had an estimated of 150 cases of foodborne illnesses which also included complaints of symptoms related to foodborne illnesses.

Because of the reduced impact on human health and environmental quality, insect pest management techniques that include use of the insect's own chemical communication signals (pheromones) offer significant advantages over techniques using pesticides alone. Short-term results of pheromone-based control measures have been positive and the damage caused by pests have been reduced. However, the long-term use of pheromone-based measures has received little attention.

The overall mission of Goal 2 was to ensure an adequate food and fiber supply and food safety through improved science based detection, surveillance, prevention, and education. In addition, the focus was to build partnerships within the community and the public concerning food safety, security and quality. In order to accomplish the mission, 1890 Research and Cooperative Extension at Carolina State University directed their attention to Program Focus Area : 1) Food Safety, Security and Quality. Through Federal funds and Evans - Allen Research, this focus area accomplished the following:

Food Safety, Security and Quality:

To ascertain information that would directly address the issues of foodborne illness in the State of South Carolina, one research project was initiated: Genetic Evaluation of Insect Responses to Integrated Pest Management Techniques. This project look at using genetic analyses in identifying the chromosomal location of genes involved in the regulation of pheromones in fruit flies. Believing that information about the fruit fly provided a basis for understanding the pheromone systems of

economically important Dipterans and the identification of specific protein sequences involved in pheromone production and perception, that may resulted in designing specific inhibitors to proteins which could be manufactured and used to disrupt mating in target species. At the time of reporting, the researcher had completed the construction of the lines with mosaic 3rd chromosomes and made the backup chromosome (X & 2) homozygous for Canton-S. This procedure will be used to identify genes on the 3rd chromosome that contributed to the variation in fruitfly pheromones.

It was anticipated that this project provided important information on the long-term effect of pheromone-based control measures and helped to determine how complex the genetic basic of pheromone regulations were in evolving a successful pheromone-based pest management program.

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

EXT1: 1) Number of planned programs; number of participants, and program's impact.

Comparative assessment of Food Safety and Food Security data by the State and National level.

2) Number of Food Safety Initiatives occurring in the county, state, and Cooperative Extension Organization.

RES1: 1) The researcher, has not reported any progresses on mapping of genes' location and pheromone variations.

2) The project is still ongoing. Therefore, the resistance to pheromone-based control measures has not been conducted.

3) The research project has not reported any publications in referred or non-referred journals for this reporting cycle.

4) There were no presentations at conferences nor meetings for this reporting cycle.

b. The Highlights successes for fiscal year 2000 in Research & Extension were the following:

EXT1: 1) There were fourteen (14) people or 53.8% of the 26 program participants that increased their knowledge and understanding of Food Safety and Foodborne illnesses and intoxications.

2) Eighty-four (84) participants participated in the food safety and sanitation practices. Of the number of participants' eighty-three (98.8%) demonstrated knowledge in proper food safety practices.

3) Three-hundred and thirty-one (331) participants participated in promoting positive food safety practices. Of the number of participants' 328 (99.1%) adopted the practices and promoted positive food safety practices within the community.

RES1: This project is still ongoing. Therefore, the final Research Performance Report and programmatic recommendations for development in Extension Outreach Activity to Food Safety and Security has not been submitted.

c. The 1890 Research & 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” was purchased to conduct workshops. Furthermore, as result of this project, two (2) undergraduates students were trained in insect pest management techniques.

d. In assessing the accomplishments of the South Carolina Plan of Work performance for 2000, the 1990 Census Data estimated that South Carolina State University 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 2, 452 clients were served through the program area. The total data by sex generated 52 (11.5%) males and 400 (88.5%) females who received service. In regards to race, 55 (12.2%) whites, 392 (86.7%) blacks, and 5 (1.1%) Hispanics received services as under-served/under-represented participants. The need for expansion is evident, but the financial resources are already stretched to the limit. Its our desire to have more Evans-Allen research projects that focus specifically upon this goal. 1890 Research and Extension would benefit greatly upon received the state matching funds, to provide training for the current staff as well as hire more qualified, trained personnel to within this s pecific focus area.

Source of Funding: (*Section 1444* - \$16,433.99; *Section 1445* - \$30,885.32)

FTE's - 1.25:

GOAL 3: A healthy, well-nourished population.

Overview

The National Health and Nutrition Examination Survey (NHANES) stated, 33% of adults in the United States were obese. The annual health care cost for obesity was estimated at about \$70 billion in the United States. South Carolina has a dismal health statistics, for example, heart disease, obesity, cancer, and stroke account for nearly 2/3 of all deaths in the state. As it relates to minorities, the heart disease death rate was 50% higher, and cancer related death rates was 40% higher than that of whites. South Carolina Department of Health and Environmental Control (DHEC) identified four at-risk groups: African Americans, blue collar workers, youth, and low-income groups. DHEC reported, 80% of all cancers, 50% of heart disease deaths, and 50% of all stroke deaths were due to lifestyle habits. As mentioned, obesity was a serious problem among pre-adolescents. Children who were overweight were at an increased risk for becoming obese adults and more likely to develop health

related problems such as: diabetes, heart disease and high blood pressure. A Surgeon General's Report (1988) on Nutrition and Health suggested, being overweight was a risk factor for the following: diabetes mellitus, hypertension, stroke, coronary heart disease, some types of cancer and gallbladder diseases.

Therefore, a minute change in lifestyle, such as reducing ones intake of fatty acids and increased physical activity levels, reduced the number of deaths attributed to lifestyle factors annually in South Carolina and the Nation. The report, also, denoted the possibility of one healthy behavior learned in childhood may be sustained through adulthood, which made prevention activities targeted at child/pre-adolescents especially appealing and low cost-effective. The overall mission of Goal 3 was to provide a healthy, well-nourished population through research, education on nutrition and development of more nutritious foods, that enabled people to make health promoting choices. Focus was on assessment of nutrition behaviors of pre-adolescents and determining the prevalence of obesity to promote positive lifestyle behaviors. In order to accomplish the mission, South Carolina State University directed their attention to the Program Focus Area: Nutrition Education, Diet and Health. Through Federal funds and Evans-Allen Research, this focus area accomplished the following:

Nutrition Education, Diet and Health:

To ascertain information that would directly address the issues of concern to the State of South Carolina, one extension and one research projects were initiated: (1) The Food Stamp Nutrition, Education Program (FSNEP). This was a multi-state, multi-institution nutrition education intervention program designed to facilitate families in selecting and preparing meals consistent with their cultural traditions while improving their overall health. Funded by the Food and Nutrition Services and administered in cooperation with the SC Department of Social Services. This project is implemented in three counties (Barnwell, Calhoun and Orangeburg) for the past fiscal year.

Curriculum used for the FSNEP were *Family First: Nutrition, Education and Wellnes Program* (FF:NEWS), that resulted from a multi-state collaboration (Texas, Oklahoma, Arkansas, and Louisiana). The FF:NEWS curriculum were made up of four (4) modules with 8-12 lessons in each that made up the entire series. In addition, One-thousand food (1000) stamp recipients, sixty (60) summer camp participants, and thirty (30) college students were exposed to the FFNEWS curriculum. Total expenditure for FSNEP were sixty-four thousand, eight hundred and ninety six dollars (\$64,896) implemented by 1890 Cooperative Extension Services, (2) Assessment of Nutrition and Exercise Behaviors of Pre-adolescents in Bamberg, Calhoun, and Orangeburg Counties. This project is in its first year. Currently, this project prepared a set of instruments to obtain data from pre-adolescents in several counties in the state. At the time of this report, two mock focus group sessions were held to revise the focus group questions. Presently, there were no publications nor presentations presented at conferences or workshops. It is anticipated that this project would provide information to assist 1890 Cooperative Extension Services in nutrition to its clientele and stakeholders.

