

Joint Plan of Work for Research and Extension at Clemson University and South Carolina State University

Annual Update
Submitted April 1, 2004

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Joint Plan of Work for Research and Extension at Clemson University and South Carolina State University

Annual Update Submitted April 1, 2004

Purpose of the Annual Update:

This annual update is being submitted to reflect changes in the Joint Plan of Work for Research and Extension in South Carolina.

Introduction:

South Carolina State University's 1890 Research and Cooperative Extension Service organizations are based in Orangeburg, South Carolina. South Carolina State has a presence in sixteen counties. There are three counties with offices (Orangeburg, Marlboro and Hampton). The three county offices each serve a cluster area. The Orangeburg Cluster consists of Bamberg, Calhoun, Dorchester and Orangeburg Counties. The Marlboro Cluster serves Dillon, Florence, Marion and Marlboro Counties. The Hampton Cluster includes Allendale, Beaufort, Colleton, Hampton and Jasper Counties. Furthermore, South Carolina State 1890 Cooperative Extension shares office space with Clemson in three counties (Anderson, Greenwood and Williamsburg Counties). There is only one agricultural agent in Anderson and Greenwood Counties each. Williamsburg County has the presence of one youth agent. The other cluster areas are housed with a full-time staff. There are no research offices located off the premises of the South Carolina State University campus.

Clemson University's Experiment Station and the Cooperative Extension Service are based in Clemson, South Carolina. Five Research and Education Centers are strategically located across South Carolina along with three youth leadership centers. Cooperative Extension offices are located in each county. Research faculty and facilities and Extension specialists are also located on the main campus in Clemson.

The plan of work is a comprehensive statement of the planned research and extension program initiatives at Clemson University and South Carolina State University for the period 2005-2006, as required by the Agricultural Research, Extension and Education Reform Act of 1998 (AREERA), and as allowed under the USDA Guidelines for Land Grant Institution Plan of Work. The plan is based in current strategic plans.

The following table presents the national goals for which programs in research and extension at Clemson University and South Carolina State University are planned and conducted.

	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5
1862 CES	X	X	X	X	X
1862 ES	X	X		X	
1890 CES	X	X	X	X	X
1890 AES	X	X			X

CERTIFICATION:

This Joint Plan of Work for the period October 1, 2004 to September 30, 2006 for Research and Extension in South Carolina is respectfully submitted as updated effective July 1, 2003 by:

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PLAN OF WORK NARRATIVE FOR RESEARCH AND EXTENSION IN SOUTH CAROLINA

I. Preface and Authority

Federal Register Vol. 64, No. 74/Monday, April 19, 1999/Notices and Updates

II. Annual update of the 5 year plan of work for Research and Extension in South Carolina

A. General

1. Planning Option

The plan of work is a 5 year prospective plan that originally covered the period of fiscal year 2000 through 2004, and provided options to submit annual updates to the 5 year plan of work.

2. Period Covered

This plan of work now covers the period from October 1, 1999 through September 30, 2006.

3. Projected Resources

The resources that are allocated for various planned programs in this update to the five year plan of work, in terms of human and fiscal measures, are projected over the next two years, FFY 2005 and FFY 2006

4. Submission and Due Date

The annual update to the Plan of Work must be submitted by April 1, 2004 to the Partnerships unit of the Cooperative State Research, Education and Extension Service, U. S. Department of Agriculture. (Bhewitt@reeusda.gov)

5. Certification

The 5 year plan of work has been signed by the 1862 Research and Extension Director and the 1890 Research and Extension Executive Director

6. Definitions See Federal Register, Vol. 64, No. 74, Monday April 19, 1999, pp 19245-19246 and subsequent updates.

B. Components of the Five Year Plan of Work

1. Planned Programs

a. National Goals: The five year plan of work for research and extension at South Carolina State University and Clemson University is based on the five national goals established in the Cooperative State Research Education and Extension Service (CSREES) Agency Strategic Plans and aligned to the five national goals within the Research, Education and Economics (REE) Mission Area of the U.S. Department of Agriculture.

Currently the national goals are:

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

Goal 2: A safe and secure food system.

Goal 3: A healthy, well-nourished population.

Goal 4: Greater harmony between agriculture and the environment.

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

b. Format: The five year plan of work is reported in the appropriate matrix format, each cell of which identifies planned programs that fall under one or more of the national program goals.

c. Program Descriptions: Program descriptions are presented in a narrative form and relate to one or more of the five national goals.

Federal Goals

Goal 1: Agricultural System that is Highly Competitive in the Global Economy

A. 1. Issue to be addressed

Society needs an effective system of food and fiber production that sustains the environment and benefits people. Conventional agricultural practices affect environmental quality through tillage, fertilizer, irrigation, and pesticide use, which impacts watersheds and biodiversity. In addition, the state's population is rapidly expanding and becoming more urban. A result is the continued conversion of agricultural land into industrial use and housing, with declining environmental quality. 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.

Key Theme: Enhancing Competitive Ag Production Systems

Clemson University Research and Extension and Extension programs at South Carolina State University 1890 Cooperative promote programs and activities that preserve farmlands, conserve and foster sustainable agricultural policies and practices. Both institutions also encourage efforts that increase and satisfy consumer demand for foods that are grown on farms that employ such practices.

A number of simultaneously occurring events combine to make carefully planned management of farms, agribusiness and the entire agricultural sector critical to continued growth and stability. These events include: 1) agricultural income growth which is almost entirely dependent on global markets, 2) an explosion of new technology that is reaching the marketplace, 3) the public is demanding a cleaner environment and increasingly concerned with maintaining a safe and nutritious food supply, 4) industrialization of the agricultural sector is proceeding rapidly: large and medium sized farms are growing and developing stronger vertical links to supply and to marketing firms, whereas small farms are struggling to survive, and 5) the federal government is drastically reducing its role of supporting and stabilizing the agricultural sector.

Changes in government regulations and the economic environment have increased the risks of farming in South Carolina. Agricultural firms today are forced to consider greater markets, financial, production, and environmental risks than in the past. These risks will require a significant change in farm management philosophy and also provide a challenge to develop risk-oriented educational programs. South Carolina will be conducting activities in Risk Management Systems for Agricultural Firms.

South Carolina growers are facing low commodity prices and marginal profitability at best for most traditional row crop and horticultural enterprises, even in the presence of increased federal subsidies. The field crop program brings together a multi-disciplinary team of scientists to study all aspects of field crop production. These studies span the full range of field crops that play a major role in South Carolina, such as cotton, soybean, corn, and wheat. In addition, scientists are investigating methods for establishing flax as a new crop with significant economic potential for

the state's agricultural and textile industries.

New and more profitable opportunities exist for small-scale farmers in the South who are willing to investigate alternative cropping systems. Surveys of South Carolina consumers indicate that market opportunities exist for organically-grown crops and that potential markets are not limited to urban areas. Integrated systems' approaches are needed in order to develop whole farm systems and it is essential to utilize research findings of several disciplines and the experience of the farmer.

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. Nematodes are serious economic pests of many crops, including each. Better understanding of their relationships with their hosts and of the genetic basis of host plant resistance may lead to improved plant health and productivity. Development of genomic tools for peach will vastly improve practical use of this knowledge for sustainability of the crop. Data on the incidence of uncharacterized viruses, and on other characterized viruses that infect fruit crops, will be used to provide virus-tested sources of propagation material, to identify sources of infection, and to evaluate and implement IPM procedures for the control of these viral diseases in South Carolina and in the Southeast.

Agriculture continues to be one of the most deadly industries in the US. Not only are hundreds of people killed each year on the farm, thousands more are injured. 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 farmer and their families may help reduce hearing loss among farmers in South Carolina and other states. Extension efforts are focused on preventing these injuries and fatalities among our farmers, farm workers, and farm families. Efforts are being undertaken to both educate and increase awareness to issues associated with safety on the farm as well as health issues associated with farm life. To study the levels and duration of farmers' exposure to farm noise, chemicals and solvents, and their possible interactions. To provide programs that teach farmers, farm workers, and farm families the hazards and health risk associated with the farm and means of dealing with these issues in a safe manner.

Animal Production Systems activities will focus on (1) improving the production efficiency of animal systems, (2) improving marketing of livestock and (3) improving the utilization of residue, waste, and by-products for the development and implementation of agricultural production systems that are economically sustainable and environmentally sound. Agricultural technology advances have the potential to seriously alter the structure of agriculture in South Carolina. All segments of production agriculture are coming under increasing scrutiny by government regulatory agencies and the general public. One of the important emphases for the agricultural industry is the selection of appropriate technology to support a viable South Carolina agricultural system. Extension livestock programs focus on management options and practices to increase productivity, efficiency and profitability. Some production strategies include increasing the efficiency of forest utilization, using farm by-products/wastes for livestock feed, utilizing livestock, municipal or industrial wastes for pasture fertilization, and improving reproductive

efficiency of livestock

Agricultural Program Information and Performance Management System (APIPMS) is a comprehensive, Internet-based, computerized information system that serves both research and extension. This system delivers pertinent information to all levels of the organization and to the general public. By delivering customized web pages and reports, APIPMS assists the faculty and staff in their research and Extension duties, delivers information so that administrators in both the Experiment Station and Extension Service can make better decisions affecting their areas and informs the public about the activities we and services of our organization. The Internet-based APIPMS consists of three distinctive products – Information Management System (IMS), Professional Home Page (PHP), and South Carolina Growing (SCG). These three products have a unique mission that not only supports the administrative requirements of research and extension but also the faculty and our stakeholders. Like all three systems, IMS uses both university data and CRIS information to better summarize and report the activities associated with Public Service and Agriculture. Initially a system designed toward research data, IMS is slowly including extension data as part of its reporting capabilities.

2. Performance Goals

Teach management skills that ensure long-term profitability and sustainability for the farm business. Specifically, the focus will be on: 1) providing timely commodity situation and outlook information to assist in choosing appropriate market risk management strategies, 2) to provide educational programs to farm firms, agribusiness, and extension personnel on market assessment and appropriate marketing strategy selection of agricultural commodities, and 3) to develop, distribute, and educate in the use of computer-based market risk management tools, 4) to develop the “Executive Farmer” program to teach farmers business and financial planning, 5) to advance the “Farm Business Management Association” program to provide financial accounting, financial and business planning for member farmers, 6) to educate farmers on decision making and specifically how to use financial information to guide business decisions, and 7) how to ‘manage’ their businesses.

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 Extension Program will implement the following activities and programs which promotes 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.

Goals are to expand the genetic resources for cultivar development / enhancement through traditional and molecular technologies, to develop environmentally and economically sound production practices and to ensure a high quality, profitable, and marketable product.

