

**NORTH CAROLINA
COOPERATIVE EXTENSION
MAJOR PROGRAM
ACCOMPLISHMENTS**

1997



**North Carolina
Cooperative Extension Service**

NORTH CAROLINA STATE UNIVERSITY
NORTH CAROLINA A&T STATE UNIVERSITY

NORTH CAROLINA COOPERATIVE EXTENSION SERVICE

PROGRAM ACCOMPLISHMENT REPORT 1997

Program Overview

The North Carolina Cooperative Extension Service provides educational programs to help North Carolinians improve the quality of their lives. North Carolina State University and North Carolina A & T State University deliver a coordinated Extension educational program available to all people in North Carolina.

In 1997, the North Carolina Cooperative Extension Service completed the second year of its long range plan, *Foundations For The Future*. This report represents many of the accomplishments of Extension educational programs during the calendar year of 1997. The successful achievements indicated in this report reflect the vast array of impacts that Extension programs are having on the people of North Carolina. These results are the end products of educational programs coordinated by the two cooperating land-grant universities in each of the state's 100 counties and the Cherokee Reservation. The programs are supported through the cooperation of county, state and federal governments, and a wide variety of organizations, groups, and individuals.

Extension's educational programs were planned and implemented in collaboration with thousands of the state's citizens. These programs reach all areas of the state, and a vast proportion of the state's population. The programs were evaluated to assess the resulting contributions to a profitable and sustainable agriculture; a protected and enhanced environment; stable communities; responsible youth; and strengthened families. The cumulative information that is reflected in the reported accomplishments demonstrates some of the scope and quality of Extension's programs for the benefits of the state's citizens.

The *Foundations For the Future* long range plan consists of twenty Cooperative Extension Major Programs, and within the construct of Extension's mission, these programs address priority needs of the state's citizens. Program accomplishments that have accrued during the calendar year, 1997 from implementation of this long range plan are included in this report.

Jon Ort, Director

Agriculture and Natural Resources Programs

1997 Accomplishments Overview

CEMP - 03 Agriculture and the Environment

The Agriculture and the Environment Program educates users about relationships between agriculture systems and the environment. It is intended to protect or enhance air and water quality through the promotion and use of economically and environmentally sound practices to manage air and water resources, waste materials, soil, nutrients, pesticides and petroleum products. The program captures the benefits of whole farm and watershed based programming and of collaboration with NRCS, SWCD and other agencies and organizations working to protect and enhance natural resources.

To equip users to implement BMP's to improve air and water quality, CES faculty trained 28,137 people in land application of animal wastes, landscaping BMP's, and pesticide application. To support environmentally sound nutrient applications, soil tests were analyzed on 350,000 acres; nutrient content of manures was determined on waste applied to 179,000 acres; and plant tissue analyses were conducted on plants on 12,250 acres.

Farmers, landscapers and other users implemented soil and water protecting BMP's and reduced erosion soil losses by 126,500 tons on cropland, pastureland, and on high use areas. Through using animal and poultry wastes as fertilizer, growers captured 10,020 tons of nitrogen and 10,485 tons of P2O5, valued at \$6.4 million, for use on field crops, forage crops, and horticultural crops. Use of commercial sources of nitrogen were reduced by the equivalent of 78,600 pounds of nitrogen compared to conventional or previous rates; phosphorus use was reduced 75,000 pounds.

Using bioengineered genetic material, growers reduced pesticide use by 159,000 pounds. State-wide, producers saved an estimated \$4.9 million by application of integrated pest management and other practices and technologies designed to reduce reliance on pesticides. Wildlife habitat was established on 9,829 acres. Growers recycled 220,000 pesticide containers, saving \$120,000 in landfill charges.

The target audience realized cost savings and added value through improved nutrient use and pesticide savings, alone, that totaled \$11.3 million. Estimated cost of the program was \$1.7 million; volunteers provided 18,000 hours of effort valued at \$180,000.

CEMP - 04 Animal Production and Marketing Systems

The Animal Production and Marketing Systems program extends to all major species--dairy and beef cattle, swine, horses, sheep, goats, poultry and aquaculture species. With some species, programs have focused on problems and opportunities associated with growth of the industries, particularly in the environmental arena. For others, the focus is to restore or sustain profitability. There is an ongoing need to seek, evaluate, and integrate new enterprises that can enhance the income stream on farms. This program targets two clientele groups--farmers and their families, and the general public.