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

RES1: 1) There were one-hundred and seventy-one (171) pre-adolescent participants participating in the (experimental or control group). Of that number, fifteen (15) were White and one-hundred and fifty-six (156) were Black.

b. The Highlights successes for fiscal year 2000 in Research & Extension were the following:

RES1: 1) The assessment of pre-adolescent participants' knowledge of dietary guidelines could not be determined at the time of this report.

2) The percent of participants adopting recommended dietary guidelines could not be determined at the time of this report.

3) The project is ongoing. Therefore, impacts of nutrition and exercise intervention programs on pre-adolescent participants has not been determined.

4) The project is ongoing. Therefore, development of nutrition extension service activity with 1890 Cooperative Extension Services has not been developed.

c. Two graduate students will be trained in the areas of data collection, data analysis, and nutrition education techniques.

d. In assessing the accomplishments of the South Carolina Plan of Work performance for 2000, the 1990 Census Data estimated that South Carolina State University 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. Goal 3 serviced a total of 2,161 persons. According to gender, there were 518 (24%) males and 1,643 (76%) females. In relationship to race, there were 502 (23.2%) whites, 1,658 (76.7%) blacks, and 1 (.046%) Asian American. Given that South Carolina has a dismal health statistics, where minorities death rate was 50% higher as it pertains to cancer related death rates than whites, there needs to be more minority health initiatives to conducted research in this area. Knowing that South Carolina Department of Health and Environmental Control (DHEC) identified four at-risk groups: African Americans, blue collar workers, youth, and low-income groups.

e. Source of Funding: (*Section 1444* - \$209,852.21; *Section 1445* - \$1,821.55)
FTE's - 2.25

Key Theme - Human Health

- b. The primary goal of the nutrition education intervention program were 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. There were a total of 2,161 under-served and under-represented South Carolina participants for the fiscal year 2000 in the FFNEWS program. Racial/ethnic total makeup was 1,658 (79.5%) Black and 503 (20.5%) White, respectively.

The gender make-up being consisted of 1,643 (87.9%) females and 518 (12.1%) males. Cooperating Institutions/Organizations: 1890 Research and Cooperative Extension at South Carolina State University, Food and Nutrition Services and SC Department of Social Services

- c. **Impact** - Three persons, formerly receiving welfare assistance became gainfully employed as volunteer assistants and 1621 (75%) of the participants showed knowledge gain on the pre/post test analysis.
- d. **Source of Federal Funds** - Food and Nutrition Services (\$64,896)
- e. **Scope of Impact** - South Carolina

Key Theme - Human Nutrition

- b. A researcher, from the School of Applied and Professional Sciences, is assessing nutrition behaviors of pre-adolescents and determine the prevalence of obesity to promote positive lifestyle behaviors. This has been done by preparing a set of instruments to obtain data from pre-adolescents in several counties in the state. It was anticipated that this project would provide information to assist 1890 Cooperative Extension Services in nutrition to its clientele and stakeholders. Cooperating Institutions/Organizations: School of Applied and Professional Sciences, 1890 Research and Cooperative Extension at South Carolina State University selected Middle Schools in Bamberg, Orangeburg and Calhoun counties.
- c. **Impact** - At the time of this report, no impact had been reported.
- d. **Source of Federal Funds** - Evans-Allen (\$1,821.55)
- e. **Scope of Impact** - South Carolina

GOAL 4: Greater harmony between agriculture and the environment.

Overview

The environment of South Carolina has experienced increased threats to water quality, wildlife, and forestry. Within the next ten years, the population of South Carolina is expected to increase by 25%. People and industry are attracted to the state because of climate, low taxes, and aesthetically pleasing environment. Ironically, this influx of newcomers is itself a great threat to the environment in South Carolina.

As stated in reports to the Environmental Protection Agency (EPA), about 49 % of the nation's surveyed rivers, lakes, and estuaries were not clean enough for fishing or swimming (Allen 1995). Although Americans have made tremendous strides in the reduction of point source pollution, nonpoint source (NPS) remained as the greatest concern for impairment to our water resources. Future use and management of natural resources required public education on water quality, wildlife, forestry, and other environmental issues.

Runoff from agricultural land was the biggest source of pollution of water resources. It was estimated that agriculture sources were responsible for 46 % of the sediment, 47% of the total phosphorus and 52 % of total nitrogen discharged into our waterways (Gianessi et al., 1986). South Carolina had a total land area of 19.3 million acres. Of this, 4.6 million acres were in farmland. croplands represented 2.5 million acres (53.6 %); woodlands represented 1.46 million acres (35.3 %); pasturelands represented .2 million acres (5.3 %); farmlands in Conservation Reserve and Wetland Reserve represented .2 million acres (4.8%); other lands in farms represented .3 million acres (5.8%). Small Farms in South Carolina (1-99 acres in size) represented approximately 54.5 % of the total farm population. Educational programs, activities, and demonstrations were targeted as natural resource concerns by addressing small and limited resource farms and farm families. In order to accomplish the mission of Goal 4, attention was placed on *Program Focus Area 451: Natural Resources and the Environment*. The program focused on public educational programs on water quality, wildlife, forestry and other environmental issues that targeted natural resource concerns of diverse limited resource families, youth and communities.

Natural Resources and the Environment:

Under Focus Area 451: Natural Resources and the Environment, the following results were accomplished: (1) A Wood Education and Resource Center Proposal entitled, "Natural Resource Career Camp: Enhancing the Appreciation of Forestry and Wood Products Industry by Rural Minority Youth in South Carolina" was submitted and approved; (2) A proposal written under Section 319 Water Quality entitled, "BMPs and Responsible Homestead Practices to Reduce Fecal Coliform Bacteria in Horse Range Swamp Watershed" was submitted and approved; (3) Twenty -five youth participated in the Westvaco Natural Resource Career Camp held during Summer 2000 in Summerville, SC; (4) Six (6) community adults served on the Horse Range Swamp Watershed Board; (5) Four (4)

Watershed Meetings were held and a total of 105 adults participated in the meetings; and (6) Six hundred-eighty five (685) youth participated in an environmental Education Nature Trail exercise.

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

EXT1:1) Fifty-three (53) participants attended and completed workshops and demonstrations.

2) There were five (5) training's and workshops, tours conducted to targeted audience.

3) Five percent (5%) or 10 participants out of 199 reported adopting of practices.

4) There were no publications at the time of this report, although an abstract has submitted and accepted for presentation.

HE1: There were no B.S. graduates in Environmental Science.

b. The Highlights successes for fiscal year 2000 in Research & Extension were the following:

EXT1:1) There were a 13% increase in water quality practices among under-served communities.

2) The percent increase of small and limited resource farmers in use of BMPs could not be assess at the time of this report.

3) Percent increase in forestry management plans could not be assess at the time of this report.

