

South Carolina State University

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OFFICE OF RESEARCH AND EXTENSION

July 9, 1999

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Partnerships/POW
Cooperative State Research, Education, and Extension Service
U.S. Department of Agriculture
Stop 2214; 1400 Independence Avenue, SW
Washington, DC 20250-2214

Dear Dr. George Cooper:

We have submitted the 5-Year Plan of Work electronically to Bart Hewitt as requested in the July 1, 1999 Federal Register/Vol.64, No. 126

We have followed the guidelines for State Plans of Work for the Agricultural Research and Extension Formula Funds per the Agricultural Research, Extension, and Education Reform Act of 1998 (AREERA).

Sincerely.

Administrator, Research and Extension

AN EQUAL OPPORTUNITY INSTITUTION

Plan of Work

This document is the Plan of Work for South Carolina State University 1890 Research and Cooperative Extension as a part of the reporting requirements enacted in the Agricultural Research, Extension, and Education Reform Act of 1998 (AREERA) Public Law 105-185. This document is organized according to the following major headings.

- I. Planning Option
- II. Components of the 5-Year Plan of Work
 - A. Goal 1
 B. Goal 2
 C. Goal 3
 D. Goal 4
 E. Goal 5
 - III. Stakeholder Input Process
 - IV. Program Review Process
 - V. Multi-State Research and Extension Activities
 - VI. Civil Rights

I. Planning Option

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 an 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.

Following stakeholder input (see Stakeholder Input Section), the plan of work was developed to include: 1) Statement of the Issue, 2) Performance Goal(s), 2.1) Output Indicators, 2.2) Outcome Indicators, 3) Key Program Components, 4) Internal and External Linkages, 5) Target Audiences, 6) Program Duration, and 7) Allocated Resources.

II. Components of the 5-Year Plan of Work

For each National Goal, at least one Projected Program Focus Area has been identified. A Statement of the Issue is presented for each Projected Program Focus Area. Performance Goal(s), Output Indicators, Outcome Indicators, Key Program Components (Activities), Internal and External Linkages, Target Audiences, Program Duration, and Allocated Resources are identified for Research and Extension. A planning effort has been made to integrate Research (RES), Extension (EXT), and Higher Education (HE) where appropriate for the South Carolina State University 1890 Research and Cooperative Extension Plan of Work.

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

Projected Program Focus Area 151: Retention of Small/Minority Farms

Statement of the Issue

The overall goal of this program is to assist socially disadvantaged farmers in reversing their economic decline through educational and technical assistance.

Presently, the decline of socially disadvantaged minority farmers can be attributed to various social, economic and political conditions within the state. Chief among these conditions are land loss, discrimination in access to credit, the insensitivity of government at the state and federal levels to effectively address the root causes impacting farmers, and the commitment to put into place the necessary impact plans that can provide comprehensive, yet prescriptive solutions. According to the 1997 Census, South Carolina has approximately 1,488 black operated farms compared to the 20,000 black-operated farms in 1964. Nationally, there were 900,000 black-operated farms in the United States in 1920 compared to approximately 23,000 today.

Thus, the latter figure represents about one percent or less of the total farm population in America. Research data continue to point to negative impacts that the farm crisis has had on socially disadvantaged farmers. This information indicates the need to not only improve their economic viability, but also to develop an effective outreach infrastructure that can continually assess, pinpoint, measure, evaluate and prescribe strategies to improve the plight of socially disadvantaged farmers.

Past studies on NAFTA analyzed its effects on a national level in participating countries and have largely ignored important possible effects of NAFTA on specific states or regions within countries. A South Carolina agricultural system that is highly competitive in the global market needs to assess NAFTA's affect across South Carolina and the Southeast region, relative to the fruit and vegetable trade impact. According to Census Data on export, South Carolina exported \$.685 billion worth of commodities to Mexico in 1996, with food products accounting for 65.5% of sales. The same year, South Carolina exported over \$1.27 billion worth of commodities to Canada. Given the high tariff imposed by Mexico, NAFTA is expected to have a significant increase in food product trade flows from South Carolina into Mexico and output and employment creation in the state. Of the four states in the southeast region, South Carolina has the highest export of food products to Mexico.

Performance Goal(s)

EXT1:To reverse the trend of economic decline of small/minority farmers and assist them with the retention of their farm land. To accomplish this goal, the plan seeks to:

- 1) encourage and assist socially disadvantaged farmers with owning and operating successful farm businesses,
- 2) enhance their access to effective agricultural programs, services and resources,
- 3) become recognized as integral parts of the economic development and sustainable forces that shape their communities. Specific focus will be given to the crisis of socially disadvantaged minority farmers in South Carolina, especially since the limited resources of these farmers appear to be rapidly declining.

RES1:To Compare the Impact of NAFTA on South Carolina and the Southeast Region.

HE1:To produce Bachelor and Masters of Science graduates in Science of Agribusiness.

Output Indicators

- EXT1: 1) Number of workshops, demonstrations, and tours conducted .
 - 2) Number of farms adopting knowledge transfer.
 - 3) Adoption of recommended practices.

- RES1:1) Number of publications in referred and non-referred journals.
 - 2) Number of presentations at conferences and meetings.
- 3) Number of training seminars/ workshops conducted to targeted audiences, and assessment impact.
- 4) The adoption of policy and/or trade options by Fruit and Vegetable Farmers in South Carolina, based upon findings, and their economic impact, as compared to the Southeast Region.
 - 5) Course development in international trade.
- 6) Number of graduate students graduating with a thesis, as a result of the project.

HE1:Number of B.S. and M.S. graduates in Science of Agribusiness.

Outcome Indicators

EXT1: 1) Farmers reporting increased income.

- 2) Farmers able to retain farms.
- 3) Number of farms adopting the record keeping and monthly cash flow plans.
 - 4) Number who adopted information and integrated into their farming operation.

RES1:Final Research Performance Report and programmatic recommendations for development in Extension Outreach Activity to Fruit and Vegetable Farmers.

HE1:Number of B.S. and M.S. graduates in Science of Agribusiness who obtained employment in Agribusiness or related Agricultural field.

Key Program Components

EXT1:The delivery of information on the following programs to small/minority groups and individuals: marketing techniques, crop and livestock production education, risk management education, and farm safety.

RES1:"A Comparative Study on the Impact of NAFTA on South Carolina and the Southeast Region," (SCX-522-08-99).

- 1) To estimate the NAFTA dollar volume, output and employment trade creation in South Carolina's Vegetable and Fruit Industries.
- 2) To assess alternative trade policy options, and compare South Carolina's trade position in the Southeast Region.

HE1:The key program components of the B.S. and M.S. degrees in Agribusiness are the specific courses which make up the degree programs.

Internal and External Linkages

EXT1:Internal: Extension agents and the School of Agribusiness and Economics.

External: SC Department of Agriculture, Clemson University, Natural Resource Conservation Service, Farm Service Agency, USDA Rural and Economic Development, USDA Department of Defense/School Lunch Program, SC Forestry Commission, and USDA Forestry Service. The following Governmental

Agencies have joined a consortium to assist with a marketing initiative to assist small/minority farmers in marketing fresh vegetables. The US Department of Defense, the US Department of Agriculture, the Office of Food & Nutrition, the SC Department of Education - Office of Food Service, and the SC Department of Agriculture - Marketing Division. US Department of Agriculture (NRCS) is providing office space and use of equipment. US Department of Agriculture (Rural Development) will provide some funds to assist with cooperative development, and the US Department of Agriculture Office of Farm Service Agency will provide training for staff.

RES1:**Internal:** This project involves <u>internal</u> linkage with the Department of Agribusiness and Economics, involving faculty development, curriculum development in international trade, graduate student practical training and outreach, and opportunities to promote thesis development at the graduate level.

External: External linkages with the South Carolina Department of Agriculture, in the area of the impacts of NAFTA on South Carolina food products and specialty crops, and support endorsed through collaboration with state agricultural departmental personnel in the areas of marketing and promotion, and export.

HE1:**Internal:** Students in the Department of Agribusiness and Economics are required to take courses in other academic areas of the University.

External: Students receiving an M.S. degree in Agribusiness must earn on-the-job experience with an agribusiness firm, a farm or a ranch, a governmental agency, or an educational research institution.

Target Audiences

EXT1:Small and minority farmers.

RES1:South Carolina Fruit and Vegetable Farmers; NAFTA Trade Officials at the State and Regional Levels.

HE1:Competent high school graduates for the B.S. degree and successful college graduates for the M.S. degree.

Program Duration

EXT1:Long term program; 2004

RES1:Short Term: Expiration Date - April 30, 2002.