Many of the program elements that provide effective education and information transfer to these audiences involve systems or integrated approaches. Recently, the following "systems based" programs have been developed: "Certified Beef Production"; grazing management schools; "DairyWise"; equine short courses; "Professional Swine Managers Training." These systems programs focus producers' attention and actions to integrated systems thinking.

Production and economic impacts on farms are manifested through improved nutrition, breeding, marketing and uses of buildings and facilities. Producers who have implemented changes in their operations because of education and information transfer provided in the areas above, and others, have realized the following impacts:

Value of enhanced nutrition management	\$4.2 million
Value of optimized breeding systems	1.5 million
Value of enhanced marketing approaches	5.6 million
Value of recommended buildings/facilities use	2.7 million
Value of enhanced practices to limited resource farmers	\$270,000

Other programs have had significant impact because they take needs based applied research results, developed by extension workers, directly to implementation. Educators working with aquaculture producers solved feed quality and disease problems that saved fish worth \$772,000. Implementation by the poultry industry of new mineral feeding strategies, demonstrated by poultry specialists, has a value of \$1 million annually. Rapid egg cooling technology could add annual premiums of \$15 million to shell egg producers nationwide. Poultry Science and the College of Veterinary Medicine developed a plan for disease monitoring of poultry flocks to achieve early detection of highly infectious and transmissible diseases. Finally, feeding probiotics to quail has increased survivability worth \$300,000 annually.

Education and technical assistance in programming through networks have been instrumental in a number of situations. To meet educational needs of horse producers, 112 Regional Equine Information Network System (REINS) certified volunteers are at work. There is at least one volunteer in each county in the state. These volunteers provide information and education to horse producers. They annually devote 13,440 hours of effort, valued at \$201,600. Eastern Foods, organized with extension assistance, is a farmer owned cooperative that reduces input costs and

enhances market value for independent swine growers. In 1997, combined purchases were \$6 million, representing a savings to growers of 10% to 15%. Youth livestock, poultry and horse programs network youth, parents, educators, volunteers, advisors, agribusinesses and other organizations into an outreach program that is the targets in the US according to ES237 reports. The long term value of these programs is in student recruitment, leadership development, and citizenship.

In the general public, 28,000 people gained understanding and appreciation about animal agriculture. Over 17,000 people gained increased knowledge of their food supply and food quality standards, and 2,242 farmers adapted practices and standards to address issues and concerns of the public.

The value of volunteer time devoted to this program in 1997 was \$226,800.

CEMP - 07 Crop Production and Marketing Systems

The Crop Production and Marketing Systems program serves agronomic, horticultural and forestry crop industries involving 4.1 million acres and generating \$2.5 billion. The diversity of these crops is fundamental to economic viability of producers in these industries. This program addresses the educational and information needs of full and part-time farmers, limited resource farmers, agribusinesses and non-farm citizens. The overall aim of the program is to provide research based information on production practices, marketing strategies, application of new technologies, environmental issues and government regulations..

Many of the impacts of this program have been realized through implementation of innovative technologies. These innovations are intended to enhance farm income through savings in input costs, enhance market value and enhanced environmental impacts. Some of the innovations reported included the introduction of a new baling system for tobacco, use of bioengineered plant genetics, irrigation scheduling programs, accessing World Wide Web sources for information on commercial vegetable production, temporary burley tobacco curing structures, and GreenWise management program for nursery operators.

Other impacts have resulted from applying "systems thinking" to farm, nursery and woodland operations. Some examples include Integrated Pest Management strategies on row crop, orchard, nursery, Christmas tree and organic farms; weather based advisories for disease control; enhanced efficiency and diversification in management and use of tobacco transplant greenhouses, enhanced marketing and risk management to gain long term sustainability.

Finally, much program efforts have been directed to educating farmers and the public about key issues impacting crop production and marketing systems. Some of the key issues include land application of animal and other waste materials, reduced pesticide use in cropping systems, prevention of soil erosion and sedimentation, farm diversification strategies, reduced nutrient loading in ground and surface water,

applications of genetically engineered crops, and improved profitability.