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

The overall objective of activities in organic crops will be to enhance the proficiency of Extension Agents, NRCS and DNR staff, other agricultural educators and professionals through training in areas related to organic production and certification. Participants in this training program will gain the necessary knowledge, skills and confidence that will enable them to guide growers/clients through the process of a transition to organic production, including certification requirements under the National Organic Program.

Output Measures	FFY 2005	FFY 2006
Percent increase in External funding, gifts	10%	10%
New products processes, procedures or policies	1	1
Disclosures, patents, licenses	3	3
Variety releases	1	1
Publications (technical and popular press)	104	104
Potential client contacts		
Number of educational programs and activities Conducted	1,200	1,200
Number of limited resource contacts	2,000	2,000
Number of people completing educational programs	30,000	30,000
Number of people reporting increased knowledge	22,000	22,000
Number of people who plan to adopt practices	13,000	13,000
Number of people adopting practices	2,000	2,000
Number of people receiving information Through "non program" contacts such as telephone, office and farm visits	8,000	8,000
Total Gross Farm Income of participants	50,000,000	50,000,000
Acres of agronomic crops affected by Integrated Crop Management (ICM)	10,000	10,000
Acres of horticultural crops affected by ICM	40, 000	40,000
Number of producers implementing recommended grazing management systems	250	250
Number of acres with animal or industrial/municipal wastes applied	300	300
Producers participating in program to use EPDs In sire selection	400	400
Acres of collards affected by integrated pest management strategies (IPM)	1,000	1,000
Acres of cotton affected by IPM	200	200

Outcomes: (Anticipated long term outcomes which will benefit citizens of the state region and nation)

Percent increase in levels of confidence in farm economic performance and family stability
Percent of farmers reporting increased income from previous year's business
Percent of farmers that were able to retain land despite economic uncertainties
Percent satisfied with the services provided
Increased participation in future extension programs

3. Key Program Components

Sustainable Agricultural Production (including Integrated Pest Management)

Animal Production Systems
Integrated Crop Management, Agronomic Crops
Integrated Crop Management, Horticultural Crops
Organic Production Systems
Farm Safety
Collard IPM
Peach IPM
Cotton IPM
Landscape and Ornamental Plant Pest Management

Risk Management Systems for Agricultural Firms

Agricultural Market Risk Management
Economic Analysis of Enterprises and Technologies
Business Systems and Financial Risk Management

Agricultural Program Information and Performance
Management System (APIPMS)

4. Internal and External Linkages

Internal linkages will include the College of Agriculture, Forestry and Life Sciences the department of Agribusiness and Economics, selected departments in other colleges, and various institutes on both campuses. External linkages include other land grant universities, state agencies and private firms, farmers, farm families, farm workers, community groups. Extension agents, Extension agents, faculty and specialists School of Agribusiness and Economics. Department of Agribusiness and Economics, Department of Business Administration and Marketing, Department of Physical Sciences, Department of Biological Sciences, and 1890 Cooperative Extension. Departments of Speech Pathology and Audiology, Agribusiness and Economics and the 1890 Extension Program Component

External: CSREES Specialists 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. Organic growers, growers interested in transitioning to organic farming systems, educators, and others interested in organic production, North Carolina State University Extension Service, and South

Carolina Small Farmers Association and Sustainable Agriculture Research and Education (SARE). Farmers, Commodity groups, Agriculture Service Industry, Farm Management Association, SC Farm Bureau, Agricultural Lenders, Large and small agribusiness firms, and cooperatives

5. Target Audiences

Producers, small and minority farmers, landowners, the processing industry, the agriculture service industry, equipment and chemical providers and organic growers.

6. Program Duration

These programs are planned to continue through FFY 2006

7. Allocated Resources

Key Theme	a. Funding		b. Human Resources (FTE's)	
	FY 2005	FY 2006	FTE's 2005	FTE's 2006
Ag Production Systems				
1862 Ext	\$3,359,046	\$3,359,046	45.0	45.0
1862 Res	\$3,173,972	\$3,173,972	13.47	13.47
1890 Ext	\$122,734	\$122,734	4.5	4.5
1890 Res	\$390,077	\$390,077	10.7	10.7

B. 1. Issue to be addressed

Turf production, establishment and maintenance whether on the sod farm, on the athletic field or on the golf course is an agricultural enterprise that is profitable.

The linking of agriculture with medicine is a rapidly emerging area as scientist study plants used for herbal medicines

Key Theme: Expanding Innovative Agricultural Industries

Turfgrass:

The Turfgrass Program Initiative at Clemson University is a multi-disciplinary program, involving many research, Extension and teaching personnel working together both on the Clemson campus and throughout the state of South Carolina. Turf is routinely supplied with fertilizers, treated with pesticides to control insects, pathogens and weeds, and is subjected to various agronomic tillage practices. Consequently, environmentally sound practices to forestall pollution of nutrients and pesticides in surface and ground water is being researched.

Clemson is measuring the impact of 0%, 40% and 90% shade over varying periods of time. The study includes both bermudagrass used on golf greens and other varieties used on fairways. The data is tracking the effects of shade on chlorophyll levels, root growth and carbohydrate accumulation, all factors in the turf's appearance and durability. Mowing height, fertilization levels and growth hormone treatments are also being monitored.

Nutraceuticals:

Clemson scientists are linking agriculture with medicine as they study plants used for herbal medicines. These dietary supplements merge the benefits of nutrition with pharmaceuticals and are known as nutraceuticals.

Laboratory studies are analyzing the medically active ingredients in plants such as feverfew, ginkgo, echinacea, goldenseal, common mullein, black cohosh, and St. John's wort. Field studies are testing the commercial possibilities for South Carolina farmers to grow and process the herbs as a new product.

In other studies, Clemson scientists are investigating methods of producing herbal plants in field plantings and using advanced micropropagation technology.

They are also working with colleagues at the Medical University of South Carolina to examine the ability of certain plant compounds to inhibit the growth of cancer cells in laboratory tests. These compounds are found in raspberries, strawberries, and blueberries that inhibit tumor growth.

2. Performance Goals

Output Measures	FFY 2005	FFY 2006
Percent increase in External funding, gifts	10%	10%
New products processes, procedures or policies		1
Disclosures, patents, licenses		
Variety releases		1
Publications (technical and popular press)	8	8
Potential client contacts		
Number of educational programs and activities Conducted		
Number of limited resource contacts		
Number of people completing educational programs		
Number of people reporting increased knowledge		
Number of people who plan to adopt practices		

Number of people adopting practices		
Number of people receiving information Through “non program” contacts such as telephone, office and farm visits		

3. Key Program Components

Turfgrass
Nutraceuticals

4. Internal and External Linkages

Internal linkages will include the College of Agriculture, Forestry and Life Sciences the department of Agribusiness and Economics , selected departments in other colleges, and various institutes on both campuses. External linkages include other land grant universities, state agencies and private firms. Departments of Food Science/Human Nutrition, Packaging Science, Microbiology and Molecular Medicine, Animal and Veterinary Sciences, Chemical Engineering, Biological Engineering, Environmental Toxicology. The SC Department of Health and Environmental Control, SC Department of Agriculture, Food Industry Association of South Carolina, North Carolina State University, University of Georgia, Auburn University, Alabama A&M, Texas A&M, and the Greenville Hospital System

5. Target Audiences

Producers, landowners, the agricultural service industry, equipment and chemical providers as well as commercial lawn care firms, golf course superintendents and owners. Food processors, food service operators, food handlers, food regulatory agencies, food packaging suppliers, food production personnel, consumers.

6. Program Duration

This program is planned to continue through FFY 2006

7. Allocated Resources

Key Theme	a. Funding		b. Human Resources (FTE's)	
	FYY 2005	FYY 2006	FTE's 2005	FTE's 2006
Innovative Ag Industries				
1862 Ext				
1862 Res	\$790,284	\$790,284	3.69	3.69
1890 Ext				
1890 Res				

Federal Goals

Goal 2: Safe and Secure Food System

A. 1. Issue to be addressed

Foodborne illnesses in the United States has led to a major cause of economic burden, human suffering, and death (Healthy People 2000 Food Safety Objectives, 1995). While foodborne diseases, their causes and effects are better understood today, emerging risks need to be monitored for several reasons: 1) First, the food supply of the United States is changing dramatically, the conditions under which animals are raised have changed greatly. 2) Second, consumers are changing; there are an increasing numbers of elderly or immuno-suppressed persons who are at higher risk of severe illness; an increase in eating food prepared away from home, the public's desire to consume raw, minimally processed, organic or exotic foods, children preparing snacks or part of the family's evening meal, the public's fear of technology, a more mobile population taking food with them and bringing food back from remote destinations or trying to duplicate a food consumed in another part of the world, and the desire to market and sell food products. 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.

Consumers are concerned about the safety of their food and only a limited number of them understand the process involved in safe handling and distribution of food. Such limited understanding can lead to hazardous food handling practices. 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% 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.

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 this country each year- is 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.

Since the terrorist events of 2001, food security has taken on another meaning – an increased focus on threats to food safety from intentional, widespread contamination of the food supply. The issue of terrorism against the food supply is one that the food industry takes very seriously.

2. Performance Goals

Key Theme: Food Safety

To develop or improve strategies for controlling or eliminating microbial pathogens (such as E. coli, Listeria and Salmonella) in foods, to apply those strategies to improve the safety and extend the safe shelf-life of food systems, to transfer the knowledge and technology to food industry professionals, and to significantly reduce food borne illness in South Carolina and the world.

To determine the program participants' knowledge and understanding of food safety and foodborne illnesses and intoxications.

To examine the program participants' perception of the nutrition health risks associated with foodborne illnesses and cross-contamination.

To design a Food Safety service activity for the 1890 Extension program.

To 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.

To support the food industry in its focus on terrorism against the food supply and educate consumers on ways to keep the food supply safe.

To develop methods to improve safety and security of the food supply

Consumers and commercial food handlers in South Carolina are brought together to learn more about the quality and safety of the food supply. Commercial food handlers will be provided with technical assistance, which enhances food safety and quality for food industries. Instructors will be certified to train food handlers in safe food handling techniques. Extension agents will be trained on safe food storage, handling and preservation. Extension clientele will improve their understanding of risks and responsibilities in relation to food and health through increased knowledge.