HE1:Long Term: Through the 5-year Plan of Work - 2004.

Allocated Resources

The following charts display the allocated dollar resources for Focus Area 151.

Extension*	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
Federal	156,894	156,894	156,894	156,894	156,894
State	-	70,602	78,447	78,447	78,447
Local	-	-	-	-	-
Total	156,894	227,496	235,341	235,341	235,341
	•	•	•	•	•

FTEs	2.5	3.0	3.0	3.0	3.0

^{*} Estimated Extension Funds and FTEs

Research**	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
Federal	199,767	199,767	199,767	199,767	199,767

State	-	89,895	99,884	99,884	99,884	
Local	-	-	-	-	-	
Total	199,767	289,662	299,651	299,651	299,651	
SYs	3.8	5.5	5.5	5.5	5.5	

^{**} Estimated Research Funds and SYs including Administrative Support

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

Projected Program Focus Area 152: Sustainable Agriculture

Statement of the Issue

Conventional agricultural practices have resulted in pesticide contamination, soil erosion and degradation, a decline in genetic diversity of crops and livestock, the loss of wetlands and native prairies, and human health risks from nitrates and pesticides. Society needs an effective system of food and fiber production that sustains the environment and benefits people. A growing number of farmers have begun to adopt viable alternative practices with the goals of reducing input costs, preserving the resource base, and protecting human health. These practices tend to enhance rather than simplify the biological interactions on which productive agriculture depends.

The South Carolina State University 1890 Cooperative Extension promotes programs and activities that preserve farmlands, conserve and foster sustainable agricultural policies and practices. The South Carolina State 1890 Cooperative Extension also encourages efforts that increase and satisfy consumer demand for foods that are grown on farms that employ such practices.

Crop improvement and weed control have been two of the 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 use of chemicals is needed. The acid rain, organic matter, herbicide and pesticide residues are some of the important factors that alter pH in the soil. The knowledge of soil pH on seed germination is extremely important to the physiology and distribution of plant growth.

To develop whole farm systems, integrated systems' approaches utilize research findings of several disciplines and the experience of the farmer. A project which focuses on the competitive ability of small-scale farmers to integrate their production activities and target specialty markets for their output is important to South Carolinians. There is a growing international and organic food market in South Carolina. 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.

Prevalence of hearing loss in rural areas is 11.1%, whereas in metropolitan areas it is 7.9%. The increased incident of hearing loss among farmers may in part account for this difference. Occupational hearing loss among agricultural workers and their families has been primarily associated with noise from farm machinery, but exposure to a number of chemicals have been shown to affect hearing loss also. The evaluation of the risks of combined exposure

to noise and chemicals on the hearing loss of farmers and their families may help reduce hearing loss among farmers in South Carolina and other states.

Performance Goal(s)

EXT1:To reduce off farm input and integrate natural processes such as nutrient cycling, nitrogen fixation, and pest-predator relationships into agricultural production processes. The above must have full participation of farmers and other rural people to ensure a profitable operation. The 1890 Cooperative Extension Program will implement the following activities and programs which promote sustainable agriculture practices.

- 1) Build a cooperative network of small farmers that support the development and adoption of sustainable agricultural practices.
- 2) Reduce the amount of pesticides used in agriculture.
 - 3) Maintain soil quality, prevent the loss of topsoil, and farmland retention.
- 4) Promote agricultural practices that protect the quality and maintain adequate flows of water in rivers and streams.
- 5) Increase and satisfy consumer demand for foods that are grown through sustainable agricultural practices.

RES1:To improve crops and control weeds by controlling soil pH.

RES2:To evaluate the economic and biological feasibility of sustainable, integrated, small-scale Vegetable/Aquaculture Farms in South Carolina.

RES3:To study the levels and duration of farmers' exposure to farm noise, chemicals and solvents, and their possible interactions.

Output Indicators

EXT1:To be determined by the training conducted with participating farmers, the farmers participating in the training, and the number of farmers adopting the practices.

- 1) Number of publications in referred and non-referred journals.
 - 2) Number of presentations at conferences and meetings
- 3) Number of trainings conducted with participating farmers, and assessment impact.
- 4) The number of farmers adopting pH practices, and their economic impact on farmers' yield and income.
- 5) Number of students involved at the undergraduate and/or graduate level in research and outreach work.

RES2:1) Farmers' attitude/perception of involvement, and the economic benefit in establishing a small-scale aquaculture and vegetable production enterprise using various methods and techniques.

- 2) Farmers' interaction with multi-disciplinary team approach to integrated management practices.
 - 3) Number of demonstrations and participants' assessment of integrated practices.
 - 4) Identification of market locations for farmers to sell their fish and produce.
 - 5) Farmers' adoption of practices.
- 6) Number and extent of involvement for undergraduate and graduate students in research and outreach work as a result of this project.

RES3:1) The number of farmers and their families found to be impacted by hearing loss due to noise or chemicals or both.

- 2) Establishment of a Hearing Health Program for Farmers.
- 3) Students' experiences and relationship to education aspirations.
- 4) Number of publications and presentations.
- 5) Development of on-going hearing health workshops, demonstrations, etc., through Extension Outreach Programming.

Outcome Indicators

EXT1:The number of small/minority farmers who integrate sustainable practices into their farming operation and the enhancement of the quality of water.

RES1:Final Research Performance Report and the development of a soil test laboratory for small-scale, minority farmers, integrated with 1890 Cooperative Extension's agricultural production programming.

RES2:Final Research Performance Report and integration of workshops and demonstrations through continued Extension programming development targeted to small-scale

RES3:Final Research Performance Report and Establishment of an on-going Hearing Health Program, in collaboration with 1890 Cooperative Extension Outreach Programming.

Key Program Components

EXT1:1) to reduce the cost of livestock production through grass based system.

- 2) provide information about alternative farm enterprises to farmers and rural people.
- 3) provide farmers information about nutrient management to reduce cost of production and also minimize the opportunity for ground water pollution.
 - 4) to produce all crops with biological insect control as an option.

RES1: "Soil pH and Plant Growth," (SCX-420-18-98)

- 1) To study the pH of the groundwater from the top soil samples from select South Carolina Farmland.
- 2) To determine the optimum pH requirement for accelerating plant growth and yield, and optimum pH range for seed germination for selected plant species.
 - 3) To measure the rates of water absorption in germinating seeds.
- 4) To compare the behavior of selected crop species with weed species in a diverse pH range.

RES2: "Economic Evaluation of Sustainable Small-Scale Aquaculture/Vegetable Farms in South Carolina," (SCX-522-07-98).

- 1) To evaluate the potential for marketing crops and fish of small-scale farmers in specialty markets in South Carolina.
- 2) To determine the components within aquaculture and crop productions for a full integrated sustainable farm, relative to cost/benefit ratio.
- 3) To determine the economic feasibility for development and operation of a fully, integrated, sustainable, small-scale aquaculture/vegetable farm.
- 4) To determine impacts of sustainable, integrated agricultural management practices on natural resources (water quality, soil fertility) of participating farms.
- 5) To train and assist approximately 10 small-scale farmers and 1890 Cooperative Extension Agents on Sustainable Crop and Fish Farming Techniques.

RES3: "Occupational Hearing Loss Among Farmers and their Families: Effect of Combined Exposure to Noise and Chemicals," (SCX –310-02-99).

- 1) To determine the level and duration of exposure to noise and chemicals.
- 2) To determine their combined exposure effect on the hearing of farmers and their families, affecting auditory processing skills.
- 3) To estimate the probability of causing hearing impairment by the most commonly used farm machinery and chemicals.
- 4) To train Extension Agents on the effects of noise and farm chemicals on hearing and on preventive measures to help inform farmers of the risks and provide information for referring farmers to a Hearing Health Program.
- 5) To develop distance learning and research opportunities for students involved in a Farmers' Hearing Health Program.

Internal and External Linkages

EXT1: **Internal:** Extension agents, School of Agribusiness and Economics.

External: The external linkages include a relationship with Clemson Extension Service, North Carolina State University Extension Service, and South Carolina Small Farmers Association and Sustainable Agriculture Research and Education (SARE).

RES1:**Internal:** The project involves an <u>internal, multi-disciplinary</u> relationship with the Department of Biological Sciences, the Department of Physical Sciences, and the 1890 Cooperative Extension Program.

External: External linkage involves selected, small minority farms in the testing of soil samples, crop and weed germination, improving test methods and assessing results on plant growth and yield, due to exposure to diverse pH ranges. Findings will be shared with farmers through cooperative relationships (i.e., demonstrations) through Extension Outreach Programming.