The following specific impacts were reported:

292 farmers adopted new marketing options which generated more than \$3 million in additional profits.

Over 2,870 growers implemented improved practices on 167,000 acres and generated additional profits of \$10 million.

More than 360 growers added new crops to their farming systems, affecting 14,973 acres and increasing income by \$969,000.

Growers of a variety of crops adopted BMP's such as variety selection, IPM, and no-till systems. Implementation of these practices on their farms generated an almost \$27 million in added income.

Four thousand growers used IPM practices on 616,000 acres and saved \$5 million dollars in reduced pesticide use. It was estimated statewide that these programs reduced pesticide used by over 433,000 pounds of active ingredient.

An estimated 4,200 growers used genetically engineered crops on over 127,000 acres, resulting in increased income of \$2.3 million and saving \$720,000 in reduced pesticide needs.

About 3,000 growers adopted new crops or products and/or new marketing strategies. These outcomes were associated with \$3.9 million in additional income.

An estimated 39,000 citizens became more aware of the value of efficient cropping systems, the aims of the IPM program to reduce pesticide use, the risks and benefits of genetically engineered crops, and global trends and trading practices.

CEMP - 14 Marketing and Production of Alternative Agricultural Opportunities and Enterprises

The Marketing and Production of Alternative Income Opportunities and Enterprises program assists commercial and small, part-time and limited resource farmers in selecting and implementing alternative opportunities to increase their income. Focus areas include horticultural and specialty crops, livestock, marketing, risk management and natural resources conservation.

Of producers who participated in this program, 256 commercial and 342 small, part-time or limited resource growers tried alternative enterprises, methods or practices in their operations. For commercial growers, the value of new investment in producing and marketing alternative enterprises was \$632,000. The added value of production

of the new enterprises was \$1,216,000. An additional \$715,000 was realized by small, part-time, and limited resource farmers who integrated new enterprises into existing operations.

Marketing of locally grown products was reported by a number of counties participating in this program. Several counties reported direct involvement of CES in helping growers establish farmers markets, marketing cooperatives, and niche markets for specialty products. Business management, including risk management and farming in distress, programs were conducted in three counties. In addition, the program focus on risk management has helped farmers set business goals and develop a business plan.

The value of volunteers' time devoted to this program area was \$14,000. Appropriated funds in support of the program were estimated at \$99,000.

CEMP 02: Agriculture and Natural Resources Policy

The Agriculture and Natural Resources Policy programs are directed toward improving the efficiency and effectiveness of agriculture and natural resources policy through better informed stakeholders, decision-makers and the general public. Educational programs were related to technical subject matter, thus relating directly and cooperatively with at least 8 other CEMPs and on the process of policy development and decision-making. The premiere Natural Resources Leadership Institute continues to have an impact in North Carolina. In 1997, 26 participants were enrolled in the third Institute and 30 fellows graduated from the 1996 program. Program participants were involved in a number of local and state-wide issues. One agent, who was a part of the institute, facilitated the resolution of a landowner-hunter controversy in a neighboring county at the request of the agent and county commissioners. Other programs have resulted in a Farmland Preservation Ordinance in one county and a Voluntary Agricultural Districts Ordinance in another county. Funding from the North Carolina General Assembly led to the creation of 5 area specialized agents to provide information and facilitate adoption of practices to improve water quality in the Neuse River Basin. The effectiveness of this cadre of agents in informing the public and various organizations on the importance of water quality in the Neuse River has led to enhanced, collaborative programs with other agencies and organizations and expectations for similar efforts in other river basins.

Extension has been instrumental in resolving water quality issues in areas other than the Neuse River basin, in addressing animal waste management policies and regulations, land management controversies, pesticide rules and regulations, and use of Best Management Practices in various situations. Over 3,218 people participate in extension educational efforts, involving 155 volunteers. It is difficult to determine the value to society of extension efforts when resolving or even preventing potential conflicts. However, estimates indicate a value of more than \$10,000,000. Extension continues to work to train its own personnel as well as those of other agencies and organizations on the facilitation and collaborative problem solving processes as a

means of minimizing conflict and enhancing cooperative solutions.