Output Measures	FFY 2005	FFY 2006
Percent increase in External funding, gifts	5%	5%
New Products, processes, procedures, policies		
Disclosures, patents, licenses		
Variety releases		
Publications (technical and popular press)	20	25
Potential client contacts	6000	7000
Number of educational programs and activities Conducted	600	600
Number of limited resource contacts	1000	1000
Number of people completing educational programs	6000	6000
Number of people reporting increased knowledge	1000	1000
Number of people who plan to adopt practices	600	600
Number of people adopting practices	300	300
Number of people receiving information Through "non program" contacts such as telephone, office and farm visits	2200	2200
Number of people reached by trained volunteers	200	200
Number of volunteer hours contributed	400	400
Air time – radio and TV	400	400

Column inches	3000	3000
Press packets distributed	60	60

3. Key Program Components

Safe handling of food will be taught to handlers in the food service industry and the general public. Commercial food processors will be targeted in an effort to improve commercial food processing efficiencies and effectiveness/develop new markets/improve commercial handling, processing, preservation and packaging to provide safe and high quality foods. Special emphasis will be placed on Food Safety - Farm to Processing, including Biotechnology. Delivery of food safety information via volunteer and train-the-trainer efforts is an important extender of resources. Attention will be given to providing consumers with scientifically based, reasonable food safety information via the Making It Healthy media program.

Clemson scientists are investigating more effective safety measures in food production and processing. Their studies include using antimicrobial rinses to inhibit disease-causing bacteria in fresh meats and using proteins called bacteriocins that can kill bacteria and prolong shelf life in a variety of foods..

Food packaging films that fight bacteria and that are edible are among the innovations being developed by Clemson scientists. One study is testing the digestibility of heat-pressed films made from soy and corn protein that could be recycled as animal feed instead of being sent to landfills. Another study is testing a food packaging film that contains natural antimicrobial ingredients, which protect consumers against common meat-borne bacteria, such as E. coli, salmonella and listeria.

The scientists are investigating packaging films made from shrimp and crab shells that may also have medical applications, such as treating burns or wounds.

In another study, the researchers are seeking ways to improve the packaging used to ship fresh fruits and vegetables for distribution to grocery stores or as gifts to consumers.

4. Internal and External Linkages

Internal: University PSA Personnel, USDA, registered dietitians, microbiologists, home economists, Extension county staff, professors of nutrition and doctors of veterinary medicine, university Interns (Department of Family and Consumer Sciences), small farm agents, evaluation specialists, and 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 a resource staff for the Home Economist; Small farm agent will serve as a resource staff for all the project personnel, and conduct workshops on small farmers; 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: State Interagency Food Safety Advisory Committee, Food Service and Food Processing Industry, Department of Social Services, Department of Health and Environmental Control, and South Carolina Department of Agriculture.

5. Target Audiences

Food service managers and supervisors, food handlers, consumers and volunteer food handlers, producers, processing and packaging industry, consumers, youth, media, limited resource families

6. Program Duration

These programs are planned to continue through FFY 2006

7. Allocated Resources

Key Theme	a. Funding		b. Human Resources (FTE's)	
	FYY 2005	FYY 2006	FTE's 2005	FTE's 2006
Food Safety				
1862 Ext	\$685,364	\$685,364	11	11
1862 Res	\$177,880	\$177,880	1.08	1.08
1890 Ext	\$261,320	\$261,320	.05	.05
1890 Res	\$123,117	\$123,117	6.1	6.1

Federal Goals

Goal 3: Healthy and Well Nourished Population

A. 1. Issue to be addressed

Childhood obesity is a serious health issue, with the prevalence reaching epidemic proportions and more than doubling in the last three decades. The prevalence of overweight in 6-11 year old children is 15.3% and 15.5% in adolescents 12-19 years old, with even higher rates among subpopulations of minority and economically disadvantaged children and adolescents. Children younger than 5 years across ethnic groups also have had significant increases in the prevalence of overweight.

The potential health and economic implications of the increasing prevalence of obesity is a serious health concern. The economic impact of obesity and associated chronic disease has been estimated to be approximately \$100 billion. Obesity in children and adolescents has been associated with several chronic disease states including: diabetes, asthma, sleep apnea, and gall bladder disease. Several studies document that prevalence of type II diabetes is increasing among children and adolescents.

Children who are overweight are at increased risk of becoming overweight or obese adults. The prevalence of adult obesity increased 75% between 1991 and 2000 (from 22.9% to 30.5%). Adult obesity is an important risk factor for several chronic disease conditions including: coronary heart disease, selected cancers, type II diabetes, hypertension, sleep-breathing disorders, musculoskeletal disorders, and all-cause mortality.

The prevalence of obesity and its complications are higher in the African American and Hispanic populations. There is a need for culturally appropriate nutrition education programs designed to address the specific needs of these audiences. The prevalence of obesity is also higher in low income populations. Although overweight is often considered a problem of overeating rather than hunger and scarcity, low-income adults and children have gained the most weight in recent decades. Rates of obesity and overweight among the poor are increasing, while the number of poor Americans experiencing food insecurity remains high, at an estimated 30 million.

While income is one resource that correlates with higher prevalence of obesity, other resources (when limited) also impact obesity. Many families have limited time for food purchasing and preparation; limited access and availability to foods; limited food preparation skills; limited knowledge of proper nutrition; and have a limited budget.

The causes of obesity are complex and include genetics, lack of physical activity, and high-fat, energy-dense foods, which are readily accessible, inexpensive, heavily advertised, and palatable. Furthermore, individuals who are overweight may not eat more than normal-weight individuals but instead, may have a positive energy balance due to low-energy output. It is well established that weight status is partly due to genetic influences; however, the family (parental feeding practices, food purchasing and preparation practices), and school/childcare environments can also exert strong influence on children's food availability, eating behaviors, and physical activity levels which may impact children's weight status.

Food purchasing and preparation skills are needed to prepare low-cost, nutritious meals that meet current dietary recommendations. However, many adults have limited food purchasing and preparation skills, which reduces the variety of foods consumed and leads to a low intake of certain foods that contribute to a healthy diet.

A recent review of the dietary intake, food resource management practices, nutrition practices and food safety practices of parents in South Carolina reveals that only 14% demonstrated acceptable food resource management practices; only 9% demonstrated acceptable nutrition practices; only 46% demonstrated acceptable food safety practices; only 27.4% consume an adequate number of servings of breads and cereals; only 20.8% consume an adequate number of servings of fruit; only 20.8% consume an adequate number of servings of vegetables; only 10.1% consume an adequate number of servings of dairy; and, only 2.4% consume a food pattern with a 6-2-3-2-2 pattern of intake from the food groups.

Only 12% of Americans eat a healthy diet consistent with federal nutrition recommendations. The typical American diet is too high in saturated fat, salt, and refined sugar and too low in fruits, vegetables, whole grains, calcium, and fiber. Only 2% of school-aged children meet the Food Guide Pyramid serving recommendations for all 5 major food groups, and not more than 30% eat the recommended amount from any 1 of the 5 major food groups.

Key Theme: Nutrition and Health

The specific objectives to be addressed include:

1. Assist consumers to adopt healthy eating and active lifestyles that are consistent with the Dietary Guidelines for Americans and the Food Guide Pyramid. (Dietary Quality)
2. To assist consumers in balancing healthful eating with regular physical activity to achieve and maintain a healthy or healthier body weight.
3. To identify effective and culturally appropriate interventions to prevent overweight and obesity.
4. Insure that consumers have enough to eat without resorting to emergency food assistance and making sure people eligible for the FSP but not participating are made aware of its benefits and how to apply for them as part of nutrition education activity. (Food Security)
5. Improve consumers' safe handling, preparation and storage of food. (Food Safety)
6. Enhance practices related to shopping and preparation of nutritious foods. (Shopping Behavior/Food Resource Management)
7. To encourage environmental changes that help prevent overweight and obesity.
8. To develop and enhance public-private partnerships to help implement this vision.

2. Performance Goals

The overall goal is to reduce the prevalence of overweight and obesity and the associated health risks and to promote healthy lifestyles of South Carolinians. A multi-faceted approach will be used, focusing on the development and promotion of lifelong healthy eating and physical activity behaviors for children, youth, and families.

Output Measures	FFY 2005	FFY 2006
Percent increase in external funding, gifts	5%	5%
New products, processes, procedures, policies		
Disclosures, patents, licenses		
Variety releases		
Publications (technical and popular press)	20	25
Number of educational programs and activities conducted	1,000	1,000
Number of limited resource contacts	15,000	15,000
Number of people completing educational programs	30,000	30,000
Number of people reporting increased knowledge	20,000	20,000
Number of people who plan to adopt practices	8,000	8,000
Number of people adopting practices	4,000	4,000
Number of people receiving information through “non program” contacts such as telephone, office and farm visits	5,000	5,000

Other Output Measures:

Number of people reached by trained volunteers	100	100
Number of volunteer hours contributed	500	500
Air time – radio and TV	800	800
Column inches	6,000	6,000
Press packets distributed	60	60

Outcomes: (Anticipated long term outcomes which will benefit citizens of the state region and nation)

Decrease in dietary-related chronic illnesses and associated costs.

3. Key Program Components

Food and nutrition education
Nutrition, education, diet and health

Because of the complex nature of the problem of obesity, a multi-faceted approach that focuses on the development and promotion of lifelong healthy eating and physical activity behaviors is warranted. Using the socio-ecological model, Extension educators will focus on individual behavior, to be influenced at multiple levels: individual, interpersonal, organizational, and community. The strategies used recognize the level of self-responsibility that individuals have to make for positive lifestyle change and the outside forces through schools, worksites, and community settings that influence individual behavior.

The multi-faceted approach will be used to assess the complex factors that influence eating patterns and physical activity levels. Many interventions will utilize nutrition education, awareness and behavior change approaches to improve individual and small group knowledge, skills, attitudes and behaviors.

Nutrition Educators will target children, youth and families, through the Expanded Food and Nutrition Education Program (EFNEP) and the Food Stamp Nutrition Education Program (FSNE), called LINC in South Carolina. These programs target those with fewer economic and social resources, those who might be food insecure, and those at vulnerable life cycle stages. Through EFNEP and LINC, program participants learn how to make good choices to improve the nutritional quality of the meals they serve their families. They will participate in a series of at least twelve lessons based on the *Food Guide Pyramid* and the *Dietary Guidelines for Americans*. The hands-on, learn-by-doing approach allows the participants to gain the practical skills necessary to make positive behavior changes. These programs are designed to assist limited resource audiences in acquiring the knowledge, skills, attitudes, and changed behavior necessary to create a healthy diet for themselves and their families.

While traditional methods of program delivery are appropriate for some audiences (such as low income audiences reached through EFNEP and LINC) alternative delivery strategies must be employed to reach other audiences. The media, including television, radio, print media such as newspaper, and the internet/web applications, is an effective strategy for reaching consumers with accurate, reliable, and timely research-based information.

In order to foster sustainable behaviors, the environments that promote sedentary activities and unhealthy eating will be addressed. Educational interventions for primary caregivers and childcare providers focusing on nutrition, child feeding practices, and food purchasing and preparation practices will be conducted. The school/childcare environments which exert strong influence on children's food availability, eating behaviors, and physical activity levels will also be addressed.