HE1: There were no B.S. graduates in Environmental Science who obtain employment in Environmental Science or a related field.

c. There were no impact reported at the time of this report.

d. In assessing the accomplishments of the South Carolina Plan of Work performance for 2000, the 1990 Census Data estimated that South Carolina State University 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. Of the 1,498 black farms in South Carolina, over 700 black farmers received assistance from SCSU. Goal 4 provided services to a total of 771 under-served/under-represented clients. Of that total, 302 (39.2%) were males and 469 (60.8%) were females. As it relates to race, Goal 4 had 290 (37.6%) whites and 483 (62.7%) blacks. Runoff from agricultural land has become one of the biggest source of pollution of water resources. Therefore, 1890 Research and Cooperative Extension Services look forward to being successful with the Section 319 Water Quality entitled, "BMPs and Responsible Homestead Practices to Reduce

Fecal Coliform Bacteria in Horse Range Swamp Watershed, to use as a model to assess other watersheds with the state.

- e. **Source of Funding:** (*Section 1444* - \$20,549.86; *Section 1445* - \$30,885.32)
FTE's - .75

Key Theme - Integrated Pest Management

- e. A researcher, from the School of Engineering Technology and Sciences, used genetic analyses in identifying the chromosomal location of genes involved in the regulation of pheromones in fruit flies. Believing that information about the fruit fly provided a basis for understanding the pheromone systems of economically important Dipterans and the identification of specific protein sequences involved in pheromone production and perception, resulted in designing specific inhibitors to proteins which could be manufactured and used to disrupt mating in targeted species. Cooperating Institutions/Organizations: School of Applied and Professional Sciences, School of Engineering Technology and Sciences, 1890 Research and Cooperative Extension at South Carolina State University, SC Department of Agriculture, Department of Social Services, Department of Health and Environmental Control, and South Carolina Department of Agriculture.
- f. **Impact** - Insect pest management was essential to reducing the impact on human health and environmental quality. Therefore, this research will shed light on the long-term effect of pheromone-based control measures and help to determine how complex the genetic base of pheromone regulations were in evolving successful pheromone-based pest management program.
- g. **Source of Federal Funds** - Evans-Allen (\$30,885.32)
- h. **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 Research and Extension 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 Federal funds and Evans-Allen Research, 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) project was modified and expanded to three more counties. This project had a total of five classes being held for the department of Social Services' Temporary Assistance for Needy families (TANF) customers. From the TANF program more than 50 clientele successfully made the transition from welfare to work, (2) Comparison of Teachers' Perceptions of Academic Indicators in Rural and Urban Schools in South Carolina. This project prepared a set of instruments to obtain data from rural and urban schools in the state. Finding indicates no statistically significant differences were found between teachers in rural and urban schools. This data indicated that teachers placed a high degree of control over the learning environment on external forces (i.e. special services, parents, administrator). Presently, 3 publications were developed from the research efforts, (3) Adolescent Violence and Acting-out After a College Student Mentoring Experience in 5th and 6th Grades. This project is in its third year. Adolescent Violence project spent the first two years mentoring between college mentors and children who moved from 5th and 6th grades to 6th and 7th grades.

4) The Impact of the Personal Responsibility and Work Opportunity Reconciliation Act on Welfare Recipients (PRWORA). Primary objectives of the research was to query the extent rural poor needs public assistance to maintain their material well-being, and the most effective strategies to move from welfare to work. Finding indicates that affordable childcare and transportation are major issues that confronts these recipients, and (5) Determinants of Perceptions, Aspirations and Goal Attainments of Rural Single Teen Mothers. Primary objectives of the research 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. Findings indicated that 66% of the experimental group had significant improvements in their grades when compared to the previous grading periods. Positive behavioral and self-esteem changes occurred in 80% of the participants. When family members were interviewed, 86% stated positive reactions and support concerning their daughter's participating in the project. It is

anticipated that the model for the experimental group would be implemented in other communities upon the completion of the research.

Community, Leadership and Economic Development:

In examining the second *Focus Area 552, Community, Leadership and Economic Development*, two extension and one research projects were initiated to ensure that South Carolina stays competitive, and build an economic infrastructure of all counties within the state. (1) Two non-profit organizations: Northeastern Corridor of Orangeburg Community Development Corporation (NCOCDC) and Wando Huger Community Development Corporation (WHCDC) were developed and sponsored by South Carolina State University to foster stronger collaborations and creative partnerships within the state. The NCOCDC was sponsored through a grant from the Department of Housing and Urban Development (HUD) to Historically Black Colleges and Universities (HBCU) to conduct community development in Orangeburg County.

The organization's major accomplishments included (a) recognition as a (501C-3) non-profit organization, (b) recognition as a Community Development Housing Organization (CHDO), (c) the renovation of several homes for low to moderate income service area residents, (d) teaching a computer literacy course to the elderly, youth and other service area residents and (e) established memorandums of understanding with other community service providers to operate a legal services program, home buyer education program home ownership counseling program and a health screening program.

Wando Huger Community Development Corporation (CDC) was created to be a community voice for the residents of the Wando and Huger communities in the southern area of Berkeley County, that also involved grassroot community leaders and residents. The purpose of this CDC were to galvanize the organization to guard against land loss in the community through programs of property ownership and land loss education. This organization's major accomplishments included: (a) galvanizing the community to stop the original plans of the South Carolina Port Authority, (b) establishing collaborations and networks within the community to create internal and external partnerships, (c) implementing workshops on heir property, wills and other land loss prevention topics, (d) establishing an office for the community development corporation and (e) organizing the first community-wide fund-raising event; a Christmas Extravaganza 2000.

2) The *1890 Youth Services Program* served more than 5,053 youth between the ages of five and eighteen. The primary objectives of this program were (a) provide youths an opportunity to participate, (b) learn practical hands-on life skills, and (c) ascertain leadership skills to enable them to become leaders for the 21st Century. The 1890 Youth Program along with summer day camps, S.T.A.R. (Serious Teen Acting responsible) chapter meetings, and after school tutorials (etc.), allowed youths to actively participate and receive benefits from programs that address self-esteem development, re-mediation and enrichment of academic skills, cultural enrichment, career awareness, social skills development, diversity training, community development and service learning activities. These programs were administered by state specialists, county agents, consultants, university faculty and volunteers during school hours, after school programs and summer camps. Collaborations were between county

school districts, department of Social Services, State Department of Education, DARE programs, HUD Agency, Boys & Girls Clubs, county recreation departments, Chambers of Commerce, local businesses, local sheriff's departments, radio stations, School of Education and Business at South Carolina State University and other colleges and universities with in the state.

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

EXT1: 1) Fifty-eight (58) planned programs were conducted with 1682 of participants, at had at least 8 impact from the program.

2) There were 1,776 comparative assessment of Family development and resource management program data by national, county, and state.

EXT2: 1) Forty-seven(47) planned programs were conducted with 508 participants, where 48.8% of the participants adopted the practice and 44.5% increased in knowledge.

EXT1:1) There were 8 educational and training workshops and the impact of the workshops and training were significant on the participants.

2) There were 2 strategic plans developed for fiscal 2000 year that yield in the granting of HUD of grants, that provided assistance to low income and elderly residents in Orangeburg county

3) Two non-profit organizations: Northeastern Corridor of Orangeburg Community Development Corporation (NCOCDC) and Wando Huger Community Development Corporation (WHCDC) were developed. One gain the recognition as a (501C-3) non-profit organization, and a Community Development Housing Organization (CHDO), along with the renovation of several homes for low to moderate income service area residents.

4) There were 4 collaborations, and 2 memorandums of understanding with other community service providers signed to operate a legal services program, home buyer education program home ownership counseling program and a health screening program.

EXT2: 1) The development and maintenance of the communities assets database has not been constructed.