RES2:**Internal:** The project involves <u>internal</u>, multi disciplinary linkages with the Department of Agribusiness and Economics, Department of Business Administration and Marketing, Department of Physical Sciences, Department of Biological Sciences, and 1890 Cooperative Extension.

External: Externally, the project involves multi-institutional cooperation with Clemson University's Department of Forestry and Resources and participating small-scale farmers in select areas of South Carolina.

RES3:Internal: The project involves an <u>internal</u> , multi-disciplinary linkage within the
Departments of Speech Pathology and Audiology, Agribusiness and Economics and the 1890
Cooperative Extension Program Component.
External: External linkages involves CSREES Specialists, relative to the effect
of
agricultural chemicals on health

EXT1:Small and limited resource farms.

RES1:Small-Scale Minority Farmers.

Target Audiences

RES2:Small-Scale Farmers in South Carolina.	
RES3:South Carolina Farmers and their families.	
Program Duration	
EXT1:Long term program; 2004	
DEGLES AND A 1 2000	
RES1:Short-term: Expiration Date – December 1, 2002.	
RES2:Intermediate: Expiration Date – May 30, 2003.	
RES3:Intermediate: Expiration Date – September 30, 2004.	

Allocated Resources

The following charts display the allocated dollar resources for Focus Area 152.

Extension*	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
Federal	156,894	156,894	156,894	156,894	156,894
State	-	70,602	78,447	78,447	78,447
Local	-	-	-	-	-
Total	156,894	227,496	235,341	235,341	235,341
FTEs	2.5	3.0	3.0	3.0	3.0

^{*} Estimated Extension Funds and FTEs

Research**	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
Federal	378,507	378,507	378,507	378,507	378,507
State	-	170,328	189,254	189,254	189,254
Local	-	-	-	-	-
Total	378,507	548,835	567,761	567,761	567,761

SYs 7.2	10.0	10.0	10.0	10.0	
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^{**} Estimated Research Funds and SYs including Administrative Support

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

Projected Program Focus Area 251: Food Safety, Security and Quality

Statement of the Issue

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. First, the food supply of the United States is changing dramatically, the conditions under which animals are raised has changed greatly. Second, consumers are changing; there are an increasing numbers of elderly or immunosuppressed persons who are at higher risk of severe illness. 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. Less than 5% are reported and only 41% of the organisms are identified. During the fiscal year 1998-1999, South Carolina had an estimate of 150 cases of foodborne illnesses which also included complaints of symptoms related to foodborne illnesses. Gary Elliott (1999) of the Department of Health and Environmental Control (DHEC) stated that South Carolina numbers were very low because a lot of the cases were never reported.

A July 1997 United States Department of Agriculture (USDA) study showed that 96 billion pounds, over one quarter of the 356 billion pounds of food produced for human consumption in the country each year, were lost at the retail and food service level. Food security indicates the availability of food, while famine and hunger refer to the effects of the non-availability of food. Famine and hunger are the result of food insecurity. According to the World Bank in 1986, the availability and accessibility of food to meet individual food needs should also be sustainable.

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. Using genetic analyses in identifying the chromosomal location of genes involved in the regulation of pheromones in fruit flies should be pursued. Information about the fruit fly may provide a basis for understanding the pheromone systems of economically important Dipterans and the identification of specific protein sequences involved in pheromone production and perception. As a result, researchers may be able to design specific inhibitors to these proteins that could be manufactured and used to disrupt mating in target species.

Performance Goal(s)

EXT1:1) Determine the program participants' knowledge and understanding of Food Safety and Foodborne illnesses and intoxications.

- 2) Examine the program participants' perception of the nutrition health risks associated with foodborne illnesses and cross-contamination.
- 3) Design a Food Safety service activity for the 1890 Cooperative Extension program.
- 4) Provide consumer education information to the program participants and general public regarding food affordability and accessibility, food recovery, and public policy issues affecting food access and recovery.

RES1:To identify the chromosomal location of genes involved in pheromone production and mating selection of fruit flies.

Output Indicators

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 mapping of genes' location and pheromone variations.

- 2) The extent of resistance to pheromone-based control measures.
- 3) Number of conferences/meetings attended for information exchange.
 - 4) Number of publications and presentations.

Outcome Indicators

EXT1:1) Percent increase of program participants' knowledge about Food Safety, Security, and Quality.

- 2) Percent of program participants demonstrating proper food safety and sanitation practices.
- 3) Percent of program participants promoting positive food safety practices within the community.

RES1:Final Research Performance Report.

Key Program Components

EXT1:1) Consumer education for safe food handling and food security

- 2) Food Safety Education for farmers, food service workers
- 3) Understanding foodborne illnesses & intoxications
- 4) Interrelationship of nutrition and foodborne illnesses
- 5) Certification training for food handlers (component of 1890 service activity)

RES1: "Genetic Evaluation of Insect Responses to Integrated Pest Management Techniques," (SCX-420-17-98).

- 1) To introgress Ta-Y into a Canton-S background.
 - 2) To extend the genetic analysis of pheromones by males to recombination.
- 3) To link relationships between production of 7-tricosene by males and perception by females.

Internal and External Linkages

EXT1:Internal: Program Coordinator, Registered Dietitian, Microbiologist, Home Economists, Extension County Staff, Professor of Nutrition and Doctor of Veterinary Medicine, University Interns (Department of Family and Consumer Sciences), Small Farm Agent, Evaluation Specialist, and Clerical Support. Program Coordinator will oversee the entire program; Registered Dietitian will provide the nutrition consultation and staff training in food service management and nutrition; Home Economists will be trained as food safety and nutrition peer educators and will conduct the outreach educational programs; University interns will assist with conducting the food safety and nutrition education sessions, collect participation data, prepare reports and serve as resource staff for the Home Economist; Small farm agent will serve as resource staff for all the project personnel, and conduct workshops with small farmers; Clerical support will provide clerical assistance to the program coordinator in support of the food safety program; Microbiologist will provide staff training/workshops in the area of microbiology that relates to bacteria, viruses, parasites, and molds that may contaminate food; and the Professor of Nutrition and Doctor of Veterinary Medicine will provide curriculum implementation guidance and training support in the area of veterinary medicine and nutrition.

External:

Department of Social Services, Department of Health and Environmental Control, and South Carolina Department of Agriculture.

RES1:**Internal:** The project is primarily a basic research effort involving <u>internal</u> linkages within the Department of Biological Sciences.

External: No <u>external</u> linkages are proposed during the project's duration, relative to involvement in the research effort.

Target Audiences

EXT1:1) Limited Resource Families (Orangeburg, Marlboro, Hampton, and Williamsburg Counties)

- 2) Elderly (Orangeburg, Marlboro, and Hampton Counties)
- 3) Small Farmers (Orangeburg, Marlboro, and Hampton Counties)
- 4) FFNEWS eligible families and youth (Barnwell, Calhoun, and Orangeburg Counties)

RES1:Pesticide management researchers and applicators using genetic methods of pest control.

Program Duration

EXT1: Food Safety Plan of Work Grant -Pending funding

- 1) Short term: 1 year based on annual federal funds
- 2) Program will be built off of a federal program already implemented

FFNEWS Program

- 1) Food Safety, Security, and Quality
- 2) Long-term: 5 years (1999-2004) on going during the entire time of the plan of work.

RES1:Short-term: Expiration Date – May 30, 2002.

Allocated Resources

The following charts display the allocated dollar resources for Focus Area 251.

Extension*	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
Federal	34,865	34,865	34,865	34,865	34,865
State	-	15,690	17,433	17,433	17,433
Local	-	-	-	-	-
Total	34,865	50,555	52,298	52,298	52,298
FTEs	1.25	1.5	1.5	1.5	1.5

^{*} Estimated Extension Funds and FTEs

Research**	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
Federal	130,248	130,248	130,248	130,248	130,248
State	-	58,612	65,124	65,124	65,124
Local	-	-	-	-	-
Total	130,248	188,860	195,372	195,372	195,372

SYs 2.1	3.0	3.0	3.0	3,0	
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^{**} Estimated Research Funds and SYs including Administrative Support

GOAL 3: A healthy, well-nourished population.

Projected Program Focus Area 351: Nutrition Education, Diet, and Health

Statement of the Issue

According to the World Health Organization (1996), over 800 million people still cannot meet basic needs for energy and protein, more than two thousand million people lack essential micronutrient, and hundreds of millions suffer from diseases caused by unsafe food or by unbalanced food intake.