This framework recognizes the fact that no organization can accomplish change alone. The implementation of the continuum of strategies will involve multi-sector collaboration at the national, state and local level.

4. Internal and External Linkages

Internal: University PSA Personnel, USDA, registered dietitians, family and consumer scientists, Extension county staff, professors of food science and human nutrition, and packaging science, Faculty in the College of Health, Education and Human Development, Sullivan Wellness Center personnel, university students and dietetic interns, evaluation specialists, and program coordinator will oversee the entire program. Extension specialists will provide the nutrition consultation and staff training in nutrition. Extension agents and NEAs will be trained and will conduct the outreach educational programs. University students and dietetic interns will assist with conducting the food safety and nutrition education sessions, collecting evaluation data, and preparing reports.

External: Department of Social Services, Department of Education, Department of Health and Environmental Control, South East Produce Council, and South Carolina Department of Agriculture.

5. Target Audiences

Preschoolers 0-4, Youth ages 5 - 19 years, and those people who affect the dietary habits of youth, i.e. child care providers, school food service staffs, teachers, young adults, consumers and families. EFNEP eligible families and youth, agencies and organizations associated with food and nutrition, the general public, and the media
Limited Resource Families (Hampton, Marlboro, Orangeburg, Williamsburg)
FFNEWS eligible families and youth (Barnwell, Calhoun, and Orangeburg Counties)
Senior Citizens, children: birth-5 years old

6. Program Duration

These programs are planned to continue through FFY 2006

7. Allocated Resources

Key Theme	a. Funding		b. Human Resources (FTE's)	
	FYY 2005	FYY 2006	FTE's 2005	FTE's 2006
Nutrition and Health				
1862 Ext	\$813,962	\$813,962	15.77	15.77
1862 Res	\$408,392	\$408,392	1.67	1.67
1890 Ext	\$99,899	\$99,899	3.9	3.9
1890 Res				

Federal Goals

Goal 4: Greater Harmony between Agriculture and the Environment

A. 1. Issue to be addressed

Key Theme: Creating Sustainable Environment

The goal of the water quality program is to develop strategies by which economically viable land use can coexist with good water quality. In order to accomplish this goal it is critical to characterize processes that control contaminant movement, contaminant bio-availability and toxicity, and contaminant degradation and assimilation by natural biogeochemical processes. The water quality program will have several research areas composed of related projects. Two such examples are turbidity and toxicity. Turbidity is a measure of light penetration through water and in bodies of water. High turbidity levels generally indicate poor water clarity, and conditions are considered to be undesirable aesthetically. In addition, there has been recent evidence that turbidity can be an indicator of bacteria levels in streams. Some states are revising water quality laws to restrict sediment, leaving sites and use turbidity as an indicator of their impact. Such laws will have impact whether and how development is done. Toxicity of metals and pesticides information will assist environmental regulators to develop site specific water quality criterion for metals in surface waters.

Very few people understand that healthy forests and private ownership are linked to wood product manufacturing. Research has confirmed that periodic disturbance (harvesting, prescribed burning) helps stimulate, revitalize, and renew our forests, while fostering diversity and enhancing wildlife habitat. Continuity of family owned forestland relies on viable market opportunities offered from forest products manufacturing. Fair trade and currency fluctuations, higher labor costs, higher taxes, and more stringent environmental regulations, along with slower relative tree growth rates challenge the continuity of the state's forest industry and its markets for forest owners. It is critical to educate landowners to accept and use practices that promote sustainable use and management of natural resources.

The greatest factor limiting the development of new and the continuation of existing animal enterprises in South Carolina is the impact they have on the environment. Concerns, both real and perceived exist relative to the ultimate fate of nutrients in animal manure in the environment and the nuisance created from improper management of animals and animal manure. In particular, the greatest areas of concern are: proper utilization of the plant nutrients in manure, over application of phosphorous, reducing the potential for polluted runoff, development of alternative manure treatment and utilization systems, protection of surface and ground water, and reduction of odor and fly problems. In addition, information is needed to assist local, state, and federal governments to address policy and development issues.

State law requires the members of this initiative team to develop and implement the Confined Animal Manure Management Training Program (Camm). The Camm program is an educational program that is required by state law for all livestock and poultry producers as a condition of their waste permit. All new producers must attend the program within 1 year of beginning operation. A new version of the state regulation, passed in 2002, requires that all existing producers to attend the training as well. In addition, all swine producers, and all large

dairy and poultry producers are required to be certified animal manure managers. Producers are required to pass a comprehensive exam on manure management to obtain certification.

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.

Homeowners and communities can have difficulties in safely managing plant health to improve economic value of their homes and neighborhoods in a socially acceptable manner that does not contaminate the environment with excess fertilizer, inappropriate pesticides, or poisonous plants that would place human and environmental health at risk. Urban landscapes should be aesthetically pleasing, diverse, sustainable and environmentally friendly.

The demand for information about this issue consumes an excessive amount of county resources/time. As the demand for home horticulture information continues to grow, new delivery systems must be developed to help a reduced Extension work force meet the needs. South Carolina will be conducting programs in Environmental Horticulture Education.

Changes in federal and state regulations and increased public environmental concerns, and concerns for human health have resulted in increased demands and expectations for maintaining, if not increasing, the quality of our total environment. Those in agriculture and forestry, as well as the industries and individuals involved in constructing and protecting our nation's residential housing, industrial and storage structures, require a better understanding of regulations and management practices designed to protect the natural environment as well as the commercial and residential physical environments and human health.

2. Performance Goals

The goal of the water quality program initiative is to develop strategies by which economically viable land use can coexist with good water quality. In order to accomplish this goal it is critical to characterize processes that control contaminant movement, contaminant bio-availability and toxicity, and contaminant degradation and assimilation by natural biogeochemical processes. The water quality program will have several research areas composed of related projects. Two such examples are Turbidity and toxicity. Turbidity is a measure of light penetration through water and in bodies of water. High turbidity levels generally indicate poor water clarity, and conditions are considered to be undesirable aesthetically. Some states are revising water quality laws to restrict sediment, leaving sites and use turbidity as an indicator of their impact. Toxicity of metals and pesticides information will assist environmental regulators to develop site specific water quality criterion for metals in surface waters.

Educating landowners to accept and use practices that promote sustainable use and management of natural resources is a major goal. Specifically, the goal is to increase acceptance and use of current Best Management Practices, to provide educational programs to landowners on impacts of land management on water quality and on fish and wildlife resources, and to provide educational programs to private land owners on wildlife damage management.

Another component in this key theme will seek to increase the awareness, educate, and involve underserved communities, farmers and farm families, the 1890 Extension Program will utilize and implement the following programs and activities which promote sustainability and management of natural resources:

- 1.) Utilize the 1890 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.) Will develop an on-farm demonstration of Best Management Practices to provide educational workshops and tours on streamside management, soil nutrient management, and forage management.

Extension will provide education to horticulture service providers (i.e. arborists, landscape designers, private and public grounds workers, urban foresters, and employees of landscape maintenance companies, landscape installation companies, tree service companies, and garden centers), Master Gardeners, and consumers on environmentally sound horticultural practices (i.e. plant identification, selection, culture, pest identification, and integrated pest management).

Program participants will increase the adoption of environmentally sound animal waste handling and utilization systems. The result will be a decrease in animal agriculture's impact on the environment, resulting in reduced public concern over the expansion of confined animal production.

Components of this key theme area will also focus on increasing the awareness and knowledge of diverse clientele of safe and effective management practices that protect the natural and human altered and constructed environments. Specifically the focus will be on: 1) increasing clientele knowledge and implementation of safe pesticide application and responsibilities under pesticide regulations through Extension training and educational programs, 2) knowledge of structural design that is conducive to pest damage, 3) increase knowledge of wood destroying insect control alternatives, and 4) increased awareness of integrated approaches to pest management practices in human environments.

Output Measures	FFY 2005	FFY 2006
Percent increase in External funding, gifts	10	10
New products processes, procedures or policies	1	1
Disclosures, patents, licenses	1	1
Variety releases	1	1
Publications (technical and popular press)	6	6
Potential client contacts	9,000	11,000
Number of educational programs and activities Conducted	300	400
Number of limited resource contacts	400	450
Number of people completing educational Programs	9000	9500
Number of people reporting increased	6600	7000

Knowledge		
Number of people who plan to adopt Practices	1800	2000
Number of people adopting practices	600	700
Number of people receiving information Through “non program” contacts such as telephone, office and farm visits	1000	1000

Number of people receiving water quality information through mail systems	5000	6000
Number of acres impacted through Master Tree Farmer programs	4,000	4,000
Number of consumers visiting environmental horticulture demonstration sites.	7,000	8,000
Number of consumers receiving environmental horticulture information through the Urban Horticulture Center at Riverbanks Zoo, the Home and Garden information Center. and the PAWS Horticulture Line.	25,000	25,500
Number of people completing pesticide applicator training	1,000	1,000

3. Key Program Components

- Water Quality
- Horticulture and Home Based Plant Health Management
- Reducing Impact of Animal Agriculture on the Environment
- Natural Resources and the Environment
- Sustainable Forest Management and Environmental Enhancement
- Household and Structural Pest Control and Pesticide Training

Scientists are working to balance economically viable development with good water quality in South Carolina. The researchers are studying the ways that housing developments, golf courses, agriculture, and urban development can cause movement of fertilizers, pesticides, and other contaminants into surface and ground waters. They are also investigating the use of natural and man-made wetlands to remove and process these contaminants before they enter the state’s waterways. These low-cost, low-energy, and low-maintenance best management practices will preserve the quality of our water resources and allow continued economic development throughout the state.

Ozone is being considered for disinfecting food processing wastewater. More specifically, work is underway to determine the efficacy of ozone to reduce biochemical oxygen demand (BOD5)

and chemical oxygen demand (COD) in food processing plant wastewater that has high concentrations of fat, protein, starch or locust bean gum. These chemical moieties represent different nutritional or additive families commonly used in the food industry. This information is important for determining the resistance of certain microorganisms in food matrices when ozone is employed as a disinfecting agent.

Programs will include Water Quality and Quantity, Alternative Income Opportunities for Landowners, Recreation and Tourism, Master Wildlife/Master Naturalist, Urban Wildlife, Nuisance Species, and Coastal Natural Hazards. Special emphasis will be placed on education and implementation of Farm-A-Syst, Coast-A-Syst and Home-A-Syst programs, development of BMP's for shoreline business and recreation managers, development of water quality volunteer groups, development of Center for Wildlife Damage Control and Management, aquatic weed identification programs, and wildlife habitat evaluation.

- 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.