2) There were at least a 30% increase in community volunteers in community programs since the CDC.

3) There were not a meaningful increase in (diversity - gender, race, ethnicity, religion, age, socio-economic status) in participation and involvement in community projects.

4) An increase in collaboration and partnerships among the local community leadership and internal and external organizations.

5) Several grants were applied for an two was awarded to increase the financial support of community-based efforts.

RES1: 1) There has not been a comparative assessment of pre-service and in-service

teachers and impact on targeted rural and urban schools, relative to students' ability to learn, school environments and community involvement.

2) Three publications were reported at the time of this report, along with two scheduled presentations.

3) The development of methods for training pre-service and in-service teachers to meet the needs of rural and urban schools has not been constructed.

4) Two graduate and two undergraduate students was involved with the project.

RES2: 1) Findings indicates a positive effect of mentoring in the earlier years and over time.

2) Schools's officials suggest that the violence and acting -out behavior among participating mentees have decrease.

3) Initial data indicates that college-age mentors has had a positive effect their mentees.

4) There were no publication at the time of this report, although three presentations was given by the principal investigator.

5) The long-term benefit to children engaged in mentoring has not yet been determine.

6) The effect of mentoring to college-age mentors' educational goals and aspirations has not yet been assess.

RES3: 1) There were a 80% improvement of participants ,attitudes and beliefs of their quality of life.

2) Eighty-six percent (86%) of the family members who were interviewed, stated positive reactions and support of their daughters' in the project.

3) There were no publications nor presentations at the time of this report.

4) The pilot program for improving the quality and variety of social support to single teen mothers, during their transition to adulthood is still under construction.

RES1: 1) Sixty-thousands and two dollars, and forty-six cents (\$60,002.46) were expended toward welfare recipients.

2) There were three welfare to work recipients' that move from welfare to work during the course of this project.

3) Impact of county level policy and implementation of welfare to work is still being worked upon for welfare recipients' successful transition.

4) There were no publications nor presentations at the time of this report.

5) There were several undergraduate and graduate students' who had involvement in the research and outreach work of this project.

HE1: There were (49) B.S. and (3) M.S. graduates in Family and Consumer Sciences.

HE2: There were (23) B.S., (16) M.Ed., and (6) M.A.T. graduates in Education.

f. **The Highlights successes for fiscal year 2000 in Research & Extension were the following:**

- EXT1: 1) There were a 68% increase of program participants knowledge about family development and resource management.
2) Ninety-three percent (93%) of program participants indicated that they had adopted resource management practices.
3) Forty-four point-five percent (44.5) of program participants indicated that they understood the ways community involvement can support the family structure.
- EXT2: 1) The percent of decrease in the "at-risk" data among youth participants as compared to youth who do not participate in the programs has not been reported during the time of this report.
2) During the time of this report, no data was reported from parents and school officials on the observed behavior of participants.
- EXT1: 3) Two non-profit organizations: Northeastern Corridor of Orangeburg Community Development Corporation (NCOCDC) and Wando Huger Community Development Corporation (WHCDC) were developed.
- EXT2: It is desired that the community leadership program will yield successful strategic planning in each of the 24 counties. Evidence of this success shall be revealed in the following:
1) There were a 30% increase of community volunteers.
2) 12% of participants demonstrating knowledge gained through this process by providing leadership and capability to replicate the strategic planning process. 3)
There were two non-profit organizations formed, of which one gained the community-based organizations 501(c)(3) designations.
4) The two non-profit organizations increase in the number of community-based organizations that generated external funding of \$10,000 or more.
5) Both community where the non-profit organizations were formed increase in their degree of satisfaction.
- RES1: Then Final Research Performance Report and development of training methods for pre-service and in-service teachers in rural and urban schools has not yet been completed.
- 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 has not yet been 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 has not yet been completed..
- RES1: Final Research Performance Report and recommendations based findings, that may lead to supporting extension programming educational upon project activity in targeted counties has not yet 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

c. The 1890 Research & 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" was purchased to conduct workshops. Furthermore, as result of this project, two (2) undergraduates students were trained in insect pest management techniques.

d. In assessing the accomplishments of the South Carolina Plan of Work performance for 2000, 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, 7,934 persons participated in the program area. The total data by sex included 3,224 (40.6%) males and 4,579 (59.4%) females. As it relates to race, 711 whites, 6,984 blacks, 15 Native Americans and 200 Hispanics.

The need for expansion is apparent, but the financial resources are already amplified in this area. Additional funds would, enables us to establish county offices within all seven cluster areas rather than provide services to a select few within a three cluster area. By broadening the clientele base, 1890 Research and Extension would have an opportunity to assist more people than it is presently serving. The 1890

Research and Extension is serious about serving its clientele, but addition funding is needed to provide ample training for the current staff and hire more qualified, trained personnel to carry its mission.

e. **Source of Funding:** (*Section 1444* - \$649,563.96; *Section 1445* - \$215,193.64)
FTE's - 9.83:

Key Theme - Jobs/Employments

e. 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. Racial/ethnic total makeup was 137 (97.9%) Black, 2 (1.4%) White and 1 (.7%) Asian, respectively. The gender make-up being consisted of 138 (98.6%) females and 2 (1.4%) males. Cooperating Institutions/Organizations: School of Arts and Humanities, 1890 Research and Cooperative Extension at South Carolina State University, SC Department of Social Services, and County Level Officials.

- f. **Impact** - Information from this study will facilitate and understanding of the extent to which the poor needs public assistance to maintain their material well-being, and the most appropriate strategy to move welfare recipients from welfare to work. In addition, provide policy makers with the necessary information to develop policies that are target toward the poor that assist them to achieve self-sufficiency.
- g. **Source of Federal Funds** - Evans-Allen (\$60,002.46)
- h. **Scope of Impact** - South Carolina

Key Theme - Impact of Change on Rural Communities

- e. A researcher, from the School of Education is comparing teachers' perceptions of academic indicators. This has been done by preparing a set of instruments to obtain data from a total of 245 teachers, 65 (26.5%) rural and 180 (73.5%) urban schools. Racial/ethnic total makeup was 111 (45.3%) Black, 129 (45.3%) White, 3 (1.2%) Asian, 1 (.4%) Asian, and 1 (.4%) Hispanic respectively. The gender make-up consisted of 191 (80%) females and 54 (20%) males. Finding indicates there were no significant differences between teachers in rural and urban schools, although an emerging construct indicates that teachers place a high degree of control over their students learning environments on external forces (i.e. special services, parents, and administrators). Cooperating Institutions/Organizations: School of Education, 1890 Research and Cooperative Extension at South Carolina State University, and selected teachers in rural and urban schools in four South Carolina counties.
- f. **Impact** - Rural school teachers' will meet the needs of their students in rural communities by maximizing their learning environments. This will be achieve by enhancing teachers' opportunities to develop alternative and innovative learning environments to meet the varied learning styles of their students. Presently, 3 publications were developed from this research efforts:

1) *Comparison of teachers' Perceptions of Academic Indicators in Rural & Urban Schools in South Carolina*. Proceedings from the South Carolina Association

of Teachers Educators, October, 1999; 2) *Instruction in Youth is Like Engraving in Stone: taking Responsibility for the Academic Achievement of African-American Students in Rural and Urban Schools*. Proceedings from the 2000 Annual Conference of the national Association of African-American Studies; and 3) *A Theoretical Analysis of Effective Education Program* (1999) Teacher Education Journal of South Carolina, pp.86-88.