South Carolina has dismal health statistics. Heart disease, obesity, cancer, and stroke, account for nearly 2/3 of all deaths in the state. The heart disease rate is 10% higher than the national rate and the minority heart disease death rate is 50% higher than the white death rate. According to the National Health and Nutrition Examination Survey (NHANES), 33% of adults in the United States are obese. Obesity-related medical conditions are the second leading cause of death in America (after smoking-related illnesses), resulting in 300,000 lives lost each year . The estimated annual health care cost due to obesity in the United States is about \$70 billion. Cancer death rate exceeds the national average and the minority death rate is 40% higher than the white death rate. Stroke deaths in SC are considerably higher than the national average and the minority deaths are twice the rate for whites. The South Carolina Department of Health and Environmental Control (DHEC) has identified four at-risk groups: African Americans, blue collar workers, youth, and low-income groups. DHEC has reported that 80% of all cancers, 50% of heart disease deaths, and 50% of all stroke deaths are due to lifestyle habits.

Performance Goal(s)

EXT1:1) Provide food and nutrition educational programs for families which will improve their overall health.

- 2) Provide nutrition education intervention that improves the utilization of foods commonly available in traditional recipes.
 - 3) Enhance nutritional education through assessment practices.

HE2:To produce Bachelor of Science graduates in Health Education.

Masters of Science graduates in Nutritional Health Care and Food and Nutrition.

Output Indicators

EXT1:Comparative assessment of Food and Nutrition program data by county and state. Number of planned programs; number of participants, and programs' impact.

HE2:Number of B.S. graduates in Health Education.

EXT1:1) Percent increase of program participants' knowledge about Nutrition, Diet, and Health.

- 2) Percent of program participants adopting healthy lifestyle practices.
- 3) Percent of program participants adopting dietary analysis and nutritional assessment plans.

Outcome Indicators

HE2:Number of B.S. graduates in Health Education who obtained employment in a Health related field.

Key Program Components

EXT1:1) Healthy Lifestyle Practices

- 2) Food Buying Practices/Enhancing Management Skills
- 3) Dietary Analysis and Nutritional Assessments
- 4) Food Preparation Demonstrations
- 5) Understanding Food & Culture

HE1:The key program components of the B.S. and M.S. degrees in Nutritional Sciences are the specific courses which make up the degree programs.

HE2:The key program components of the B.S. degree in Health Education are the specific courses which make up the degree program.

Internal and External Linkages

EXT1:Internal: Extension County Staff, Program Assistants, Volunteers, Department of HE2:Internal: Students in the Department of Health and Physical Education are required to take courses in other academic areas of the University.

External: There are no specific requirements for students to obtain a practicum nor internship outside the Department.

and conduct classes that may lead to a potential Thesis topic, provide facility and equipment usage, and undergraduate FCS and Nutrition majors for internship experience; and the Department of Biological Sciences will provide the staff training in the area of laboratory sciences as it relates to nutrition.

External: Department of Social Services, Council On Aging, Orangeburg Calhoun Technical College (Women Center) and a Multi-state effort between University of Arkansas-Pine Bluff, Prairie View A&M, South Carolina State University, Langston University, Lincoln University, and Southern University. Department of Social Services will identify potential individuals and/or families for the educational programming; Council On Aging will provide the senior citizen clients and facility usage; and the Multi-states will provide quarterly newsletters and fact sheets; exchange of resource materials, standard curriculum among the consortium, conferences, and workshops for the FFNEWS Project. Orangeburg Calhoun Technical College (Women's Center) will provide facility usage, participants, recruitment, and staff assistance.

Target Audiences

EXT1:1) Limited Resource Families (Hampton, Marlboro, Orangeburg, and Williamsburg)

- 2) FFNEWS eligible families and youth (Barnwell, Calhoun, and Orangeburg Counties)
 - 3) Senior Citizens (All the above counties)
 - 1) Children aga from hirth 5 years ald (All the above counties)

HE2:Competent high school graduates for the B.S. degree. graduates for the M.S. degree.

Program Duration

EXT1:**FFNEWS Project**:

Short term: 1 year based on annual federal funds

Nutrition Education, Diet and Health:

Long term: These programs should continue throughout the duration of the five years (1999-2004) Plan of Work.

HE2:Long Term: Through the 5-year Plan of Work - 2004.

Allocated Resources

The following chart displays the allocated dollar resources for Focus Area 351.

Extension	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
Federal	151,083	151,083	151,083	151,083	151,083
State	-	67,988	75,542	75,542	75,542
Local	-	-	-	-	-
Total	151,083	219,071	226,625	226,625	226,625

FTEs	2.44	3.0	3.0	3.0	3.0

^{*} Estimated Extension Funds and FTEs

GOAL 4: Greater harmony between agriculture and the environment.

Projected Program Focus Area 451: Natural Resources and the Environment

Statement of the Issue

The South Carolina environment is experiencing 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, the influx of newcomers is itself a great threat to the environment in South Carolina.

Based on state reports to the Environmental Protection Agency (EPA), about 49 % of the nation's surveyed rivers, lakes, and estuaries are 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) remains as the greatest concern for impairment to our water resources. Future use and management of natural resources will require public education on water quality, wildlife, forestry, and other environmental issues.

Runoff from agricultural land is the biggest source of pollution of water resources. It is estimated that agriculture sources are 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 has a total land area of 19.3 million acres. Of this, 4.6 million acres is in farmland. Croplands represent 2.5 million acres (53.6 %); woodlands represent 1.46 million acres (35.3 %); pasturelands represent .2 million acres (5.3 %); farmlands in Conservation Reserve and Wetland Reserve represent .2 million acres (4.8%); and other lands in farms represent .3 million acres (5.8%).

Small Farms in South Carolina (1-99 acres in size) represent approximately 54.5 % of the total farm population. Educational programs, activities, and demonstrations will target natural resource concerns by addressing small and limited resource farms and farm families.

Performance Goal(s)

EXT1:In order to increase the awareness, educate, and involve underserved communities, farmers and farm families, the 1890 Cooperative Extension Program will utilize and implement the following programs and activities which promote sustainability and management of natural resources:

- 1.) Utilize the 1890 Cooperative Extension Program's "Demonstration of Forest Management Alternatives" to promote forest management to minority and non-minority landowners.
- 2.) To further expand opportunities for youth, ages 11-14, to learn about natural resources and the environment. An "Environmental Nature Trail" will be developed.
- 3.) Provide educational programs and demonstrations on Farm-A-Syst Home-A-Syst: Develop Safe Drinking Water and Outreach materials and activities.
- 4.) Develop an on-farm demonstration of Best Management Practices to provide educational workshops and tours on streamside management, soil nutrient management, and forage management.

HE1:To produce Bachelor of Science graduates in Environmental Science.

Output Indicators

- 1) Number participants attending and completing workshops and demonstrations. mber of trainings, workshops, and tours conducted to targeted audiences.
 - 3) The number of participants reporting adoption of practices.
 - 4) The number of Publications completed.

HE1:Number of B.S. graduates in Environmental Science.

Outcome Indicators

- 1) Percentage increase in water quality practices among underserved communities.
 - 2) Percent increase of small and limited resource farmers in use of BMPs.

HE1:Number of B.S. graduates in Environmental Science who obtain employment in Environmental Science or a related field.

Key Program Components

EXT1:1) Water Quality Education and Outreach, for Underserved Communities and Limited Resource Farm and Farm Families: "Safe Drinking Water Outreach and Education Program and Development and Demonstration of BMP's for Limited Resource Livestock Producers."

- 2) Development and Demonstration of BMP's for Limited Resource Forestry Landowners.
 - 3) Natural Resource Education and Water Quality Education for Youth.
- 4) Environmental Justice: Targets water quality concerns and issues to address low income and underserved communities and families.
 - 5) Forestry and Wildlife Management and Education.

HE1:The key program components of the B.S. degree in Environmental Science are the specific courses which make up the degree programs.

Internal and External Linkages

EXT1:**Internal:** The program involves an <u>internal</u>, <u>multi disciplinary</u> relationship with the 1890 Cooperative Extension Program, Department of Biological Sciences, Department of Agribusiness and Economics, and Department of Natural Sciences.

External Linkages: South Carolina Forestry Commission, South Carolina Department of Natural Resources, USDA Forestry Service, South Carolina State Association of Small Farms, South Carolina Department of Health and Environmental Control, Source Water Protection and Education Program, USDA/Natural Resource Conservation Service, and Clemson University, School of Agriculture, Forestry, Natural Resources.

HE1:**Internal:** Students in the Department of Biological Sciences are required to take courses in other academic areas of the University.

External: There are no specific requirements for students to obtain a practicum nor internship outside the Department.

Target Audiences

EXT1:South Carolina's underserved urban and rural communities and landowners, limited resource farms and farm families, youth (ages 11 - 14), and Extension Agents will comprise the target audience.