CEMP 06: Community and Economic Development

The establishment of community organizations and enhancement of the organizational and leadership skills of community members are essential to the improvement of services and quality of life of communities. In 1997, Extension faculty worked with over 2,900 people resulting in 24 new community organizations and the development of 41 new community development projects. Educational programs to assist community leaders in using economic development concepts and tools to promote sustainable economic development have included over 753 people with subsequent application of computer models, videos and fact sheets in local communities. Over 430 persons participated in conferences. As a result, 7 new businesses with a payroll of \$300,000 were attracted to participating counties. Other educational programs resulted in the development of 19 new small and home-based businesses with a payroll of \$149,249. Two hundred and twelve people increased their income as a result of participating in these workshops. Additional program efforts have resulted in the establishment of a regional advisory committee in western North Carolina, involvement of limited resources citizens in community building design and use, enhancement of public access to the information super highway, and development of alternative recreational and eco-tourism opportunities. Over 2,100 volunteers participated in all aspects of the community and economic development program. Overall program efforts provided a value of nearly three-quarters of a million dollars.

CEMP 10: Food and Forest Products Manufacturing

The food products industry has turned from an inspection-based safety system heavily dependent on regulatory input, to a system now in tune with Total Quality Management. In this new system, production processes are analyzed for potential hazards, controls are identified for the hazards, and monitoring of these controls by measurable criteria is affected. Reporting and verification steps keep the system working. Training has been conducted for 1,200 food processing personnel. The Extension Service developed Seafood HACCP Training Curriculum has been recognized by FDA as the national model. Assistance has been provided to over 200 businesses involved in food processing and at least 30 new companies were assisted in start-up.

Forest products manufacturers will increase their productivity, profitability, competitiveness and utilization of innovative technology. New manufacturing techniques were adopted by 257 firms. Consumers also increased their knowledge of the economic importance of the wood products industry (917), their understanding of forest products and their proper use (809), and 93 consumers adopted practices related to selection, use and maintenance of wood products. Improved utilization or productivity of wood processing firms resulted in a savings of \$2,160,000. There was an increased production of value-added products worth \$4000,000,000. Dollars saved through improved yield, efficiency, and marketing was at least \$3,340,000.

Three thousand five hundred people attended the 1997 Carolina Log'n Demo to view state-of-the-art harvesting equipment and learn about water quality, safety, and other issues related to the logging industry. In addition, 72 exhibitors from 12 states and Canada showcased over 150 product lines. Estimates indicate the exhibitors sold over \$10,000,000 in equipment and \$200,000 was injected into the local economy.

CEMP 15: Natural Resource Conservation and Management

Natural Resources Conservation and Management programs increase environmental awareness among youth, increase involvement and the quality of decision-making by citizens, increase market sale of timber and recreational leases on private lands, and increase the fisheries and wildlife value accruing to landowners and lease holders. In 1997, the estimated value of the programs delivered to over 45,000 citizens was \$8,795,035. Over half of the 1,064 volunteers involved in these programs were associated with 4-H summer camping programs and Project Learning Tree. To address the needs of a growing Hispanic audience, a Spanish version of "School Yard Environmental Projects: A Planning Primer," and a Spanish and English activity sheet, "School Yard Environmental Projects," were published and distributed.

An additional 21,371 acres were entered into the Forest Stewardship program; 1,086,850 acres of private land was leased for wildlife recreational purposes as a result of extension educational programs. On-going educational programs on timber management and marketing have netted landowners increased profits, in one case as much as 260% over initial sales offers. Research and demonstration projects in the Coastal Plain of North Carolina and the Piedmont of Virginia dedicated to understanding wildlife and water quality values of field border systems in association with row crop agriculture is expected from the basis for enhanced Farmland Stewardship programs.