g. **Source of Federal Funds** - Evans-Allen (\$81,204.86)

h. **Scope of Impact** - South Carolina

Key Theme - Conflict Management

e. The Adolescent Violence & Acting-Out After A College Student Mentoring Experience in 5th & 6th Grades, was a third year project that began in the fall of 1999. After completion of a two year mentoring experience between college mentors and children who moved from 5th and 6th grades to 6th and 7th grades, the goals and objectives were: 1) continue to collect and analyze 2nd and 3rd year data; 2) to publicize results from 1st and 2nd years of testing; 3) present papers at professional meeting; 4) maintain contact with school officials and mentees throughout the year; and 5) maintain contact with mentees. Racial/ethnic total makeup of mentees and mentors was 74 (98.7%) Black and 1 (1.3%) White, respectively. The gender make-up consisted of 37 (49%) females and 38 (51%) males. Cooperating Institutions/Organizations: School of Applied Professional Sciences, 1890 Research and Cooperative Extension at South Carolina State University, and Orangeburg School district 4 & 5 middle schools in South Carolina.

f. **Impact** - The two-year mentoring experience of rural at-risk youth has been concluded with the production of considerable data, that being analyze for indicators predicting positive results in regards to behavior, grades and school attendance. This study have provided the foundation for future studies that investigate the various factors that influence or determine adolescent violence or acting-out. The assessment information will important data concerning the nature and extent of external influence such as mentoring.

- g. **Source of Federal Funds** - Evans-Allen (\$37,867.61)
- h. **Scope of Impact** - South Carolina

Key Theme - Children, Youth, and Families at Risk

- e. This longitudinal study investigates endogenous and exogenous facts affecting single teen mothers by evaluating their perceptions, aspirations and goal attainment relative to their quality of life. Utilizing a multi-disciplinary archetype, where the researcher examine the micro-sociological phenomena from a holistic approach. The primary objectives of this research 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 research design was Quasi-Experimental with three group. In accordance to this design, the Experimental group participants received different type of stimuli (tutoring, mentoring and counseling) on a weekly basic by the research staff. At the time of this report, data sets was being analyzed to determine final results.

Although, the preliminary findings indicates that 86% (39) of the 45 participants have decreased in dysfunctional behaviors patterns. Cooperating Institutions/Organizations: School of Arts and Humanities, 1890 Research and Cooperative Extension at South Carolina State University, and selected teachers in rural and urban schools in South Carolina counties

- f. **Impact** - Finding indicated that 66% of the experimental group had continual significant improvements in their grades when compared to the previous grading period. Positive behavioral and self-esteem changes occurred in 80% (36) of the participants. In addition, 86% of the participants who were interview stated positive reactions and support pertaining to their daughter's participating in the project. Therefore, this model of experimental group will be duplicated in other communities to assist the psycho-sociological well-being and the quality of life for rural single teen mothers.
- g. **Source of Federal Funds** - Evans-Allen (\$73,986.32)
- h. **Scope of Impact** - South Carolina

Key Theme - Promoting Housing & Business Programs

e. Two non-profit organizations: Northeastern Corridor of Orangeburg Community Development Corporation (NCOCDC) and Wando Huger Community Development Corporation (WHCDC) were developed and sponsored by South Carolina State University to foster stronger collaborations and creative partnerships within the state. This Joint Extension & Research project helped to establish memorandums of understanding with other community service providers to operate a legal services program, home buyer education program, home ownership counseling program, and health screening program. The Wando Huger Community Development Corporation (CDC) was created to be a community voice for the residents of the Wando and Huger communities in the southern area of Berkeley County, that also involved grassroots community leaders and residents. The purpose of this CDC was to galvanize the organization to guard against land loss in the community through programs of property ownership and land loss education.

f. **Impact** - Northeastern Corridor of Orangeburg Community Development Corporation (NCOCDC) impacts were the following: formation of a (501C-3) non-profit organization, recognition as a Community Development Housing Organization (CHDO), the renovation of several homes for low to moderate income residents, teaching a computer literacy course to the elderly.

The Wando Huger Community Development Corporation major impacts included: galvanizing the community to stop the original plans of the South Carolina Port Authority, establishing collaborations and networks within the community to create internal and external partnerships, implementation of workshops pertaining to wills and other land loss prevention topics, establishment of an office for the community development corporation and organizing the first community-wide fund-raising event (Christmas Extravaganza 2000).

g. **Source of Federal Funds** - Department of Housing and Urban Development (HUD)

h. **Scope of Impact** - South Carolina

B. Stakeholder Input Process

Knowing that section 102(c) of the AREERA Act of 1998 requires that each land grant institution gather and provide information related to stakeholders. South Carolina State University 1890 Research and Cooperative Extension sought stakeholder input from the following: 1) the community at large, 2) County Advisory Committee Members, 3) Research and Extension Administrators, 4) Extension Agents, and 5) 1890 Research and Cooperative Extension Staff. A portion of the 1890

Research and Cooperative Extension Summer Retreat served as training for all 1890 Research and Cooperative Extension Administrators, Agents and Staff to become facilitators in public stakeholder input forums. During the training, all attendees completed the process of identifying what they felt were needs and concerns within South Carolina communities.

A modified nominal group technique was used for all groups to identify community needs and concerns. Specific instructions were given to the trainees and were followed at each Public Forum. The Public Forums were planned and implemented for 16 sites throughout the state of South Carolina. Six South Carolina congressional districts were covered within the sites, with at least two locations per congressional district. Each County Advisory Committee Member received a special invitation to attend one Forum from their local Extension Agent. Community members were asked to attend through flyers placed in local community businesses, churches, area Extension Offices, local newspaper ads, and radio public announcement spots. Of the 56 community members who attended the Public Forums, 96% were African-American, 4% Caucasian, and 45% male & 55% female. The group identified Children & Youth, Education, Housing (Living and Working Environment), Community Leadership and Development, Access to Information, Economic Development, Land Ownership & Other Agricultural Issues, Health & Nutrition, Transportation and Job Skills as the top ten needs and concerns of South Carolina citizens.

A Ph.D. candidate, from South Carolina State University, College of Education, Mrs. Geraldine Duke, was another source of community stakeholder input information was considered. In Mrs. Dukes study, over 1900 persons from traditional and non-traditional audiences were surveyed to identify the most important community concerns for the 21st Century. Her results indicated that the important issues facing South Carolinians in the 21st Century were Population Growth, Environmental Concerns, Community and Economic Development, Agricultural Productivity, Family and Educational Issues.

Lastly, forty-seven Extension Administrators, Agents, and Staff participated in the community needs and concerns input session. Of those who participated, 96% were African-American, 4% Caucasian, 70% female and 30% male. This stakeholder group identified Children & Youth, Housing (Living & Work Environment), Education, Health & Nutrition, Job Skills, Land Ownership & Agricultural Issues, Transportation, Finances, Economic Development and Community Leadership and Development as their top ten issues and concerns for South Carolinians. When all stakeholders' data were aggregated (combining the community results with the Extension Administrators, Agents, and Staff results), the top ten issues for South Carolinians in the 21st Century were: Children and Youth, Housing (Living & Work Environment), Education, Health & Nutrition, Community Leadership and Development, Economic Development, Land Ownership and Agricultural Issues, Access to Information, Job Skills, and Transportation. The compiled data projected the Program Focus Areas and accompanying activities for South Carolina State University, 1890 Research

and Cooperative Extension Plan of Work, which reaffirms the usefulness of the stakeholder process in general.