HE1:Competent high school graduates for the B.S. degree.

Program Duration

EXT1:Both short and long term.

HE1:Long Term: Through the 5-year Plan of Work - 2004.

Allocated Resources

The following chart displays the allocated dollar resources for Focus Area 451.

Extension	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
Federal	46,487	46,487	46,487	46,487	46,487
State	-	20,919	23,244	23,244	23,244
Local	-	-	-	-	-
Total	46,487	67,406	69,731	69,731	69,731

^{*} Estimated Extension Funds and FTEs

GOAL 5: Enhanced economic opportunity and quality of life for Americans.

Projected Program Focus Area 551: 4-H Youth and Families

Statement of the Issue

South Carolina has ranked between 42nd and 48th from 1990 to 1998 in overall well-being of children between the ages of 10-17 (Composite Rank Order, Kidscount,1998). In the last two years, the state has stayed at number 48 with high incidences of teenage pregnancies (43%, births per 1,000 females ages 15-17), juvenile violent crime arrest rate (increased by 220% from 1985-1995), percent of teens who are high school dropouts (9.6%), percent of children in poverty (21.0%) and percent of families with children headed by a single parent (28.0%). A percentage of 37.4 high school students used alcohol and 21.2% used drugs each month. The data were quoted from Kidscount and the S.C. Department of Education. They provided a troublesome picture of the condition of children in South Carolina. Too many children are at-risk of not growing up to become self-supporting adults, good family members, and responsible citizens.

Today's families are increasingly diverse, in that: Approximately one-half of all marriages end in divorce; the number of single-parent homes is increasing; the father is absent in 24% of homes of families with children; jobs may not provide adequate income to meet basic needs; children too often are left on their own without parental supervision, and; our elderly population is growing. On the national level, South Carolina ranks 48th for the percent of low birth-weight babies; 47th in infant mortality rate (death per 1,000 live births); 43rd in child death rate (deaths per 100,000 children ages 1-14); 40th in teen birth rate (births per 1,000 females ages 15-17); 30th in juvenile violent crime arrest rate (arrests per 100,000 youths ages 10-17); 41st in the percent of teens who are high school dropouts (16-19); 44th in the percent of families with children headed by a single parent, and; 45th in the percent of children in poverty.

The State of South Carolina is in the process of examining the schools that serve students in urban and rural areas in general, and African-Americans in rural areas in particular. By comparing the perceptions of teachers in urban and rural areas as to teacher expectations, school climate and community involvement, pertinent information can be gathered that may be useful in teacher preparation programs, selection of teachers by school systems, professional development of teachers, and impact of teachers on school climate, student performance and community (parent) involvement.

Violence is a serious problem in American society. In South Carolina, it occurs with alarming and increasing intensity in all socio-economic levels and ethnic groups. Children and youth are demonstrating violent behavior to such an extent that safety has become questionable wherever they go- to school, in their neighborhoods, and even at home. Numerous factors account for violence, but the specific causes are non-definitive. A focus on the various factors that influence or determine adolescent violence or acting-out may help reduce this increasing problem. In 1987, it was estimated that 14% of 8th graders and 45% of 10th graders carried a knife to school, while 44% of 8th graders and 34% of 10th graders were involved in a physical fight.

Today, these statistics may be staggering given the incident of violence in public schools in the United States.

As mentioned, thousands of teenage girls have become mothers at an early age. The issue of teenage pregnancy is a major contributing factor to the dysfunction of the welfare system and to society as a whole. Nationally, according to the U. S. Census, 58.4% of single American women receiving aid to families with dependent children gave birth as teenagers and less than half of them received a high school diploma. The psycho-sociological impact of being a teen mother, and the kinds of aspirations, if any, they have for their future is important information to affect this trend.

Performance Goal(s)

EXT1:1) Provide family development and resource management educational programs to improve the well-being of the family structure.

EXT2:1) Survey community based youth groups to determine level of assistance needed to strengthen organizational structure.

- 2) Plan programs for the youth groups that will serve as a recruitment tool and an opportunity to distribute information on improved well being.
 - 3) Recruit and train volunteers to deliver programs on youth empowerment.
- 4) Assist community based organizations in creating partnerships and collaborations with local businesses and other social service agencies.
- 5) Coordinate frequent regional and statewide training sessions to reinforce skills for youth empowerment.
 - 6) Provide opportunities for cultural enrichment and awareness of diversity.

RES1:To study the factors that influence the perceptions of teachers in rural and urban schools in South Carolina.

RES2:To study the various factors that influence or determine adolescent violence or acting-out.

RES3:To identify the variables associated with the dysfunctional levels of Single Teen Mothers and establish alternatives wherein they may become functional adults within society.

HE2:To produce Bachelor of Arts graduates in Education, Masters of Education, and Master of Arts graduates in Education.

Output Indicators

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

2) Comparative assessment of Family development and resource management program data by national, county, and state.

EXT2:Number of planned programs, number of participants, program's impact as documented by accumulated data

RES1:1) 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) Number of publications and presentations.
- 3) Development of methods for training pre-service and in-service teachers to meet special needs of rural and urban schools.
 - 4) Number and extent of graduate and undergraduate student involvement.

RES2:1) The effects of mentoring in the earlier years and over time.

- 2) The extent of decrease violence and acting-out behavior among participating mentees.
 - 3) The effect of mentoring by college-age mentors.
 - 4) Number of publication and presentations.
 - 5) Long-term benefit to children engaged in mentoring experience.
- 6) The effect of mentoring to college-age mentors' educational goals and aspirations.

- RES3:1) The effect of values, attitudes and beliefs of teen mothers on their quality of life.
- 2) The impact of social and family support systems on teen mothers.
 - 3) Number of publications and presentations.
- 4) Development of a pilot program for improving the quality and variety of social support to single teen mothers, during their transition to adulthood.

HE2:Number of B.A., M.Ed., and M.A.T. graduates in Education.

Outcome Indicators

EXT1:1) Percent increase of program participants' knowledge about family development and resource management.

- 2) Percent of program participants adopting resource management practices.
- 3) Percent of program participants understanding the ways in which community involvement can support the family structure.

EXT2:1) Percent decrease in "at-risk" data among youth participants as compared to youth who do not participate in the programs.

2) Survey of community, parents and school officials on the observed behavior of participants.

RES1:Final Research Performance Report and development of training methods for preservice and in-service teachers in rural and urban schools.

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. Also, integration of recommendations with 1890 Cooperative Extension Programming for modeling with youth involved in Extension Youth Programming.

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.

HE1:Number of B.S. and M.S. graduates in Family and Consumer Sciences who obtain employment in family or consumer related fields.

HE2:Number of B.A., M.Ed., and M.A.T. graduates in Education who obtain employment in education related fields.

EXT1:1) Parenting skills

- 2) Management of Resources
- 3) Strengthening individual and family relationships
- 4) Providing quality care for children and elderly

Key Program Components

EXT2:1) Leadership development that will include goal setting, self esteem development and conflict resolution within community based settings utilizing the STAR program.

- 2) Academic enrichment and remediation through tutorial programs in after-school and Saturday programs.
- 3) Mentoring and counseling by college students for positive role models in the communities, on the college campus and via telephone and internet.
- 4) Culturally enriching programs and events on the campus and in locations across the state.
- 5) Opportunities to interact with diverse cultures through the Association for Extension Administrators' Greater Racial/Ethnic Participation in 4-H Initiative.
 - 6) Field trips to locations and events in the state.
 - 7) "Go for the Goal" to emphasize strategic planning for life success.
- 8) "Citizenship Public Adventures" to reinforce skills needed for community participation.

RES1:"Comparison of Teachers' Perceptions of Academic Indicators in Rural and Urban Schools in South Carolina," (SCX-206-01-96).

- 1) To determine the perceptions of pre-service and in-service teachers in rural and urban schools in South Carolina.
- 2) To compare perceptions of pre-service and in-service teachers relative to students' ability to learn, community involvement and school environment.
- 3) To develop methods for training pre-service and in-service teachers that address the special needs of rural and urban schools and the communities they serve.

RES2:"Adolescent Violence and Acting-Out After a College Student Mentoring Experience in 5th and 6th Grades," (SCX-318-01-96).

- 1) To determine the impact of a mentoring experience with college-age mentors.
 - 2) To determine the effects of mentoring in the earlier years on adolescents.
- 3) To assess the longitudinal effect of mentoring on adolescents in their later years in high school.

RES3: "Determinants of Perceptions, Aspirations and Goal Attainments Between Rural and Urban Single Teen Mothers," (SCX-824-03-95).