The major programs in forestry will be Alternative Silvicultural Systems, Restoration and Management of Longleaf Pine, Master Tree Farmer/Master Woodland Owner, and Broadening the Practice of Sustainable Forestry on all Forest Land. These programs will emphasize: 1) educational efforts to develop landowner understanding of even-age and uneven-age pine management, mixed pine-hardwood management and natural regeneration systems. Formal training on these subjects will also be given to forestry consultants and professional foresters that manages forest lands for private landowners, 2) the economic and ecological significance of restoring and managing the longleaf pine ecosystem, 3) expansions of "A Master Tree Farmer" program both within South Carolina and the southeast region, and 4) logger education and training on "A Best Management Practice," and principles of sustainable forest management.

Pest Control/Management Practices will focus on human environments, wood-destroying insects pest control, and pesticide applicator training and education. These programs will include: 1) effective and safe pest control/management practices in human environments, 2) identification, prevention, and control of wood destroying insects, and 3) certification and re-certification training and education of pesticide applicators.

Other programs will focus on the increase in the adoption of practices that reduce nuisance and environmental impacts through the educational process. The topics addressed could include: control odors and vectors, protection of water quality, nutrient management, siting of facilities, and alternative waste handling practices. Emphasis will be on confined animal production facilities. However, development and demonstration of grazing systems to protect water quality are also of interest. The program will target training and certification of animal facility operators.

4. Internal and External Linkages

Internal: Department of Biological Sciences, Department of Agribusiness and

Economics, Department of Natural Sciences. Extension staff and specialists, both Clemson and S. C. State, including faculty from many departments, teaching and research faculty. County Extension Agents, Department of Pesticide Regulation, and selected others. Extension specialists in Entomology, Horticulture, and Plant Pathology & Physiology and county faculty, demonstration sites at Sandhill, Coastal, and Pee Dee Research & Education Centers

External: SC Departments of Health and Environmental Control, Agriculture, Natural Resources, Parks, Recreation and Tourism. The Forestry Commission, Forestry Association, industry, growers, USDA Forestry Service, South Carolina State Association of Small Farms, the Source Water Protection and Education Program, USDA/Natural Resource Conservation Service, consulting foresters, landowners, and other cooperating universities in the southeast region. USDA-NRCS, SC-DHEC, Farm Bureau, independent farmers and large integrated production units. State and municipal building inspectors, private inspectors, SC Pest Control Association, farmers and grower organizations, and others. South Carolina Nursery & Landscape Association, South Carolina Landscape & Turfgrass Association, International Society of Arboriculture, South Carolina Department of Agriculture Farmers Market Program, State Technical College System and local horticulture professional organizations

5. Target Audiences

Commercial producers, developers, golf course superintendents, land use planners, sludge and waste applicators, regulators, and forest industry. Extension agents; urban, suburban and rural homeowners; private landowners, with small to large holdings; farmers; ranchers; poultry and swine producers; foresters; farm and forest landowners; industrial landowners; shoreline business and recreation managers; resource managers; and home and garden clubs; youth and youth educators; volunteers; engineers; architects; agency personnel; wildlife specialists; government officials; recreation and tourism industry; and the general public. South Carolina's underserved urban and rural communities and landowners, limited resource farms and farm families, youth (ages 11 – 14) consulting foresters and other forest resource managers, professional foresters, resource managers. Integrator and individually owned and operated farm units, Agricultural Extension Agents, USDA-NRCS and SC DHEC Field Agents, public and private building industry inspectors, builders and building industry contractors, building industry financial loaners, pest control operators, farmers and growers, pesticide applicators, and others. The primary audience is the South Carolina consumer, horticulture service professionals and Master Gardeners that will serve as multipliers of educational efforts, food processors, food service operators, food handlers, food regulatory agencies, food packaging suppliers, food production personnel, consumers.

6. Program Duration

These programs are planned to continue through FFY 2006

7. Allocated Resources

Key Theme	a. Funding		b. Human Resources (FTE's)	
	FYY 2005	FYY 2006	FTE's 2005	FTE's 2006
Sustainable Environment				
1862 Ext	\$2,714,015	\$2,714,015	46.87	46.87
1862 Res	\$506,071	\$506,071	2.73	2.73
1890 Ext	\$39,150	\$39,150	1	1
1890 Res	\$223,240	\$223,240	4.9	4.9

Federal Goals

Goal 5: Enhanced Economic Opportunity and Quality of Life for Americans

A. **1. Issue to be addressed: Community and Economic Growth, Leadership and Volunteer Development, Public Policy, and Social Issues**

This program initiative addresses the need for increased leadership training and development in South Carolina's rural, transitional, and inner city areas. Transitional areas include counties at the fringes of metropolitan sprawls where the transition from agricultural to residential and industrial uses is taking place. Rural areas and inner city neighborhoods are frequently overlooked, ignored, or isolated from the benefits of sustained economic development in other nearby regions of the state. These areas characterized by flux or deprivation often lack progressive leadership which can foster a sense of teamwork and regionalism to address the locale's economic and quality of life concerns effectively.

Key Theme: Community, Leadership and Economic Development

Thinking is often dominated by turf related concerns and rigidity. A major component of the initiative addresses Business Retention and Expansion (BRE) needs in rural counties. The state is undergoing a major transformation from an agricultural and commodity-driven economy to a standard of living based on tourism, industrial expansion, and commercial development. Seventeen counties are classified by the state Department of Commerce as "Least Developed." Fifteen additional counties are considered as "Under Developed." These counties have large numbers of limited resource populations and many lie beyond easy commuting range to industrial areas. The BR&E approach to existing businesses in small towns meets a special need in rural areas. The probability of attracting a large international or national corporation to a remote location is low. The need is to keep existing industries and agribusiness enterprises satisfied and create an environment where expansion is a viable option. Many family and locally owned businesses in rural areas are experiencing increased competition from larger enterprises. 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.

Public issues' education is tied to another important need at the county and regional level. A major need in the state is the formation and implementation of a countywide comprehensive plan which addresses utility infrastructure, land use, and environmentally compatible economic development. Public issues education and skilled facilitation of public meetings where conflicts often emerge among parties with different value systems and different objectives are an important need. As rural and transitional counties undergo the transformation from agricultural to industrial and commercial economies, the resolution of public issue disputes become most important.

The Strom Thurmond Institute strives to be a recognized leader in providing information and assistance to citizen groups, business and special interest groups and governmental organizations at the local and regional level. The Institute sponsors research and public service programs to enhance civic awareness of public policy issues and improve the quality of national, state, and local government. The Institute is a non-profit, nonpartisan, tax-exempt public policy research

organization. The Institute supports two of the Public Service Activities goals: Economic and Community Development and Environmental Conservation.

Another important issue for this goal area is welfare reform. 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.

South Carolina will be conducting work in the key theme area, Community, Leadership, and Economic Development.

2. Performance Goals

Extension will demonstrate the ability to become more relevant, resilient, and responsive to the economic and community development needs of the state by program focus, partnerships, and collaboration. The key to successful rural development is leadership. The decisions that are made are based on the type of leadership provided, whether it is good or bad. Communities are in need of good leadership. Community outreach is extended to limited resource individuals/groups within the various target populations. All programs and services are made available and accessible to increase knowledge and understanding. Communities, especially the rural areas, are helped to raise their standard of living through entrepreneurial and economic education. By working together, many ideas and resources are shared. Stronger collaborations and creative partnerships are needed to sustain economic stability.

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

- a) 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;
- b) The creation of new community-based organizations in a minimum of 24 counties; with approved incorporation and IRS 501(c)93) status;
- c) The facilitation of growth and advancement in communities in a minimum of 24 counties through the action plans;
- d) The provision of increased capabilities for internet access, e-mail, literacy, and entrepreneurship through technological, telecommunications programs
- e) To help improve the quality of life of welfare recipients' movement from welfare to work.
- f) To enhance the economic viability of rural and urban communities.

In addition, 1890 goals will include the following:

- 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.

Output Measures	FFY 2005	FFY 2006
Percent increase in External funding, gifts		
New products processes, procedures or policies		
Disclosures, patents, licenses		
Variety releases		
Publications (technical and popular press)		
Potential client contacts	40,000	40,000
Number of educational programs and activities Conducted	600	600
Number of limited resource contacts	1,000	1,000
Number of people completing educational programs	10,000	10,000
Number of people reporting increased knowledge	7,000	7,000
Number of people who plan to adopt practices	4,300	4,300
Number of people adopting practices	1,000	1,000
Number of people receiving information Through "non program" contacts such as telephone, office and farm visits	5,800	5,800
Number of facilitated public meetings addressing public issues	40	40
Number of participants completing leadership programs who collaborate	500	500
Number of groups or agencies who collaborate on task forces	200	200

Outcomes:

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

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

- a) The development and maintenance of the communities assets database.
- b) A 10% increase in community volunteers in community programs
- c) A meaningful increase in diversity, gender, race, ethnicity, religion, age, socio-economic status) in participation and involvement in community projects
- d) An increase in collaboration and partnerships among the local community leadership and internal and external organizations.
- e) An increase in the financial support of community-based efforts.
- f) The extent of welfare to work recipients' movement from welfare to work
- g) 12% of participants demonstrating knowledge gained through this process by providing leadership and capability to replicate the strategic planning process.
- h) 12% increase in the number of community-based organizations with 501(c)(3) designations.
- j) 12% increase in the number of community-based organizations generating external funding of \$10,000 or more.
- k) 12% increase in the degree of satisfaction with community leadership component.

3. Key Program Components

Community Service, Leadership, Economic Development

Community Leadership Development and its derivative programs provide training on group process skills. Components include leadership and team building skills, communication, group facilitation, group decision-making, conflict management, and problem solving skills. Technical strategic planning process skills include needs assessment, asset mapping, priority setting, tactical planning, public policy formation, and program implementation. Substantive data include information on statistical county socioeconomic profiles, trend analysis, economic development, education improvement, local government, public safety, health care, land use planning, growth management, recreation, tourism, and community cultural features.

Economic Development addresses small and locally owned or managed businesses. Much of the emphasis is on family owned business surveying and limited problem solving. The program activity includes: data collection, analysis of results, presentation of results, and facilitation of linkages to match business needs and resources located at public and private agencies from the local to the federal level.

Public Issue Education, through the Public Issues Management School, provides training on alternative dispute resolution approaches. Graduates qualify as Certified Facilitators. Extension must remain in the position of a neutral third party in public disputes involving land use, economic development, and environmental protection issues.

Community Enhancement and Improvement will emphasize improvement linked to community image, sustainable economic development, and improved quality of life, through tourism development, clean-up and beautification, and the identification of historical sites.

1. Conducting educational and training workshops
2. Strategic Planning
3. Business development and management

4. Community Outreach

5. 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.
6. A program module especially developed for community leaders;
7. 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;
8. A technological/telecommunications arm that works to foster delivery of the other resources; universal internet and e-mail access, literacy, and economic development.