CEMP 17: Residential and Community Horticulture, Turf, Forestry and Pest Management

Demand for programs in the area of non-commercial horticulture and forestry and residential pest management continues to increase. The greater awareness of more diverse publics of the economic as well as environmental importance of landscape stewardship has emerged. CES programs seek to educate target audiences so they adopt best management practices for residential and public use facility pests. Programs also educate target audiences about proper selection and management of plants for residential landscapes, including turf, edible plants, ornamental plants and trees. The use of IPM (Integrated Pest Management) is important to fulfilling the objectives of this major program. At least 50,350 people increased their knowledge of IPM practices, 33,670 adopted IPM as a practice. This resulted in a savings to consumers of \$1,032,701 through reduced insecticide use and related purchases. \$398,079 was saved through reduced pesticide related contamination problems in municipal sewer systems, container disposal and other problems. Efforts continue to

proactively educate audiences through printed materials at retail centers, meetings, mass media and newsletters. Responding to calls and identification of pests also provides educational opportunities. Most calls regarding pests will not require over \$10 in additional purchases, but save about \$75 in professional fees.

The adoption of landscaping practices provided in Extension programs has increased property value of participants by \$4,245,801. 103,774 people have increased protection of the environment and urban ecosystem through proper plant health care, proper plant growth, and integrated pest management. A WaterWise program that promotes wise use of pesticides, fertilizer, water and proper soil care has been offered and proved successful in several counties. The Master Gardener Volunteer program continues to be an economical way to educate the gardening public. In 1997, 670 new volunteers were trained. The 1,649 volunteers donated 85,321 hours and assisted 430,460 gardeners. Volunteers contributed over \$33,484 in out-of-pocket expenses, drove over 447,052 miles, and raised \$58,436 for a total contribution of \$1,088,186. Successes abound at saving homeowners unnecessary expenditures, assisting local entities addressing issues such as rabies, and increasing the adoption of proper plant production and pest control techniques. In all, programs used 3,665 volunteers and had a value to target audiences of \$6,718,642.

Family and Consumer Sciences Programs

1997 Accomplishments Overview

The mission of the Extension Family and Consumer Education program is to provide individuals, families and communities with dynamic, issue-driven education to foster informed decision-making about human and environmental concerns in a changing world.

Each day, the North Carolina Cooperative Extension Service helps to strengthen our North Carolina families and communities. Our work is dedicated to improving the quality of people's lives. We rely on research-based information to develop educational programs; and we partner with volunteers and organizations to reach the goal of strong North Carolina families.

The following overview highlights programs during 1997.

CEMP 01 - AGING WITH GUSTO

The aging process is a continuum, and is different for each person. Extension aging programs are designed to help people experience positive aging through education to achieve optimum financial, physical and mental well-being in their later years. Older adults learn how to prepare for and cope with problems related to finances, legal issues, health, caregiving, housing and self-care.

A sample of statewide program impacts include:

Over 8,000 persons increased awareness and knowledge of financial management techniques and consumer issues, with 2,780 persons adopting financial management and consumer practices; 2,402 participants increasing awareness and knowledge of estate planning; over 1000 persons adopting estate planning practices; over 1300 persons increased awareness and knowledge of retirement planning and savings and over 400 persons adopted retirement and savings practices. The financial status of over 2600 persons was improved through the adoption of consumer and financial management practices. Older and mid-life adults received information through meetings, tours, educational publications, consultation, teletip and/or videos on such topics as consumer fraud and scams, Medicare Managed Care and estate planning.

Over 2600 people adopted practices such as decreased fat intake, decreased sodium intake, or increased fruit and vegetable intake. Persons reported avoiding \$160,215 of costs through reduced risk of chronic disease. Over 400 volunteers contributed 2,551 hours valued at \$25,510.

473 people adopted stress management and other self-care practices, including use of formal and respite service. 863 caregivers reported improved quality of life and decreased stress. Over 187 volunteers contributed 817 hours valued at \$8,170.

2733 people increased awareness and knowledge of housing options, financial options, and accessibility options that lead to affordable or accessible housing. Over 1300 people increased awareness and knowledge of practices that promote health such as use of medicines.

CEMP 08 - FAMILY AND CONSUMER ECONOMICS

This state-wide major program promotes informed personal and family finance, and other consumer decision making. Serious financial problems affecting families at all income levels can in many cases be prevented, and this program emphasizes education for prevention.

A sample of statewide program impacts include:

Over 5725 people increased awareness and knowledge about money management and the decision-making process; 1458 personal goals were made and written; 3014 people identified family and community resources; 2460 people demonstrated ability to use the money management skills and over \$121,415 dollars of debt was reduced.