- 1) To examine values, attitudes and beliefs in relationship to goal setting/goal attainment and assess the impact of "Significant Others" on Single Teen Mothers. 2) To examine the structure of the social support system and its impact on the quality of life of single teen mothers.
- 3) To measure the impact of family support on the psycho-sociological well-being of single teen mothers, relative to the transition to adulthood.
- 4) To develop a pilot program for improving the quality and variety of social support to single teen mothers, during their transition to adulthood.

HE1:The key program components of the B.S. and M.S. degrees in Family and Consumer Sciences are the specific courses which make up the degree programs.

HE2:The key program components of the B.A., M.Ed., and M.A.T. degrees in Education are the specific courses which make up the degree programs.

Internal and External Linkages

EXT1:**Internal:** Extension County Staff, Department of Family and Consumer Sciences, Department of Psychology and Sociology. Extension County Staff will provide the outreach education programming; Department of Family and Consumer Sciences will serve as a liasion to the extension staff to provide training in the area of family life; and the Department of Psychology and Sociology will conduct workshops related to human behavior and the family.

External: Department of Social Services, Department of Health and Environmental Control (DHEC), Department of Mental Health, Methodist Oak Home (independent and nonindependent elderly) and Council On Aging. All the above agencies will assist with recruitment and recommendations of families based on their target audiences.

EXT2:**Internal Linkages:** Youth program coordinator, Extension Associate for 4-H and youth, School of Education-Pre-Service teachers, County youth agents, Office of summer programs, Athletic department, Office of Admissions and Recruitment.

External Linkages: County school districts, Department of Juvenile Justice, Department of Social Services, Local law enforcement agencies, community based organizations, youth groups, businesses, and social organizations.

RES1:**Internal:** The project involves <u>multi disciplinary internal</u> linkages to the Department of Teacher Education and Counselor Education and Psychological Foundations.

External: Externally, linkages are established with teachers in rural and urban schools in four South Carolina counties.

RES2:**Internal:** The project involves <u>internal</u> linkages with the Department of Nursing. **External:** <u>External</u> linkages with a school district's middle school. The project staff is <u>multi-</u>disciplinary in skills involving counseling education and human service professionals.

RES3:**Internal:** The project involves <u>internal</u> linkages with 1890 Research and Cooperative Extension, representing a <u>multi-disciplinary</u> team approach, which includes rural sociology, counselor education and human service.

External: Externally, the project involves linkages with an area high school's Counseling Office and Counseling Professionals, and participating teen mothers.

HE2:**Internal:** Students in the Department of Education are required to take courses in other academic areas of the University.

External: Students receiving an B.A., M.Ed., or M.A.T. degree in Education must complete an internship/practicum with an educational institution.

EXT1:1) Limited Resource Families(Hampton, Marlboro, Orangeburg, and Williamsburg Counties)

- 2) Senior Citizens (All the above counties)
- 3) Youth(All the above counties)

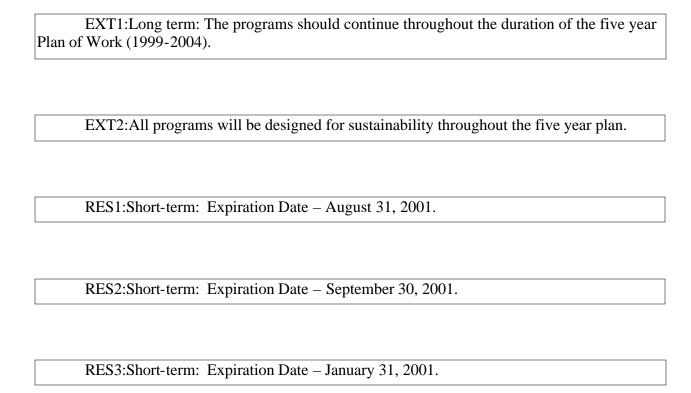
EXT2:Limited resource youth between the ages of 5-19 in 20 counties.

RES1:Rural and Urban School Teachers and Administrators.

RES2:Middle school students in early adolescence, middle school counselors, teachers and administrators.

RES3:Teenage mothers.

HE2:Allocated Resources for Higher Education will be considered in-kind and will not be reported in the Plan of Work.



HE2:Long Term: Through the 5-year Plan of Work - 2004.

Allocated Resources

The following charts display the allocated dollar resources for Focus Area 551.

Extension*	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
Federal	546,224	546,224	546,224	546,224	546,224
State	-	245,800	273,111	273,111	273,111
Local	-	-	-	-	-
Total	546,224	792,024	819,335	819,335	819,335

FTEs	8.5	8.5	8.5	8.5	8.5

^{*} Estimated Extension Funds and FTEs

Research**	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
Federal	513,571	513,571	513,571	513,571	513,571
State	-	231,107	256,786	256,786	256,786
Local	-	-	-	-	-
Total	513,571	744,678	770,357	770,357	770,357

SYs	10.6	15.0	15.0	15.0	15.0

^{**} Estimated Research Funds and SYs including Administrative Support

GOAL 5: Enhanced economic opportunity and quality of life for Americans.

Projected Program Focus Area 552: Community, Leadership and Economic Development

Statement of the Issue

Possible predictors of the state of leadership of South Carolina's communities are statistics relative to progress made over periods of time in the areas of education and economic development. According to the United States Census Bureau, model-based projections reflect that among all states, South Carolina teachers average salaries ranked 34th in 1990 and 36th in 1996. In full-time college enrollment, South Carolina averaged 8th in 1990 and 16th in 1996.

The state's rank relative to percent of civilian population employed in 1990 was 30th, in 1996, 38th. In average annual pay, the state ranked 41st in 1990 and 38th in 1996. In terms of personal income per capita, South Carolina ranked 39th in 1990 and 1997. The rank for retail sales per household was 28th in 1990 as compared to 36th in 1996.

In practically all of the illustrations above, the ranks for South Carolina reflected inverse growth as the conditions worsened rather than improved. In part, the projections provided the basis for declaring the existence of the need to improve community leadership. Coupled with the findings from a series of focus groups around the state which identified priority needs and concerns. The need to improve community leadership was a major concern.

At the focus groups, 80% of the participants felt that there were numerous problems that require attention. Yet, they felt that one of the main keys for community growth was community leadership.

Census Bureau figures indicated that South Carolinians are heading to smaller cities and towns to live while growth slows in the state's largest cities. Demographers say this continues a trend dating to the 1950's. As a result of this trend, rural areas will become more urbanized and their needs will become more urban oriented. The population shift will create a more diverse population in rural and urban cities. The results will create multi-cultural challenges and a greater demand for collaborating, networking and partnering. The trend in population shift will expand the industrial growth and development in South Carolina and dramatically change rural infrastructure, while land use continues to shift from agricultural purposes at a greater pace.

Economic stability and sustainability continues to be a major issue for all South Carolinians. To ensure that South Carolina stays competitive, greater emphasis will be placed on building the economic infrastructure of all counties within the state. This will require stronger collaborations and creative partnerships.

Welfare reform efforts have required welfare recipients to work or engage in work-related activity as a condition for receiving assistance. The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 is the most comprehensive welfare reform since the

Social Security Act of the 1930's. An investigation of the impact of this Act on the material well-being of welfare recipients in South Carolina may find help those moving from welfare to work. According to this Act, a family's cash assistance may be reduced by 25% or terminated if a parent fails to cooperate in establishing or enforcing a child support order. It allows families to receive four months of transitional Medicaid if they lose eligibility for cash assistance due to increase child support and receive 12 months of Medicaid if the loss is due to increased earnings. States can deny assistance to additional children born or conceived while the parent is receiving assistance and to unmarried teen parents and their children.

Performance Goal(s)

EXT1:To enhance the economic viability of rural and urban communities.

EXT2:South Carolina communities will be afforded opportunities to grow through activities designed to facilitate leadership development and advancement. Toward that aim, specific goals are:

- 1) The provision of strategic planning for communities and community leaders in a minimum of 24 counties which will facilitate the development of specific action plans to counter identified problems;
- 2) The creation of new community-based organizations in a minimum of 24 counties; with approved incorporation and IRS 501(c)(3) status;
- 3) The facilitation of growth and advancement in communities in a minimum of 24 counties through the action plans;
- 4) The provision of increased capabilities for internet access, e-mail, literacy, and entrepreneurship through technological, telecommunications programs

RES1:To help improve the quality of life of welfare recipients' movement from welfare to work.