C. Program Review Process

The Merit Review process for 1890 Cooperative Extension work at South Carolina State University (SCSU) included the submission of program curriculums, projects, planned activities and materials (printed, audio and/or visual) to a Merit Review Panel (MRP). The committee established criteria to review the content appropriateness, capacity and impact of all interventions addressed in the Plan of Work. All Extension work is being conducted in accordance with the Agricultural Research, Extension, and Education Reform Act of 1998 (AREERA), Public Law 105-185.

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 have 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.

As it relates to 1890 Research Peer Review Committee of South Carolina State University, it is composed of four subcommittees, that's representative of the four research problem areas to the 1890 Evans-Allen Research Program. The panels are made-up of five-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, the Assistant Administrator, and the Director of the Office of Accountability, who reviews the relationship of the proposed project to the needs of Extension.

Once approved by the Director, Assistant Administrator, and the Director of the Office of Accountability, 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. Then, 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 data, there has been no significant changes to neither 1890 Extension or Research Program Peer Review Process.

D. Evaluation of the Success of Multi and Joint Activities

Multi-State/Multi-Institutional

(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 2,161 under-served and under-represented South Carolina participants for the fiscal year 2000 in the FFNEWS program. Racial/ethnic total makeup was 1,658 (79.5%) Black and 503 (20.5%) White, respectively. The gender make-up being consisted of 1,643 (87.9%) females and 518 (12.1%) males. Outcomes described in the 5-Year Plan of Work for Health and Nutrition were met. One-hundred persons received nutrition information by participating in classes. Three persons, formerly receiving welfare assistance became gainfully employed as volunteer assistants and 1621 (75%) of the participants showed knowledge gain on the pre/post test analysis. As a result of this planned program, FFNEWS has become more effective and efficient due to the personal testimony of former welfare recipients as assistants.

(2) *The Greater Minority Participant Program (TGMPP)*: A program effort geared toward improving diverse youth's participation in 4-H activities sponsored by the Association of Extension Administrators and South Carolina State University 1890 Cooperative Extension. Its overall goal is to increase all racial and ethnic participation in 4-H at the local, state and national levels. This effort is to foster a meaningful collaboration among the traditional partners (CSREES, National 4-H Council, land grant institutions-1862 & 1890), new youth development organizations and organizations with racial/ethnic minority clientele.

In addition to South Carolina State University (SC), there are 14 other 1890 Cooperative Extension Programs in the following states participating in the program: FL, MD, AL, MS, LA, KY, AR, MO, VA, NC, GA, DE and TX. The two critical issues addressed and identified by stakeholders in the 5-Year Plan of Work were Children & Youth, and Education. There were a total of 1,991 under-served and under-represented South Carolina participants for the fiscal year 2000 in The Greater Minority Participant Program. Racial/ethnic total makeup was 1,750 (87.9%) Black, 226 (11.4%) White, 11 (0.5%) American Indian, 3 (.15%) Hispanic, and 1 (.05%) Asian, respectively. The gender make-up was 1,078 (54.1%) females and 913 (45.9%) males. Outcomes described in the 5-Year Plan of Work for 4-H Youth and Families were met. One Thousand, nine hundred, and ninety one under-served and under-represented South Carolina youths participated The Greater Minority Participant Program, with 222 (82%) 4-H adult volunteers and 50 (18.4%) 4-H youth volunteers of 4-H Extension Programs. As a result of the planned program TGMPP has become more effective and boasted a (10%) increase during the fiscal year of 2000.

Multi-State

Comparative Study on the Impact of NAFTA, on South Carolina & the Southeastern Region:

This is a study that evaluate the impact of NAFTA on fruit and vegetable trade at the state and regional levels in South Carolina and the Southeast region, relative to the impact. This research provided an indepth look at the impact of NAFTA on the Fruit and Vegetable Markets in South Carolina and the Southeast region. Focus was especially on the NAFTA trade implications for the growth in the Southeastern economy and the product trade to Mexico.

Impact Statement

South Carolina State University
1890 Research and Extension Program

Topic: Determinants of Perceptions, Aspirations & Goal Attainments between Rural & Urban Single Teen Mothers

Issue (Who cares and why?)

Over the past two decades, teenage pregnancy in the U.S. has reached epidemic status. For the most part, we have knowledge and resources to solve the problem of teen pregnancy, but we have had dismal efforts both at the state and national levels. However, society must face the issue, "What must we do for the teen mother to become a functional and productive citizen?"

What has been done?

Researchers at South Carolina State University are studying the psycho-sociological well-being of 45 single teen mothers in rural South Carolina using a multi-disciplinary holistic approach. The researchers are examining the participants' family and other support systems, assessing their values, attitudes and beliefs relative to goal setting and goal attainment. In addition, the project is providing stimuli, counseling, mentoring and self-development/ motivational workshops for the experimental group. The research scientist will analyze the effects of the techniques and compare data with the control group.

Impact

Researchers, school counselors, and teachers have reported positive changes among the project participants. Findings indicated that 66% of the experimental group had continual significant improvements in their grades when compared the previous grading periods. Positive behavioral and self-esteem changes occurred in 80% of the participants when family members were interviewed, 86% stated positive reactions and support concerning their daughter's participation in the project. It is anticipated that the model for the experimental group will be implemented in other communities upon the completion of the research.

Program Area(s): Research

Funding Source(s): Evans-Allen

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Impact Statement

South Carolina State University
1890 Research and Extension Program

Topic: Development and Quality of Life for People and Communities

Issue (Who cares and why?)

Violence is a serious problem in American society. Children and youth are demonstrating violent behavior to such an extent that safety has become questionable wherever they go to school. Family life is disrupted and often limited at best, creating dysfunctional family systems and environments that are ripe for manifesting social dysfunction. Schools are unable to sufficiently meet the demands of needy children, and create circumstances in which there is not an opportunity for healthy growth and development.

What Has Been Done?

There are government and social agency programs designed to address violence. However, outcome data relative to the effects of planned intervention experiences was lacking. Since the middle school years are a time of great vulnerability for students, a two-year mentoring experience has been implemented for a sample of this population. Assessment and data collection will continue for an additional three years. The mentoring program has been implemented at Brookdale Middle School in Orangeburg, South Carolina in partnership with the 1890 Research Program at South Carolina State University. Dr. Charlie Spell, Principal, said he would like for the program to continue beyond the two-year limit. "The experience has produced positive results because numerous mentees have expressed a desire to continue mentoring," said Dr. Spell. Many have asked, "When will I get another mentor?"

Impact

The two-year mentoring experience of rural at-risk youth has been concluded with the production of considerable data, which is being analyzed at this time. There are numerous indicators predicting positive results in regards to behavior, grades and school attendance. The outcome of this study will provide the foundation for future studies that investigate the various factors that influence or determine adolescent violence or acting-out. The assessment information will yield important information about the nature and extent of an external influence such as mentoring.

Program Area(s): Research

Funding Source(s): Evans-Allen

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Impact Statement

South Carolina State University
1890 Research and Extension Program

Topic: Competitive Agricultural Systems in a Global Economy

Issue (Who cares and why?)

The constant decline of beef cattle prices over the past five years and the severe hot weather conditions that southern states have experienced have adversely affected the small livestock producers in the region.

What has been done?