7656 people increased awareness and knowledge of financial resources; 5372 people acquired knowledge of best management practices such as increased savings and investments, reduced consumer debt and more money designated for retirement management.

750 people adopted practices which lead to living independently or living in affordable housing; 2299 people increased awareness and knowledge about housing financial decision, and over 4000 increased awareness and knowledge about selection of affordable home furnishings and home improvements.

Over 6000 people increased awareness and knowledge of practices to extend or increase income and 1149 increased decision-making skills regarding employment or self-employment.

One county provided an Earned Income Credit program of Habitat for Humanity participants. Approximately 25 individuals received handouts and information concerning the Earned Income Credit program. One individual was able to file a tax return and received over \$3000, which allowed her to have extra income.

The NCCES in two counties and the Family Service Centers at Camp Legeune, New River Air Station and Cherry Point Air State have collaborated to provide eight week-long workshops that trained 144 Command Financial Specialists, who in turn have helped an estimated 60,000 Marines and family members avoid or address financial problems. NCCES is helping evaluate this pilot project for the Marine Corps.

CEMP 09 - FAMILY AND PARENT EDUCATION

The Family and Parent Education major program is helping parents and families acquire the skills needed to foster responsibility, cooperation, courage and self-esteem. Educational emphasis is on strengthening family relationships through improved parenting skills, financial management and problem-solving skills, conflict resolution, effective communication and stress management. In addition, Extension personnel are equipped to make appropriate referrals for family services, support services, and self-help support groups.

A sample of statewide program impacts include:

The Family and Parent Education State Major Program is helping parents and families acquire and develop the skills needed to foster qualities of responsibility, cooperation, courage and self-esteem.

Over 21,000 individuals increased awareness and knowledge of developmental stages, basic needs, and appropriate behavior of children. 6820 families demonstrated improved family relationships through the resolution of financial conflicts. 7,550 families demonstrated improved responsibility of parents and children. 8,134 families adopted improved quality of family life by adoption of effective parenting through appropriate discipline techniques and critical nurturing practices. Counties reported offering a variety of educational programs related to parenting and child care including health and stability of the family; discipline strategies; communicating with children; developmental stages of children; nutrition education; financial planning; safety; child abuse awareness and prevention.

CEMP 11 - FOOD SAFETY AND QUALITY

Safety of the food supply is a shared responsibility. Producers, processors, preparers and consumers must follow appropriate food safety procedures so food enters and leaves their portion of the food supply chain safe for human consumption. Consumers not only deserve a safe food supply but one delivered in such a manner that they can determine it meets their nutritional quality needs.

A sample of statewide program impacts include:

Over 20,000 consumers increased their knowledge about safe food handling; 14,109 improved attitudes about the need to handle food safety; 2036 food service workers increased their knowledge about safe food handling; and over 1900 food service workers improved their attitudes about the need to handle food safety.

Educational programs have impacted food service workers and managers, government workers, child care workers, youth and homemakers. One activity reported was the formation of a food safety cadre of 12 food safety extension agents who have entered an intensive three-week on campus graduate course and have committed to a 2-year follow through to increase academic competency in the North Carolina Cooperative Extension Service.

Serving Safe Food is a nationally recognized 16-hour certification program developed by the National Restaurant Association. Three trainings have been jointly conducted by DHHS and faculty from NCSU to teach extension agents and environmental health specialists in the delivery of this program. Thirty-four extension agents and 71 environmental health specialists have completed the training in 1977. Eleven county teams (extension agents and environmental health specialists) have been formed and are actively planning joint SERVSAFE training(s) for local food service managers and workers. Five local county teams have successfully conducted this training for 243 food service operators in North Carolina.

Two 16-hour trainings were offered jointly with the Division of Aging in 1996 and 1997. Training topics include general food safety and sanitation. Seventy-six coordinators from across the state completed training, and six regional trainings have been scheduled.

CEMP 12 - HEALTH AND HUMAN SAFETY

Health and human safety are pressing public concerns at the individual, family and community levels. The Extension Service has developed community-based programs to enable individuals and communities to address health and safety needs in the areas of healthy lifestyles, home safety and crime prevention, agricultural health and safety, and community capacity building.