Output Indicators

- EXT1:1) Number of educational and training workshops and the impact of the workshops and training on the participants
- 2) Number of strategic plans developed annually and the types of assistance requested and provided
- 3) Number of businesses provided assistance and the impact of the assistance to businesses
 - 4) Number of collaborations, partnerships and type of assistance provided
 - EXT2:1) The development and maintenance of the community's asset database.
 - 2) A 10% increase in community volunteers and programs.
- 3) 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) An increase in the financial support of community-based efforts.
 - RES1:1) The rate of human capital investment of welfare recipients.
 - 2) The extent of welfare to work recipients' movement from welfare to work.
- 3) Impact of county level policy and implementation of welfare to work programs, and welfare recipients' successful transition.
 - 4) Number of publications and presentations.
- 5) The number and extent of undergraduate and graduate students' involvement in research and outreach work with the project.

Outcome Indicators

Outcome indicators will include quarterly and annual reports on program components' progress and impact.

EXT2:It is desired that the community leadership program will yield successful strategic planning in each of the 24 counties. Evidence of success shall be revealed in the following:

- 1) A 10% increase in community volunteers.
- 2) Twelve percent of the participants will demonstrate knowledge gained through the process of leadership and replication of the strategic planning process.
- 3) A 12% increase in the number of community-based organizations with 501(c) (3) designations.
- 4) A 12% increase in the number of community-based organizations generating external funding of \$10.000 or more.
- 5) A 12% increase in the degree of satisfaction with community leadership component.

RES1:Final Research Performance Report and recommendations based upon project findings, that may lead to supporting extension programming educational activity in targeted counties.

Key Program Components

EXT1:1) Conducting educational and training workshops

- 2) Strategic Planning
- 3) Business development and management
- 4) Community Outreach

- EXT2:1) A program of community betterment through the analysis of community assets and facilitating support for community asset-building: community involvement, community-based organizations, needs-assessments, and action plans.
 - 2) A program module especially developed for community leaders;
- 3) An economic development program that examines and subsequently works to facilitate the removal of barriers that negatively impact jobs, business development, entrepreneurship, and attendant programs;
- 4) A technological telecommunications arm that works to foster delivery of the other resources; universal internet and e-mail access, literacy, and economic development.

RES1:"Impact of the Personal Responsibility and Work Opportunity Reconciliation Act on Welfare Recipients," (SCX-121-01-98).

- 1) To determine the major factors involved in the implementation of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996.
 - 2) To examine the degree of program success at the county level.
- 3) To examine the impact of the act on the material well-being of welfare recipients.
 - 4) To examine how welfare recipients cope with termination of public assistance.
- 5) To document the experiences of welfare recipients with public and private institutions.
 - 6) To examine the human capital of welfare recipients.

Internal and External Linkages

EXT1: Internal:

- 1) Extension staff expertise in helping to conduct educational and training workshops.
- 2) School of Business and Small Business Development Center faculty and staff expertise in technical assistance and management.

External:

- 1) Rural Development/USDA partnership and outreach on housing issues, loan applications, and technical assistance to community organizations and local government officials.
- 2) SC Department of Commerce/Community and Rural Development Division partnership in conducting community strategic planning and technical assistance to community organizations and local government officials.
- 3) Northeastern Corridor of Orangeburg Community Development Corporation partnership in promoting community development in the areas of housing and community outreach.
 - 4) Small Business Administration (SBA) technical expertise in loan packaging and financial matters relating to small businesses.
- 5) Banks partnership and community outreach related to home buyer's programs, Individual Development Accounts (IDA's) and loan packaging.

EXT2:**Internal**: Extension Specialists, Extension county staff, SCSU Small Farmers Project, SCSU School of Business, SCSU Small Business Development Center

External: USDA- Rural Development, USDA- Rural Business-Cooperative Service, U.S. Department of Housing, SEEDCO, South Carolina Office of Information Resources, County of Orangeburg, City of Orangeburg, First National Bank, First Union National Bank.

RES1:**Internal:** The project involves <u>internal</u> linkages within the Department of Political Science and History.

External: Externally, the project involves interaction with the South Carolina Department of Social Services and Welfare recipients identified as Welfare to Work Participants, and Social Services' State and County Level Officials.

Target Audiences

EXT1: 1) Small limited resource and minority businesses

- 2) Rural and urban local government officials and administrators
- 3) Limited resource and minority youth
- 4) Community Development Corporations
- 5) Community Leaders

EXT2:The intended audiences of the component are community leaders (both current and emerging), community volunteers, concerned citizens, local elected officials, and Extension staff.

RES1:Welfare to Work Participants and State and County Social Services' Officials.

Program Duration

EXT1: The program will be long term.

EXT2:5 Years

RES1:Short-term: Expiration Date – May 30, 2002.

Allocated Resources

The following charts display the allocated dollar resources for Focus Area 552.

Extension	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
Federal	69,731	69,731	69,731	69,731	69,731
State	-	31,378	34,865	34,865	34,865
Local	-	-	-	-	-
Total	69,731	101,109	104,596	104,596	104,596

FTEs	1.0	1.0	1.0	1.0	1.0

^{*} Estimated Extension Funds and FTEs

Research	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004
Federal	184,111	184,111	184,111	184,111	184,111
State	-	82,850	92,056	92,056	92,056
Local	-	-	-	-	-
Total	184,111	266,961	276,167	276,167	276,167

SYs 3.8 5.5 5.5 5.5	
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^{**} Estimated Research Funds and SYs including Administrative Support

III. Stakeholder Input Process

Section 102(c) of the AREERA Act of 1998 requires that land grant institutions gather and provide information related to stakeholders. The Act specifies that information on 1) actions taken to seek stakeholder input that encourages their participation and 2) a statement of process used by institutions to identify individuals and groups who are stakeholders and to collect input from them.

South Carolina State University 1890 Research and Cooperative Extension sought stakeholder input from 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 Community at-large and County Advisory Committee Members:

Public Forums were planned and implemented for 16 sites throughout the state of South Carolina. The sites covered each of the 6 South Carolina congressional districts in at least two locations. The County Advisory Committee Members were to receive 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, and area Extension Offices, through local newspaper ads, and through radio public announcement spots. Of the 56 community members who attended the Public Forum meetings, 96% were African-American, 4% Caucasian, 45% male and 55% female.

The community 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 second source of community stakeholder input considered were the results of a dissertation by a South Carolina State University doctoral student, Dr. Geraldine Dukes. Over 1900 persons from traditional and non-traditional audiences were surveyed to identify the most important community concerns for the 21st Century. 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 issues, and education.

Extension Administrators, Agents, and staff

Forty-seven Extension Administrators, Agents, and staff participated in the community needs and concerns input session. Ninety-six percent of the participants were African-American, 4% Caucasian and 70% were female and 30% male.

The Extension Administrators, Agents, and staff 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.

Stakeholder Summary Results

When 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.

Environmental Scan

An environmental scan was completed prior to Staff training and Public Forums. The environmental scan seems to verify the identification of significant issues identified by the community. The environmental scan noted the following developmental trends:

- **Population growth and shifting demographics** will continue to cause structural changes between urban and rural areas. As such, rural areas will become more urbanized and their needs will become more urban based. The diversity of population shift will create multi-cultural challenges and more demand for collaborating, networking, and partnering. Clientele-base will be come more diversified, with special needs.
- \$ Industrial growth and development will continue to expand the rural-urban mix. As such, emphasis on education preparedness will increase, as more employment opportunities are made available. Workforce preparation will become more critical and opportunities for a skilled labor force will be more and more in demand. Rural infrastructure will change measurably and the use of land, other than agriculture, will continue to increase.
- **Economic stability or sustainability** will continue to be the major focus of South Carolina leaders and policy makers. How well they address or capture this issue

will depend largely on the competitiveness of South Carolina in today's global market economy; and also, on the success of building the economic infrastructure of all counties within the state, having regional and global market potential.

- **Education preparedness and skill training** to meet the labor demands of business and industry will continue to be a major focus of educational development in South Carolina. The state's emphasis on education from Pre-K to 12th grade, and the desire to increase South Carolina's ranking in education nationwide, bear witness to these issues' importance to the state.
- **Family structure and youth development** will continue to show problems across South Carolina. In 1996, more than one-third of the children born in South Carolina were born to single mothers, and in rural areas that figure was as high as 72 percent. School achievement data reveal that South Carolina children are not doing well when compared to the national average. In rural areas, school achievement tests and four-year high school graduation rates generally fell below the state average of 73 percent. Also, children in those areas were more likely to be underweight at birth and mothers were less likely to get adequate prenatal care during the first three months of pregnancy. Moreover, while the ratio of youth referred for criminal prosecution was lower in rural areas, the crimes tended to be more serious than in urban areas. Overall, rural counties were worse off than the rest of the state in all areas except drug and alcohol use.
- \$ Consumer demand for quality and safety of the food supply will continue to increase. Concerns relative to pesticide residues, biotechnology implications regarding the altering of food supplies, to the transmission of disease from animals to humans will remain a critical focus.
- **Focus on service agencies' accountability** will continue to be increased. Customers, stakeholders, leaders, and decision-makers' involvement in planning service delivery will be required to plan together to meet needs which will call for stronger collaborations and new types of public-private partnerships.