4. Internal and External Linkages

Internal: Faculty in landscape architecture, accounting, secondary education, economics, applied economics, political science, sociology, planning, recreation and tourism, and agriculture, Extension staff, School of Business and Small Business Development Center Extension county staff, SCSU Small Farmers Project, SCSU School of Business, SCSU Small Business Development Center Extension staff, faculty, specialists, EFNEP staff, South Carolina State University Cooperative Extension, College of Health, Education and Human Development, and Clemson Dropout Prevention Center. 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, Staff and faculty at Clemson and SCSU.

External: USDA- Rural Development, Rural Business-Cooperative Service, U.S. Department of Housing, SEEDCO, South Carolina Office of Information Resources, County of Orangeburg, City of Orangeburg. S.C. Departments of Commerce, Natural Resources, Health and Environmental Control, and Agriculture; Natural Resources Conservation Service, US Forest Service, S.C. Downtown Development Association, SC Association of Counties, S.C. Municipal Association; Councils of Governments; Strom Thurmond Institute, County Councils, Municipal Councils, Chambers of Commerce, and County Economic Development Offices. SC Arts Commission, Departments of Political Science and History. Northeastern Corridor of Orangeburg Community Development, Small Business Administration (SBA), South Carolina Department of Social Services and Social Services' State and County Level Officials. Citizens--youth and adult, Teen companions, Department of Juvenile Justice, Area Colleges, and Department of Education. County school districts, Local law enforcement agencies, community based organizations, youth groups, businesses, social organizations, USDA- Rural Development, Rural Business-Cooperative Service, U.S. Department of Housing, SEEDCO, South Carolina Office of Information Resources, County of Orangeburg, City of Orangeburg. Banks, 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, Northeastern Corridor of Orangeburg Community Development Corporation..

5. Target Audiences

Community leaders, neighborhood leaders, elected and appointed public officials, interested citizens, and representatives of public and private institutions. Small, family-owned or managed businesses. Limited resource youth between the ages of 5-19 in 20 counties. Small limited resource and minority businesses. rural and urban local government officials and administrators limited resource and minority youth, community Development Corporations Community leaders (both current and emerging), community volunteers, and Extension staff. Welfare to work participants and state and county social services officials.

6. Program Duration

These programs are planned to continue through FFY 2006

7. Allocated Resources

Key Theme	a. Funding		b. Human Resources (FTE's)	
	FY 2005	FY 2006	FTE's 2005	FTE's 2006
Communities, Leadership, Economic Development				
1862 Ext	\$717,927	\$717,927	11.5	11.5
1862 Res	-0-	-0-	-0-	-0-
1890 Ext	\$113,824	\$113,824	3.3	3.3
1890 Res	\$87,544	\$87,544	2.4	2.4

B. 1. Issue to be addressed

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 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. There will be an estimated 979,500 children under age 18 by 2005. In 1995, it was reported that 7,000 children less than 18 live in poverty. State juvenile violent crime has increased 220% since 1985. Teen birth rate has increased by 20% since 1985.

Key Theme: 4-H, Youth Development

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.

South Carolina families and youth have basic life skills and developmental educational needs that can and should be addressed by educational programs offered by the Clemson University Cooperative Extension Service. The 4-H youth development programs offer a wide variety of programs and activities that can provide experiential learning opportunities for youth ages 5-19. Adults and family members can benefit from the youth's involvement in 4-H and many become involved as volunteers. The Youth Learning Institute uses experiential education and natural settings to create innovative programs that assist in the healthy development of young people and adults. The Institute uses a variety of program models to teach valuable life skills to its participants. Programs range from planetarium visits to schools to two-week long residential camp experiences that provide students the ability to see and develop practical applications for the subject matter being taught.

2. Performance Goals

To conduct educational programs to strengthen families and youth in South Carolina.

To provide materials and promote 4-H activities that strengthen and enrich life skill development of youth ages 5-19 years.

To recruit, train, recognize, promote, and value volunteers/ cooperators of Extension.

To develop and deliver innovative experiential learning programs that use outdoor settings and/or residential environments to educate young people in a variety of subject areas.

To survey community based youth groups to determine level of assistance needed to strengthen organizational structure.

To plan programs for the youth groups that will serve as a recruitment tool and an opportunity to distribute information on improved well being.

To recruit and train volunteers to deliver programs on youth empowerment.

To assist community based organizations in creating partnerships and collaborations with local businesses and other social service agencies.

To coordinate frequent regional and statewide training sessions to reinforce skills for youth empowerment.

To provide opportunities for cultural enrichment and awareness of diversity and awareness of diversity

Output Measures	FFY 2005	FFY 2006
Percent increase in External funding, gifts		
New products processes, procedures or policies		
Disclosures, patents, licenses		
Variety releases		
Publications (technical and popular press)		
Potential client contacts		
Number of educational programs and activities Conducted	4,700	4,700
Number of limited resource contacts	30,000	30,000
Number of people completing educational programs	100,000	100,000
Number of people reporting increased knowledge	80,000	80,000
Number of people who plan to adopt practices	30,000	30,000
Number of people adopting practices	10,000	10,000
Number of people receiving information Through “non program” contacts such as telephone, office and farm visits	7,300	7,300

Number of youth participating in service learning	700	700
Number of youth providing leadership to service learning projects	200	200
Number of volunteer hours reported	1,000	1,000
Number of adult volunteers recruited	100	100
Number of adult volunteers trained	100	100
Number of adults involved in subject matter programming	500	500

3. Key Program Components

4-H, Youth Development Programs

4-H programs, activities, and events will be conducted in support of the eight 4-H curriculum areas: 1) Communication and Expressive Arts, 2) Healthy Lifestyles, 3) Personal Development and Leadership, 4) Consumer and Family Science, 5) Plants and Animals, 6) Citizenship and Civic Education, 7) Environmental Education and Earth Science, and 8) Science and Technology. In addition, Teaching KATE (Kids About the Environment), Youth Leadership, Family, and Special Needs Camping are also major programs for youth.

The training and utilization of lay volunteers to work with Extension agents in implementing educational projects have long been a major program emphasis. Volunteers help maximize the work of Extension. They can also speak for Extension in public relations efforts.

Leadership development that will include the following:

Goal setting, self esteem development and conflict resolution within community based settings utilizing the STAR program.

Academic enrichment and remediation through tutorial programs in after-school and Saturday programs.

Mentoring and counseling by college students for positive role models in the communities, on the college campus and via telephone and internet.

Culturally enriching programs and events on the campus and in locations across the state

Opportunities to interact with diverse cultures through the Association for Extension

Administrators' Greater Racial/Ethnic Participation in 4-H Initiative.

Field trips to locations and events in the state

"Citizenship Public Adventures" to reinforce skills needed for community participation

4. Internal and External Linkages

Internal: Extension staff, faculty, specialists, EFNEP staff, South Carolina State and Clemson University Cooperative Extension, College of Health, Education and Human Development, and Clemson Dropout Prevention Center, 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: Citizens--youth and adult, Department of Social Services, Teen companions, Department of Juvenile Justice, Area Colleges, and Department of Education, county school districts, Department of Juvenile Justice, local law enforcement agencies, community based organizations, youth groups, businesses, social organizations

5. Target Audiences

4-H, youth, and families in South Carolina and Cooperative Extension Staff
Limited resource youth between the ages of 5-19 in 20 counties.

6. Program Duration

These programs are planned to continue through FFY 2006

7. Allocated Resources

Key Theme	a. Funding		b. Human Resources (FTE's)	
	FYY 2005	FYY 2006	FTE's 2005	FTE's 2006
4-H				
1862 Ext	\$1,639,531	\$1,639,531	31	31

1862 Res	-0-	-0-	-0-	-0-
1890 Ext	\$113,823	\$113,823	3.3	3.3
1890 Res	\$87,543	\$87,543	2.3	2.3

C. 1. Issue to be addressed

Dramatic social, demographic and economic changes have deeply affected individuals and families in this country. Extension will focus on strengthening individuals and families while addressing current issues facing children, youth, and families across the lifecycle. South Carolina families at all income levels need educational information that improves human relationships and helps them manage their resources more effectively.

Key Theme: Families

Family resource management programs will focus on increasing the knowledge, attitudes, skills, and confidence to apply effective and successful financial management and wise consumer strategies thus increasing the financial stability and security of families across the life cycle. Creating caring families and communities through collaborative efforts is a MUST if we are to meet the challenges today and beyond. This approach demands a team approach to programming that focuses on the needs of the total family. Strong families provide children with a sense of belonging and identity and create hope for the future. In addition, utilizing effective volunteer management systems for working with volunteers is crucial to extending educational information to people and families to meet the challenges facing them and their communities.

2. Performance Goals

To promote activities to which will help strengthen family units, and to increase the capacity of families to enhance their own economic well-being.

To market the value of volunteer programs in Extension and with non-Extension agencies and groups.

To improve the cooperative relationship with South Carolina Family and Community Leaders and its volunteer leadership through the utilization of effective volunteer management systems.

- 1) Provide family development and resource management educational programs to improve the well-being of the family structure.
- 2) Enhance parenting skills, managing resources, and caring for children and dependent elderly family members through assessment skills.
- 3) Build partnerships within the community with public and private organizations.

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

To study the various factors that influence or determine adolescent violence or acting out

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

Output Measures	FFY 2005	FFY 2006
Percent increase in External funding, gifts		
New products processes, procedures or policies		
Disclosures, patents, licenses		
Variety releases		
Publications (technical and popular press)	3	3
Potential client contacts	7,000	7,000
Number of educational programs and activities Conducted	275	275
Number of limited resource contacts		
Number of people completing educational programs	3,500	3,500
Number of people reporting increased knowledge	2,100	2,100
Number of people who plan to adopt practices	1,000	1,000
Number of people adopting practices	350	350
Number of people receiving information Through “non program” contacts such as telephone, office and farm visits	2,100	2,100

Program Participants reporting increased Financial literacy	500	500
Program participants reporting that they set or revised spending and savings goals	50	50
Number of volunteer hours reported	90	90

Outcomes: (Anticipated long term outcomes which will benefit citizens of the state region and nation)

3. Key Program Components

Families

Programs, training and curriculum development in areas of Building Family Strengths will be conducted for Clemson Extension professionals, social service providers, counselors, teachers and other educators. 4-H programs, activities, and events will be conducted in support of the eight 4-H curriculum areas:

4. Internal and External Linkages

Internal: Faculty, specialists, Extension County Staff, Extension Family and Consumer Sciences,

Department of Parks, Recreation, and Tourism, Department of Family and Consumer Sciences, Department of Psychology and Sociology, Department of Nursing, an area high school's counseling office and counseling professionals, and participating teen mothers.