To assist small limited resource beef cattle producers to improve their economic situation and provide other livestock opportunities, the 1890 Cooperative Extension Program at South Carolina State University in partnership with Heifer Project International, has introduced meat goat production as an alternative enterprise. Farmers with previous livestock experiences are selected to participate in the program because meat goat production requires efficient herd health management. The program has established 10 small herds of goats and two farm demonstrations. The farmers are required to attend training sessions and monthly meetings, in order to implement an effective herd health program. Farmers have been trained how to identify symptoms of poor health, how to identify different types of vaccinations, and trained in deworming, castration and dehorning techniques. On farm demonstrations and farm tours were conducted throughout the state.

Impact

The success of the program is being based on evaluation of training and demonstration. During the first stage of the program, 10% of the participating farmers had a basic herd health program on their farm. During the past 11 months and thereafter, four herd health trainings and demonstrations increased by 60% in the adoption of herd health practices among the participating farmers. It is anticipated that the remaining 40% of the program participants will improve their herd health through continued training.

Program area(s): Extension

Funding Source(s): Extension and Heifer Project International

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Impact Statement

South Carolina State University
1890 Research and Extension Program

Topic: Healthy-Well-Nourished Population

Issue (Who cares and why?)

Blood-borne diseases are a constant threat to individuals in need of a blood transfusion to treat certain illnesses, as well as those requiring blood for major surgeries. Therefore, a disease-free blood substitute that could be used without the complication of blood type, will be beneficial to hospitals and patients. A research project at South Carolina State University is investigating the development of a disease free blood substitute that would have unlimited uses.

What Has Bern Done?

A series of synthetic oxygen carriers has been prepared in the laboratory and it has been tested invitro. These substances, under experimental conditions, have been found to bind to oxygen (in air) and release it in cycles in aqueous medium at the physiological pH. As a result, South Carolina State University has come close to the development of a hemoglobin substitute that could be used without the complication of blood type.

Impact

The development of a hemoglobin or blood substitute provides the possibility of a clinically usable substitute that will be disease causing substance and possess an unlimited self life as it pertains to storage. A product such as this, would solve a major medical problem and associated costs for medium to low income Americans to live a healthier life. This research provides critical in roads for benefitting patients with sickle cell anemia, HIV/AIDS and other sexually transmitted disease where blood transfusions are required.

Program Area(s): Research and Higher Education

Funding Source(s): 1890 Evans-Allen

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Impact Statement

South Carolina State University
1890 Research and Extension Program

Topic: Economic Development and Quality of Life for People and Communities

Issue (Who cares and why?)

Money management skills are important for all youth, but critical for limited resource youth. Unfortunately many youth generally lack money management skills because they are not taught the value of managing money in the home. The lack of knowledge may be a direct correlation with their parents being unable to manage money properly. Children grow up with limited if any, money management skills. Thereby, resulting in problems paying their bills, falling into the vicious cycle of borrowing and possibly filing for bankruptcy. According to Packaged Facts, a New York Research Firm, when it comes to family spending, young people are making more and more buying decisions. They are spending more and saving less. Increasingly, children influence what their parents buy; the family car, movie rentals, sporting events and clothing. In fact, one out of every five Americans has trouble paying bills.

What has been done?

A six-week Money Management short course is being offered in six schools in Orangeburg and Bamberg counties. These classes are taught by Sam Felder, Associate County Supervisor, South Carolina State University, Cooperative Extension Office in Bowman. The Money Management Class is available to students at Denmark-Olar High School, Ellore High School, Bowman High School, North High School, Edisto Middle School and Holly Hill Roberts High School. The class topics include: Spending Choices, Budgeting, Understanding Credit, and Check and Checking Accounts.

Impact

A pre-test is administered to each student before the Sass to determine their spending habits, ability to budget, whether they understand credit, if they know how to write a check, if they can balance a checking account, where money comes from and the importance of A savings account. Essentially, 62.5 percent made a "D" on the pretest. Approximately, three students out of every class understood that money came from the bartering system of trading. Participants in the Money Management class scored an average of 79.5% on the post-test and some scores increased 65 percent. The students learned the importance of saving, how to balance and write checks, related money management skills, and working towards credit, and realized that credit was vital to their financial independence.

Program area(s): Extension

Funding Source(s): Extension

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Impact Statement

South Carolina State University
1890 Research and Extension Program

Topic Economic Development and Quality of Life for People and Communities

Issue (Who cares and why?)

There is growing concern among the public about the quality of education being provided in South Carolina's public schools. Low performance scores by public school students in the state has been the topic of discussion among business leaders, politicians, and parents. There is a need to understand how teachers in the state perceive their students and rural communities regarding the potential for success.

What has been done?

Teachers in rural and urban schools have been surveyed regarding their perceptions of the students they serve, educational support provided by rural communities, and teachers ability to impact school climates. The first round of data has been analyzed and prepared for focus group discussions.

Impact

The project considers teachers to be the front line professionals in developing basic educational skills for students in rural schools in South Carolina. Therefore, this research project is designed to obtain information about how teachers in rural communities perceive the students they serve. By examining the attitudes of teachers who teach in rural communities, this project has the potential to contribute to teacher educators' ability to train prospective educators to meet the needs of students in rural communities. The study is designed to allow educators opportunities to report their perceptions of issues related to students' ability to learn, community involvement, and school environment (school environment includes teachers' beliefs and knowledge of classrooms, the nature of problem solving, and beliefs about pupil control). The study includes the results of surveys submitted by teachers in rural communities (n=172) and teachers in urban schools (n=59) in South Carolina. Initial findings from this study indicate that teachers' perceptions of their ability effectively to teach students in identified communities are not within their control. The data indicated that teachers place a high degree of control over the learning environment on external forces (i.e., special services, parents, administrators.) The next phase of this study is to form focus groups to discuss in detail issues related to the identified constructs.

Program area(s): Research and Education Funding Source(s): Evans-Allen

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Impact Statement

South Carolina State University
1890 Research and Extension Program

**Topic: Harmony Between Agricultural and the Environment
Competitive Agricultural Systems in a Global Economy**

Issue (Who cares and why?)

There are approximately 1,400 acres of underutilized farm ponds in South Carolina that can be used for aquaculture . However, any intensive utilization of these ponds can adversely affect water quality. In addition, effluents from chemicals used on farms can impact the quality of water in ponds and, in turn affect, the safety of fish. Since sustainable agricultural production practices can increase the long-run profitability of farming and increase the safety of food produced in South Carolina, this study is of interest to farmers, consumers and others involved in the agribusiness industry. The purpose of this 1890 Research project at South Carolina State University is to address some concerns of small farmers and develop an aquaponics system based on their fiscal and other resources. A project of this type has not been studied in South Carolina or any other state. Primarily the focus has been on large-scale farmers with plenty of resources. Technology may be too expensive for small-scale farmers in South Carolina. Unfortunately, many small farmers have continued to exploit the few natural resources they own, like land, to make a living. In many cases, land depleted of its productivity has decreased farm income. Therefore, farmers are selling their land and moving out of agriculture. By helping to maintain the productivity of the land, even in the long run, this project can help to sustain farm income and help small farmers continue in business.

What Has Been Done?

Based on farmer training conducted during workshops and site visits, nine small-scale farmers have been identified to conduct field projects. Currently, greenhouses and hydroponics systems are being built on the farms, and farmers are being trained about sustainable agricultural practices. The base data are currently being analyzed for the project to determine their water and soil. The base year data will be compared to the water and soil quality data a few years after the farmers adopt sustainable practices to assess the impact of the project. Since there are no other aquaponics projects in the state of South Carolina, the technology utilized in the Virgin Islands is being copied and adopted to suit the necessary conditions of small-scale farmers. Also, they are conducting studies to evaluate the potential to market organic vegetables and fish grown by small-scale farmers in niche markets.