From the sources of data, the Projected Program Focus Areas and their accompanying activities were identified for the South Carolina State University 1890 Research and Cooperative Extension Plan of Work.

EXTENSION MERIT REVIEW SYSTEM

The Merit Review process for Cooperative Extension work at South Carolina State University shall include the submission of program curriculums, projects, planned activities and materials (printed, audio and/or visual) to a Merit Review Panel (MRP). This committee will establish criteria by which to review the content (does the information sufficiently deal with the issue in order to ascertain its probable effect), appropriateness (does it address concerns/issues identified by the public and reported in the plan of work), capacity (Extension's ability to provide human and fiscal resources to conduct planned program/project/activity) and impact (the probable affect upon the intended customer per stated goals within the established time frame) of all interventions addressed in the Plan of Work. The MRP will ensure that 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 will consist 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 will serve as the committee chair. Members will begin with staggered terms of two to four years with one fourth being rotated off and replaced each year. This panel will conduct reviews for the duration of the five year plan of work. The group will meet once per quarter to review programs and projects, and determine if curriculums are appropriate to provide the desired educational experience and result in major changes in social, economic or environmental conditions or if a curriculum needs to be developed or obtained in order for an educational experience to result in the desired outcome as prescribed in the plan of work.

The Panel will have the support of the 1890 Research and Cooperative Extension Administrator, and the University Administration to provide this service as a requirement of the AREERA Act of 1998.

The Peer Review Committee at South Carolina State University is composed of four subcommittees representative of the four research problem areas to which the 1890 Evans-Allen Research Program is committed. A five-member panel makeup each subcommittee 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 Associate Administrator, and the Evaluation Specialist who reviews the relationship of the proposed project to the needs of Extension. Once approved by the Director, Associate Administrator, and the Evaluation Specialist, 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.

If the subcommittee recommends approval of a proposal, the Senior Associate Research Director will then submit the project proposal to the 1890 Research Director for further review through the State Experiment Station. After the State Experiment Station Review, the 1890 Research Director then reviews the proposal status for preparation and submission to Cooperative State Research, Education and Extension Service (CSREES), USDA for final review and official approval. If approved by CSREES, USDA, then authorization is given to the 1890 Research Director to fund the proposal, if Evans-Allen funds are available at the station level to do so.

A further description of the Peer Review Process:

- 1. The project proposals are reviewed by the Director of 1890 Research and Cooperative Extension, the Associate Administrator, and the Evaluation Specialist for the projects correlation with the needs of Extension.
 - 2. Four Peer Review Subcommittees are appointed by the President of the University corresponding to the four Research Program areas to which the 1890 Research Program is committed.
 - 3. The project proposals are reviewed by competent peer scientists in related and non-related disciplines. Subcommittee members, if deemed necessary, may seek consultation from competent authorities/peer scientists at other institutions or agencies.
 - 4. Members of each subcommittee are provided copies of the Peer Review Process.
 - 5. A critical evaluation sheet is attached to all project proposals for subcommittee members' use in responding to the merits of the project proposals which corresponds to the "Essentials of a Project Outline" as set by federal regulations and guidelines.

- 6. All project proposals are evaluated for scientific approach, experimental design, overall scientific quality, and contribution to the mission of CSREES and the university's land grant mission.
- 7. Project proposals are evaluated to establish relevance of proposed research to: (a) State, regional and/or national needs (b) On-going research in the problem area both statewide/or regional.
- 8. The applicant or proposal writer is given suggestions as to any possible need for cooperation with other scientists and research units within and outside of the University.
- 9. The Subcommittee Peer Review Chairperson may request applicants or proposal writers to supply additional information and make adjustments in project outlines or proposals where deemed appropriate.

The Subcommittee Peer Review Chairperson may request applicants or proposal writers to supply additional information and made adjustments in project outlines or proposals where deemed appropriate.

The 1890 Research Director of the Evans-Allen Research Program will provide assurance to CSREES, USDA that an approved review process has been followed and the proposed project submitted has been recommended for approval through the approved Peer Review System as stated above.

V. Multi-State Research and Extension Activities

FFNEWS and the Greater Racial/Ethnic Participation in 4-H Project are two Cooperative Extension programs which involve South Carolina State University 1890 Research and Cooperative Extension and other states.

FFNEWS is a multi-state project with the University of Arkansas-Pine Bluff (Arkansas), Prairie View A&M (Texas), Langston University (Oklahoma), Lincoln University (Missouri), and Southern University (Louisiana).

The Greater Racial/Ethnic Participation in 4-H Project is an effort to improve minority youths' participation in 4-H activities and is a collaborative effort among the 1890 Land Grant Institutions and Tuskegee. Outside of South Carolina, 14 other states are involved in this program.

VI. Civil Rights

Equal Opportunity Employment:

We will maintain highly visible practices in compliance with Civil Rights laws, rules and regulations. Recruitment efforts will be designed to attract qualified under-represented individuals to 1890 Research and Cooperative Extension at South Carolina State University. Also, efforts will be made to promote from within the organization qualified individuals representing under utilized and/or under represented populations. The complaint procedure has been reviewed, updated and issued to all employees.

Goal 1:An equal employment opportunity/affirmative action component will be incorporated into each employee's position description and all employees will be evaluated on EEO/AA through our employee performance management system.

Indicator: Number of position descriptions updated to include EEO/AA component.

Goal 2:All reasonable efforts will be expended to enhance opportunities for under utilized and under represented employees of all races, color, sex, national origin, religion, age and/or physically challenged groups.

Indicators: 1) Number of women promoted within the Cooperative Extension Program.

- 2) Number of non-Black applicants who are hired.
- 3) Number of non-Black and female employees included in administrative decisions and workshop seminars.

Program Delivery:

Based on 1990 census data, there are 3,486,703 people in South Carolina. Sixty-nine percent are white and 31 percent are black. There are 512,339 potential recipients (low-income individuals). Thirty-nine percent are white and 61 percent are black. There are 67,632 single households with children under 18 years of age living with incomes below the poverty level. There are 111,173 families living below the poverty level. Thirteen percent of children live in extreme poverty. In agriculture, there are 133,555 small farmers and approximately 55% are black.

We will focus efforts on identifying and documenting potential audiences and monitoring of program delivery to participation of targeted audiences by Extension supervisors.

Goal 1:Identify potential recipients of Extension programs.

Indicator: Document potential recipients in all assigned counties.

Goal 2:Supervisors will use reporting system data to monitor work across racial lines.

- Indicators: 1) Number of personal contacts with minorities documented in the files.
 - 2) Number of Civil Rights success stories turned in to Civil Rights coordinator.

Goal 3:Committees will be balanced to be representative of potential recipients.

- Indicators: 1) Number of committees which are representative of potential recipients.
 - 2) Number of under represented groups serving on committees.

Public Notification:

All reasonable efforts will be made to notify the public of Extension programs and activities. We will ensure that Extension facilities are accessible. All organizations using Extension facilities will be made aware of the nondiscrimination policy. We will openly display nondiscrimination policy signs in all Extension facilities and publicize the nondiscrimination policy in all Extension program announcements, print materials and media releases. The affirmative action plan will be discussed during an in-service training session annually.

Goal 1:To use aggressive affirmative action procedures to ensure nondiscrimination throughout the organization.

- Indicators: 1) Number of office facilities accessible to the physically challenged.
 - 2) Number of Civil Rights compliance forms signed.
 - 3) Number of facilities displaying the "...and justice for all" poster in office and conference rooms.
 - 4) Number of newspaper articles and brochures which include the nondiscrimination statement.

Civil Rights Training:

Civil Rights is a part of all orientation training for new employees and all employees will receive the EEO complaint brochure. Supervisors hold regular staff meetings and Civil Rights is discussed at least once per month. Civil Rights is always included in staff retreats which are attended by all.

Goal 1:To train Research and Cooperative Extension staff on all aspects of Civil Rights.

- Indicators: 1) Number of new employees participating in Civil Rights training.
 - 2) Number of employees who receive the EEO complaint brochure.

On-site Compliance Reviews:

We will continue to hold county compliance reviews in cooperation with 1862 Extension.

Goal 1:To conduct on-site Civil Rights compliance reviews.

Indicator: 1) Number of 1890 counties reviewed over the five year Plan of Work cycle.