A sample of statewide program impacts include:

Over 46,363 participants increased their awareness and knowledge of preventative health behaviors such as eating properly, exercise, and safety in the home. 13,370 participants adopted recommended health care practices such as dietary intake. It has been estimated that almost \$171,000 in costs have been avoided due to Extension efforts.

2,051 individuals adopted practices to remove safety hazards in the home and 1761 adopted practices to increase home safety. 17,437 individuals adopted preventative measures including installing ventilation systems, radon, and carbon monoxide tests.

2490 participants were reported to have increased awareness of agricultural (chemical) exposure and other agriculturally related health risks. 2068 participants increased their awareness and use of personal protective equipment.

Sixteen strategic partnerships/coalitions have been formed for improving health statuses and 11 community health assessments have been conducted. Ten lay health advisors projects, immunization campaigns or early detection programs have been established to improve health status of citizens.

Stroke screening for senior citizens showed that 12 percent of the participants were at high risk for stroke. The Framingham Heart Study was used to determine those people at high, moderate, and low risk. Thirty percent of the participants were referred to a doctor. The warning signs of stroke were explained to all of the participants during their exit interview.

CEMP 16 - NUTRITION AND WELLNESS

This major program promotes optimum nutrition and healthy lifestyle management throughout life. Nutrition needs change throughout life and have a direct impact on health, quality of life and ability to achieve physical and mental potential. Diet related risks involved in chronic diseases can be lowered through changed behaviors and positive pregnancy outcomes can result from better prenatal nutrition.

A sample of statewide program impacts include:

Over 75,000 participants increased awareness of need to have good nutrition habits; 48,490 participants increased knowledge that promotes health; and 35,849 participants increased attitudes and aspirations that are indicative of a need for good health. 723 persons showed a decrease in high blood cholesterol; 663 showed a decrease in high blood pressure; 292 showed a decrease in high blood sugar; and 1000 showed a decrease in excess weight.

2538 parents adopted food behaviors consistent with the Dietary Guideline and Food Guide Pyramid.

The Family Nutrition Program supported by the USDA Food Nutrition Service was conducted in 40 counties with a focus on food stamp eligible families with three to five year-old children. One agent's comment after finishing the 4 sessions was, "Family Nutrition Program" participants have 'hands on' learning experiences. Many of the participants do not want the sessions to end. Family Nutrition participants have been hired as EFNEP program assistants while others come back as volunteers. In a letter with \$1,436 of support from the United Way in a county, the grantor stated, 'You are really making a difference in the lives of many women and children in our community'.

Counties reporting evaluation results for the low income audience, in general, indicated an improvement in food resource management practices for 75% to 97% of participants; and improvement in nutrition practices of 88% to 97% and 50% to 91% or participants reported improved food safety practices.

CEMP 18 - RESIDENTIAL AND COMMUNITY WATER AND WASTE MANAGEMENT

Residential and community water and waste management have environmental and economic impact on both private and public sectors in NC. Proper management of solid waste, wastewater and watersheds is necessary for optimum water quality.

A sample of statewide program impacts include:

9969 people increased their knowledge and awareness of best management practices to protect and improve water quality; 6045 less cases of water contamination resulted because people adopted best management practices to protect and improve water quality; and \$118,000 health care costs were avoided through detection and treatment of contaminate water; and \$311,500 in well replacement costs were avoided through best management practices.

Over 50,000 persons were exposed to information concerning water quality through displays, programs and county fairs.

Septic system management and maintenance programs, exhibits, radio questions and answer sessions conducted by agents have reached over 17,000 people.

12 counties reported that 6635 people increased their knowledge and awareness of the need for water quality protection and conservation. \$377,460 has been saved through improved individual water quality, improved residential water quality, decreased use of residential water and decreased use of public water.

48,842 people increased their knowledge and awareness of waste management strategies. \$298,959 was earned by counties and municipalities through selling of recycling materials. \$154,340 costs were avoided by counties and municipalities

through Project HERO.