Impact

Small-scale farmers and extension agents trained in sustainable aquaculture and agriculture practices will help promote harmony between agriculture and the environment. Current farming practices that utilize large quantities of fertilizer and chemicals have enabled farmers to have short-term high yields. However, this method has an adverse impact on natural resources with potential for substantial loss in long-term yields, and the use of chemicals may be harmful to wildlife, and consumers. Two participating small-scale farmers are members of farmer cooperatives interested in promoting sustainable practices among its members. Based on previous experience, it is expected that workshops at their field sites will attract more than 100 participants. By using sustainable practices, the farmers may save a little money by reducing the cost of inputs. Also, if the farmers target niche markets for their organic vegetables, they may receive higher price premiums. By helping farmers maintain to productivity of the land, this project will generate data to evaluate economic viability and develop alternative aquaponics technology to suit the needs of small-scale farmers in South Carolina. It is expected that research results will be published and/or presented in journals and professional meetings and disseminated to small-scale farmers through workshops on the farms. This will benefit more small-scale farmers in South Carolina and in other southern states who have similar resource constraints. In addition, the project will serve as a field site to train South Carolina State University students and stakeholders on sustainable agricultural practices. Currently, one graduate student is completing his thesis on a related topic, i.e., composting, and two undergraduate students (in engineering technology and agribusiness) are receiving field experience in construction of greenhouses and hydroponics systems.

Program area(s): Research and Extension

Funding Source(s): Evans-Allen

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Impact Statement

South Carolina State University
1890 Research and Extension Program

Topic: Economic Development and Quality of Life for People and Communities

Issue (Who cares and why?)

Large numbers of students in Hampton, Allendale and Jasper counties began school without the prospect of graduation or future achievements. Serious problems exist in terms of student readiness and school successes in the early grades. Statistics indicated that 32.2% of the preschoolers in the county were not ready for the first grade, while 17.7% of eight and nine year-olds were placed in special education classes. The youth were at-risk and required special attention because they were often “labeled,” and became despondent and dropped out of school.

What has been done?

Twenty-four senior citizens took on the role of foster grandparents to address the needs of socially disadvantaged and academically challenged at-risk youth in Hampton, Allendale and Jasper counties. The activities are the result of a partnership between South Carolina State University 1890 Extension Program, Save the Children Foundation, and Americorp VISTA. Foster grandparents were assigned to Head Start Programs, Schools and After School Homework assistance and tutorial programs. The foster grandparents mentored one on one with the at-risk youth and developed a caring relationship with all youth in the program.

Impact

Two hundred and eight youth participated in the after school homework assistance and enrichment programs. Fifty-seven percent of the participants improved their grade point averages by 10 points on a scale of 100. Eighty-seven percent improved by two points and all of the students made some improvement.

Program Area(s): Extension

Funding Source(s): Extension

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Impact Statement

South Carolina State University
1890 Research and Extension Program

Topic: Economic Development and Quality of Life for People and Communities

Issue (Who cares and why?)

The students in Charleston County School District 20 have consistently scored below average on standardized tests and the school facilities are old and in desperate need of renovation or replacement. Essentially, the inner-city students were an underserved population that continue to be denied technological equipment and training that could enhance their learning skills and prepare them for college and careers. The 1890 Cooperative extension Program, through its outreach efforts, has targeted Burke High school in Charleston District 20 as the site for implementation of a YouthNet Computer Lab. The computer lab is designed to enhance the skills of inner-city residents by providing regular use of technology in the areas of educational enhancement, remediation, standardized test-taking strategies, community development and life-long learning skills. The school was selected because it is the only high school in the district that has the highest dropout rate in the state of South Carolina for the second consecutive year.

What Has Been Done?

The 1890 Cooperative extension program of South Carolina State University received Community Development Block Grant (CDBG) funds from the City of Charleston to set-up a YouthNet Computer Lab at Burke High School. The funds were used to purchase 30 Internet ready computers and 2 printers. However, the 1890 Cooperative Extension Program staff set-up and connected the lab, at no cost to the school. The lab was used during the day to teach remedial students and provided students computer training and access to the Internet. It was also used for an after school program and available for community use, in the evenings. The YouthNet Lab is linked to South Carolina State University where students, staff and Felton Laboratory students serve as on-line tele-mentors through tutorial and mentoring sessions conducted via the Internet.

Impact

The YouthNet Lab was officially opened on December 7, 1999. It is anticipated that the partnership formed between South Carolina State University, Charleston School District 20 and the City of Charleston, would bring about strategies that will increase test scores, reduce teacher turnover, reduce dropout rates and increase the use of technology among teachers, students and other members of the community. Burke High School plans to use the computer lab to offer students classes via the Internet. This feature is new and welcomed, due to the inability of small classroom size.

Program Area(s): **Extension**

Funding Source(s): **Extension & Community Development and Block Grant**

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Impact Statement

South Carolina State University
1890 Research and Extension Program

Topic: Economic Development and Quality of Life for People and Communities

Issue (Who cares and why?)

Violence continues to be one of the social problems facing our young people today. In society, there appears to be great potential for conflicts based on differences in expectations, values and behaviors. In the middle and high schools in Hampton and Allendale counties, children are using violence to solve their problems. Children are bringing guns to school, making bomb threats, fighting in the schools and the communities and involved in drug-related activities. Due to the lack of economic opportunities for youth, their fascination with violent entertainment, the increase of domestic violence and an overall proliferation of guns, our children are constantly subjected to violence. They see violence modeled in their homes, both fantasy and real life images on television, in toys, and in the games they play with kids in their neighborhoods and schools. Young people are both the victims of and perpetrators of violent acts. While there is no single cause of youth violence, one thing is certain, violence is a learned behavior that must be addressed through education.

What has been done?

There is growing evidence that society can reverse the trend of violence with educational programs that teach non-violent methods of working out problems. The South Carolina State University, 1890 Cooperative Extension Office in Hampton County in collaboration with the school system has established three After School Homework Programs and implemented Talking with TJ, a conflict resolution program. Talking with TJ is a six-week series of workshops and activities that teaches children in the second through fourth grades how to work out disagreements with their peers. The program combines entertaining video stories with lively discussions and fun activities that teach conflict resolution skills. During each session, the youth watch a video and then participate in role-playing where they use skills to resolve problems rather than result to violence. “They are taught to, calm down, count to 10, ask an adult or to say let’s work this out, said Deborah White, youth development coordinator, SCSU, 1890 Cooperative Extension. The program also helps children develop positive relationships with peers in a culturally diverse society. Participants practiced simple skills, like listening and calming down, when they are involved in a discussion or disagreement. For example, instead of asking students to understand the other person’s perspective, the program teaches them to say, “Here is how I see it,” and then ask, “How do you see it?”

Impact

During a six-week program, 75 children participated in the program and learned how to manage their anger, 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. Based on a survey of the participants, 80% of the students learned how to control their anger so conflicts can be resolved without violence; 90% learned how to respect different points of view and find solutions that respect those differences and 85% learned to communicate their feelings and ideas by using words that promote cooperation and peaceful solutions. When each session was over, students were encouraged to discuss how they plan to use specific skills in the future.

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