External: Consumer Federation of America, American Savings Education Council, AARP Legal Services Network Department of Social Services, Department of Health and Environmental Control (DHEC), Department of Mental Health, Methodist Oak Home (independent and non-independent elderly) and Council On Aging. Department of Teacher Education and Counselor Education and Psychological Foundations. Teachers in rural and urban schools in four South Carolina counties. External linkages with a school district's middle school. .

5. Target Audiences

Families, adults, youth, Limited Resource Families (Hampton, Marlboro, Orangeburg, Williamsburg Counties) Senior Citizens, Youth Rural and Urban School Teachers and Administrators. Middle school students in early adolescence, middle school counselors, teachers and administrators, teenage mothers.

6. Program Duration

These programs are planned to continue through FFY 2006

7. Allocated Resources

- a. Funding
- b. Human Resources (FTEs)

Key Theme	Funding		FTEs	
	FYY 2005	FYY 2006	FTE's 2005	FTE's 2006
Families				
1862 Ext	\$841,057	\$841,057	16	16
1862 Res				
1890 Ext				
1890 Res				

Summary of Expenditures and FTE by Goal

Planned Expenditures

	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5	Total
1862 CES	\$3,359,046	\$685,364	\$813,962	\$2,714,015	\$3,198,515	\$10,770,902
1862 AES	\$4,002,985	\$177,880	\$408,392	\$ 506,071		\$ 5,095,328
1890 CES	\$ 122,734	\$261,320	\$ 99,899	\$ 39,150	\$ 227,647	\$ 750,750
1890 AES	\$ 390,077	\$123,117		\$ 223,240	\$ 175,087	\$ 911,521

Planned Faculty FTEs

	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5	Total
1862 CES	45.0	11.0	15.77	46.87	58.77	177.41
1862 AES	17.16	1.08	1.67	2.73		22.63
1890 CES	4.50	0.50	2.50	1.00	6.70	15.20
1890 AES SY's for Faculty and Staff	10.70	6.10	1.40	4.90	4.70	27.80

B. Components of the Five Year Plan of Work (Continued)

2. Stakeholder Input Process

The process involved in seeking stakeholder input include: 1) identification of stakeholders—internal and external that should have input in the plan of work process, 2) process used in seeking stakeholder input, 3) plan of work questions for stakeholders, and 4) profile of external stakeholders. The Experiment Station and the Extension Service at Clemson and at South Carolina State University continues to participate in a constant exchange of information with commodity and environmental groups as well as foundations, the South Carolina General Assembly and engage in collaborations with private firms. This information sharing network provides insight on a wide range of issues impacting the state and it is used in making program decisions on research initiatives.

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 number of surveys with periodic follow-ups are conducted to acquire input from stakeholders.

These include the following:

- “Opinions About Farming in South Carolina”
- “What Concerns South Carolinians?”
- “E-Connectedness Among South Carolina Agricultural Producers”

The most recent survey was conducted in 2003: “South Carolina Agricultural Producers’ Needs and Clemson’s role in Meeting Them: Results of the 2003 Survey.”

Identification of Stakeholders—Internal and External:

Internal: Internal stakeholders include extension administrators, program administrators, county extension directors, extension agents, staff, agent associations, specialists, faculty, department chairs, school directors, and faculty and administrators from Experiment Stations.

External: The community at large, Extension county advisory boards, commodity groups, community leaders, human service providers, business/industry, and collaborators such as Farm Bureau, Chamber of Commerce, Farm Service Agencies, etc.

Process Used to Seek Stakeholder Input and Questions

Nominal group technique (NGT) was used to garner stakeholder input to the POW process. NGT is a process where groups of people come up with a large number of ideas in a relatively short period of time. NGT is helpful in identifying problems, exploring solutions and establishing priorities.

Several steps were involved in conducting the NGT. First, all of the 46 counties were asked to conduct a NGT in their respective counties. Second, instructions were provided to all county offices/county directors of the steps involved in conducting the NGT. Third, to assure diversity, emphasis was placed on to get a cross-section of people that represent the local community. Fourth, a set of rules and procedures were established for smooth conduct of NGT. Fifth, a series of questions were identified for stakeholders to respond. Questions included: 1) What are the five most critical issues facing your communities in the next five years? 2) Is Extension addressing any of these issues? and 3) What partnerships do you think might be formed with Extension to address the issues or concerns? The responses to these questions were summarized by county, by cluster and by state as a whole. The sixteen initiatives and 70 projects are a result of this process which were later included in the strategic goals of Public Service and Agriculture (PSA) in South Carolina.

Profile of Stakeholders

Of all the external stakeholders, extension advisory boards play a significant role in the POW. Extension advisory board members constantly provide input to Cooperative Extension in South Carolina. A profile of advisory board members would help address the diversity issue. Of the 237 advisory board members who provided input, 48% were male, 52% female; 81% Caucasian, 15% African-American, and 4% other. Regarding age, 5% were less than 35 years of age, 46% between ages 36 and 55 years, and 49% more than 55 years. Eighty-four percent were married and living with a partner. Regarding education, 15% had completed high school, 18% some college, 35% were college graduates, while the remaining 32% held masters or professional degrees.

A study conducted by Dukes (1999) on the Expectations of Public Service at Land Grant Institutions for the 21st Century by traditional and non-traditional audiences in South Carolina found that important issues facing communities in South Carolina are: 1) growth and population, environment, community and economic development, agriculture productivity, family issues, and food, health and nutrition.

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 8 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 those 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.

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 those participating 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 these 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.

3. Program Review Process

Merit Review

The AREERA Act of 1998 specifies that land grant universities establish a process for merit review of program initiatives. The composition and organization of the South Carolina Merit Review Committee is presented below:

- 2 members from the industry sector
- 2 members representing state and local government
- 1 member from organizations representing the public interest
- 1 member from the service sector
- 1 member from organizations representing underserved populations
- 1 member from community advisory organizations

The committee chair will rotate each year between the Director of Research and Extension at Clemson, and the Director of Research and Extension, South Carolina State University. The director not serving as committee chair will serve as an ex-officio member.

Initial appointments to the committee will be divided equally between 1, 2 and 3 year terms. Thereafter, terms will be for 3 years.

Programs to be reviewed will be sent by mail or e-mail to the members. The mailing will include a description of the new program to be considered along with a set of questions to be addressed regarding the program. The results will be returned to the chair and the results will be tabulated and shared with the membership and others. This facilitates sending new proposals out anytime during the year, and significantly reduces costs and time commitments by the directors and staff.

Three evaluation criteria will be used by the Merit Committee to perform a merit review of programs; relevance, capacity and impact.

Relevance refers to the appropriateness/applicability of program initiatives to address critical issues facing South Carolina.

Capacity is the ability of faculty and staff to develop, implement and evaluate program initiatives.

Impact refers to the effectiveness of program initiatives in accomplishing the established goals.

Relevance will be rated at 40%, capacity at 40% and impact at 20% in each program review.

A. 1862 Extension and Research Program Review

The same three evaluation criteria used by the Merit Committee are being used by Extension and research in preparing new programs for submission to the Merit Review.

Evaluation Framework

A four part evaluation framework has been designed to assess the effectiveness and impact of 1862 programs (Figure 1). The four components of this framework are: 1) Clemson University Management Information System (CUMIS), 2) Clemson University Agricultural Program Information and Performance Management System (APIPMS) 3) Customer Satisfaction Surveys (CSS), 4) Generic Evaluation Instrument (GEI)

Component 1: CUMIS

The Clemson University Management Information System (CUMIS) is a web based reporting system. Any individual who has 20% or more Extension appointment will report his/her activities to the system. As indicated earlier, Extension programs are focused around the five strategic goals of PSA. Within these goals, there are initiatives that address broad issues related to the goals. Within initiatives, there are projects, which addresses specific issues respective to each initiative.

The CUMIS system provides data relative to time spent, contacts made by gender, race and limited resource, number of programs/activities conducted, number completing programs, number increasing knowledge, number adopting practices and six other indicators specific to each project. In addition, narrative stories are also included.

Component 2: APIPMS

APIPMS, Agricultural Program Information and Performance Management System is a comprehensive, Internet-based, computerized information system that serves both research and extension. This system delivers pertinent information to all levels of the organization and to the general public. By delivering customized web pages and reports, APIPMS assists the faculty and staff in their research and Extension duties, delivers information so that administrators in both the Experiment Station and Extension Service can make better decisions affecting their areas and informs the public about the activities we and services of our organization.

The Internet-based system of APIPMS consists of three distinctive products – Information Management System (IMS), Professional Home Page (PHP), and South Carolina Growing (SCG). These three products have a unique mission that not only supports the administrative requirements of research and extension but also the faculty and our stakeholders. Like all three systems, IMS uses both university data and CRIS information to better summarize and report the activities associated with Public Service and Agriculture. Initially a system designed toward research data, IMS is slowly including extension data as part of it's reporting capabilities.

Component 3: Customer Satisfaction Surveys

A customer satisfaction survey (CSS) has been developed and is being used to assess the quality of services provided by Extension staff in the 46 counties of the state. Specifically, it measures customer's satisfaction with information obtained from calling or visiting the Extension office. The goal of CSS is to help county staff find ways to improve program quality, information delivery, and more important, to assist in the accountability process.

Each county will randomly select 30 individuals who have received Extension services or information. For purposes of accuracy and ease, two categories of participation were identified. These include: 1) office visits and 2) planned programs. Once the 30 individuals are identified, a team of agents/staff will call these 30 individuals and collect data relative to the four indicators

--1) up-to-date, useful, relevant and easy to understand information, 2) the extent to which recipients had the opportunity to use the information, 3) the extent to which they have shared the information with others, and 4) the extent to which they are satisfied with the services provided by Extension.

Component 4: Generic Evaluation Instrument

A generic evaluation instrument (GEI) has been developed to collect information to assess impact of select Extension educational programs on individuals who had participated in Extension programs in all the 46 counties. Impact will be assessed through: 1) knowledge gained, 2) behavior change, 3) adoption of practice, and 4) economic gain through generation of income or savings as a result of participation and using Extension information and services. Bennett's hierarchy of Extension programming will be used as a guideline to assess program impact. Two programs/projects in each of the five PSA goals will be randomly selected for each county. In all, 460 (2x5x46) programs/projects will be selected for gathering information on GEI. Once the selection of programs/projects is completed, a list of participants in those programs/projects will be identified. Then, a random sample (depending on total number of participants) of participants will be selected. The GEI will be administered via telephone. Data thus collected will be analyzed to assess impact. Data from CSS and CUMIS reports will also be used to assess impact.

B. 1890 Research Peer Review System

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 Assistant Administrator, and the Evaluation Specialist who reviews the relationship of the proposed project to the needs of Extension. Once approved by the Director, Assistant 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.

New Program concepts are reviewed in much the same way, and once they are recommended by the Director of 1890 Research and Cooperative Extension, they are forwarded to the Merit Review Committee..

4. Multi-State Research and Extension Initiatives

A. 1862 Research (Hatch Multi-state)

The Experiment Station invests in excess of \$1,338,000 each year of Hatch funds and matching funds in multi-state initiatives. For Federal Fiscal Year 2005 \$1,835,405 in state matching funds will complement \$669,419 in Hatch Regional Funds in support of multi-state initiatives.

The following Hatch Multi-state Research initiatives are underway. They are presented by GPRAGoal:

Goal 1: An Agricultural System that is Highly Competitive in the Global Economy

S-65	S. Barefoot	Sept 2029	Multistate research coordination, Southern Region
W-181	T. Jenkins	Sept 2009	Modifying Milk Fat Composition For Enhanced Manufacturing Qualities
S-302	A. Keinath	Sept 2005	Biological control of soil-borne Plant pathogens for sustainable agriculture
S-1013	S. Meadows	Sept 2007 and region	Breeding to optimize maternal performance reproduction of beef cows in the Southern region
S-289	D. Maurice	Sept 2009	Factors associated with genetic and phenotypic variation in poultry: molecular to populational.
NC-142	B. Moore	Sept 2007	Regulation of Photosynthesis Processes
NC-140	G. Reighard	Sept 2007	Rootstock and Interstem Effects On Pome and Stone Fruit Trees
S-9	E. Shipe	Sept 2007	Plant genetic resources conservation and Utilization

NE-1006	S. Scott	Sept 2006 (Sharka)	Eradication, Containment and/or Management of Plum Pox Disease
NE-1016	T. Scott	Sept 2008	Genetic Bases for Resistance and Immunity to Avian Diseases

Goal 2: A Safe and Secure Food System

S-295	P. Dawson	Sept 2005	Enhancing food safety through control Of food-borne disease agents
S-292	P. Dawson	Sept 2009	The Poultry Food System: A farm to table model

Goal 3: A Healthy Well Nurished Population

There are no regional research initiatives in this Goal area

Goal 4: Greater Harmony Between Agriculture and the Environment

S-1000	D. Brune	Sept 2006	Animal Manure and waste utilization,treatment and nuisance avoidance for a sustainable agriculture.
S-301	G. Carner	Sept 2005	Evaluation and safety of entomopathogens for control of arthropod pests
S-1004	J. Hayes	Sept 2006	Development and evaluation Of TMDL planning and assessment tools and processes.
S-1015	S. Lewis sustainable crop resistance	Sept 2008	Managing plant-parasitic Nematodes in agriculture with emphasis on
S-303	G. McCutcheon	Sept 2005	Biological Control of arthropod pests and weeds
S-1011	M. Riley	Sept 2007	Solid-phase extraction

techniques for pesticides in water samples.

S-1014	B. Smith	Sept 2008	Mineralogical controls on colloid dispersion and solid-phase speciation of soil contaminants
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Goal 5: Enhanced Economic Opportunity and Quality of Life for Americans

NE-1011	D. Barkley	Sept 2007	Rural Communities, rural labor markets and public policy
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S-1007	D. Bruney	Sept 2007	The science and Engineering for a biobased industry and economy
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S-296	M. Henry	Sept 2005	Rural labor markets workers, firms and communities in transition
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S-298	J. Marsh	Sept 2005	Assessing impacts of welfare reform on individual, family and community well being in the rural South
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Total Support for Regional Research Initiatives: \$2,504,824

Funds	\$ 669,419 Hatch Regional Research
	\$1,835,405 State Matching Funds

B. 1862 Extension Multi-state

Extension faculty and staff will be involved in a wide range of Multi-state initiatives. Specific examples include following:

1. Virtual Small Fruit Center
2. Regional Forestry Position
3. Regional Water Quality Position (EPA)
4. Orchard Floor Management
5. Food Safety Education

In the following paragraphs, the purpose/goals, cooperating states, and financial commitment for each of the initiatives is presented.

1. Virtual Small Fruit Center

Purpose and Goals: The purpose is to foster interdepartmental, interdisciplinary and inter-campus communication and collaboration related to small fruit crops in the south eastern region, and to create more visible and active focal point for stakeholders within and outside the university for research, extension and outreach activities related to small fruit production, handling, processing, marketing and consumption.

Cooperating States: Clemson University, SC
North Carolina State University, NC
University of Georgia, GA

Financial Commitment: FTEs - 0.3; 33.3% of the total budget (\$104,091)

2. Regional Forestry Position

Purpose and Goals: To increase coordination and expansion of forestry educational programs in the region through sharing skills, expertise and resources of the cooperating organizations by establishing a Regional Extension Forester position.

Cooperating States: Alabama Kentucky North Carolina Tennessee
Arkansas Louisiana Oklahoma Texas
Florida Mississippi South Carolina Virginia

Financial Commitment: FTEs - .08; \$4,500 for each participating state

3. Regional Water Quality Position

Purpose and Goals: To strengthen coordination and cooperation among EPA, state environmental agencies, USDA-CSREES, Cooperative Extension in the eight states in the region. In addition, it will identify and provide related extension educational materials to EPA and others as appropriate and communicate research, and other education needs of extension audiences to EPA and other appropriate organizations.

Cooperating States: Alabama Florida Georgia Kentucky
Mississippi North Carolina South Carolina
Tennessee

Financial Commitment: FTEs - 0.12; \$4,750

4. Orchard Floor Management

Purpose and Goals: To provide overall direction and leadership in orchard and vineyard floor management in North Carolina, South Carolina, and Georgia. Specific goals include: 1) evaluating orchard and vineyard floor management programs, 2) provide support to county extension faculty by writing appropriate extension publications, participating in field days, on-farm demonstrations, and in service training.

Cooperating States: North Carolina, South Carolina, and Georgia

Financial Management: 1/3 FTEs and a yearly budget of \$14,000 for each state. The combined total is 1.00 FTE and \$42,000.

5. Title: Food Safety Education

Purpose: To validate existing food safety educational resources.

Cooperating States: *University of Georgia, North Carolina State, Clemson University*

Financial Commitment: *\$30,000 annually*

C. 1890 Multi-State Research and Extension Activities

FFNEWS: Families First: Nutrition Education and Wellness System (FFNEWS) is a nutrition education intervention program designed to help families select and prepare meals consistent with their cultural traditions while improving their overall health. Upon completion of the program, participants are able to make rational food choices from a variety of foods, improve their diet through a wide selection of food and food supplements, improve the nutritional status of the family by better utilizing foods commonly available in traditional recipes, practice food safety measures in handling foods during meal preparation and service and practice safe and nutritious home gardening and food preservation skills. The target audience are primary food stamp recipients and secondary at-risk youths in summer camp.

FFNEWS is conducted by a multi-state consortium of 1890 Cooperative Extension Programs at: Langston University (Oklahoma), Prairie View A&M University (Texas), South Carolina State University (South Carolina), Southern University and A&M College (Louisiana), University of Arkansas at Pine Bluff (Arkansas) and Lincoln University (Missouri).

Greater Minority Participant Program: The Greater Minority Participant Program is an effort to improve diverse youths' participation in 4-H activities. The Greater Minority Participant Program is sponsored by the Association of Extension Administrators and South Carolina State University 1890 Cooperative Extension. To increase all racial and ethnic participation in 4-H at the local, state and national levels, the program will foster meaningful collaboration among the traditional partners (CSREES, National 4-H Council, land grant institutions), new youth development organizations and organizations with racial/ethnic minority clientele.

In addition to South Carolina State University (South Carolina), there are 14 other institutions in 13 states participating in the program. They are: Florida A&M University (Florida), University of Maryland Eastern Shore (Maryland), Alabama A&M University (Alabama), Alcorn State University (Mississippi), Southern University (Louisiana), Kentucky State University (Kentucky), Tuskegee University (Alabama), University of Arkansas at Pine Bluff (Arkansas), Langston University (Missouri), Virginia State University (Virginia), North Carolina A&T University (North Carolina), Fort Valley State University (Georgia), Delaware State University (Delaware) and Prairie View A&M University (Texas).

5. Integrated Research and Extension Activities

A. As required by the AREERA Act of 1998, the Experiment Station and the Cooperative Extension Service at Clemson University have integrated their efforts to foster knowledge

development and transfer for the citizens of South Carolina. The process of involving the integration of research and Extension efforts are as follows:

A critical element for successful integration efforts is the joint appointment of faculty in both research and Extension. The Research and Extension integrated activities are presented below by program area.

	RESEARCH	EXTENSION
	Funding	Funding
Turfgrass		
Camberado	\$71,821	\$24,292
Hale	18,221	54,663
McCarty	62,613	20,871
Fruit Crops		
Schnabel	\$31,460	\$47,191
Field Crops		
Norsworthy	\$19,908	\$19,908
Chapin	25,396	76,188
Frederick	74,189	24,358
Jones, M.A.	21,587	64,763
Mueller	79,693	19,918
Pest Management		
Zungoli	\$42,199	\$24,968
Morse	42,244	30,363
Benson	25,662	78,102
Hood	22,796	45,592
Totals	\$537,769	\$531,177
	\$395,376 (Research Target in The USDA POW)	\$460,123 (Extension Target in The USDA POW)

B. As community problems and concerns are identified, they are defined by 1890 Extension, research is conducted and feedback is provided to the community through Extension. Higher Education has a critical supporting role in this integrated model.

Societal Problems are identified by Stakeholder Input which is then defined by Extension and studied by Research. Research returns resultant information back to Extension which develops programs, gets Stakeholder Input (Merit Review), and delivers the program back to the community. Higher Education is a partner in this process by gathering data to help identify problems, to help with the identification of the problem by posing hypotheses and then conducting research through multi-disciplinary/multi-institutional/multi-state/region collaborations. After the research has been conducted, Higher Education disseminates results through presentations and publications and delivers those results through academic course offerings.

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.

Response to Work Load (FTE) concern:

The FTEs presented in the South Carolina State 1999-2004 Plan of Work for each Focus Area are best estimates of funded human resources. Specific reference to Focus Area 451 (Natural Resources and the Environment) under Goal 4: Greater harmony between agriculture and the environment will include support from the South Carolina Department of Natural Resource which has committed to assist South Carolina State University's 1890 Cooperative Extension Program in the development of water quality education programs. In addition, the South Carolina Department of Health and Environmental Control (DHEC) has agreed to assist this program effort in the development of water quality information.

Finally, in addition to identifying and utilizing volunteers for many Focus Areas, funds are being sought for support through student internships.