With over 125 incidents of groundwater contamination and expenses exceeding \$2 million to provide alternate water supplies, Extension coordinated a Groundwater Guardian program through the Quality of National Resources Commission. The program encourages citizen involvement in groundwater protection projects in their communities. The team partnered with local government, determined wellhead protection boundaries for all community wells and surveyed for possible contamination sources. The team's efforts gained the county designation for the second year as a Groundwater Guardian Community at the 1997 National Groundwater Guardian Designation Conference held in 1997.

4-H PROGRAMS IN NORTH CAROLINA

1997 Accomplishments Overview

Celebrating Our Mission

The mission of the 4-H Youth Development Program in North Carolina is to create helping relationships to enable youth to become responsible, productive citizens. Those helping relationships are created through 4-H and in the related missions of 4-H, the North Carolina Cooperative Extension Service, the College of Agriculture and Life Science, and North Carolina State University and North Carolina A&T State University. Celebrating 4-H in North Carolina is a celebration of the youth, families, and communities of our state.

The treasure that is 4-H actively involves youth, adult volunteers, and donor/sponsors in the creation, implementation, and maintenance of educational program designs which celebrate both tradition and innovation. We strive continuously to "make the best better."

Celebrating Tradition and Innovation

4-H programs in 1997 were productive and efficient through both traditional and innovative educational program designs. Each program strives to help young people:

- learn to live
- learn to make a living
- learn to make our communities better
- become lifelong learners

Basic programs respond to innovations found in four related and collaborative

Extension State Major Programs:

- Child Care
- Leadership and Volunteer Development
- Resilient Youth, Families, and Communities
- Youth Development

Participation Demographics

In 1997 a total of 201,898 youth participated in one or more of 4-H's basic programs. Of these 31,756 were active in 1,499 4-H clubs, 98,083 were active in the 3,454 short term or special interest programs. 88,854 youth participated in the 2,975 (K-12) school enrichment programs offered statewide. Another 35,163 young people were involved in 537 after-school child care designs managed by 4-H.

Fifteen thousand nine hundred and sixty-seven kindergarten age youth were active. Every grade is involved including high points at 32,800 third graders and 27,676 fourth graders. 424 post-high school youth were involved. 4-H'ers continue to come from farm: 13,376; small towns: 109,825; big towns: 46,909; suburbs: 7,598; cities: 24,190; to total: 201,898.

Adult volunteers continue to be the heart and legs of 4-H. It would be difficult to estimate the value of the 23,256 adult volunteers involved in 1997. 21,351 of these were direct youth contact volunteers. 421 were master volunteers in support of volunteer skill development. A total of 15,692 volunteers completed structured training to invest in their friendship groups, families, and communities. 4,287 of these volunteers were youth volunteers.

4-H Camping: A Legacy of Excellence

North Carolina's youth and families continue to "Discover the World Through 4-H Camps." Camps and educational center operations continue to grow in celebration of being exemplary units in the certification system managed by the American Camping Association.

Over 3,500 youth "discovered the world" during 20-unit weeks of junior camping and 14 weeks of speciality camps including: Marine Science and Sailing, Cloverbud Camping (ages 6-8), Fur, Fish, and Game Camp, Horsemanship, Shooting Sports, Mountain Biking, Science and Technology, Adventure Camp, and Teen Leadership Opportunity camps.

Our commitment to ongoing facility improvements through collaborations was realized with the construction of "Challenge Cabin" at Sertoma 4-H Center thanks to the North Carolina Bankers' Association, sponsors of "Challenge Camp," for at-risk youth.

Cooperative Extension Major Program Impacts

CEMP 05 - Child Care

The Child Care State Major Program focuses on opportunities which Cooperative Extension has to impact the quality, accessibility, and availability of child care and has two objectives.

Fifty-four counties targeted the first objective: improving the quality of child care. 10,116 child care providers were trained. Of these, 66 were credentialed, and 131 different sites were licensed. The list of collaborators is long and varied. It includes, community colleges, the Department of Human Resources, Head Start, the Red Cross, the North Carolina School-Age Care Coalition, the North Carolina Day Care Association, the Corporation for National Service, public schools, and the Partnership for Children.

More and more agents report that their work is augmented by grant funds. Typical funders include the Appalachian Regional Commission, Child Care and Development Block Grants, CDA funds, Smart Start and AmeriCorps.

The second objective is to increase the accessibility and availability of child care. \$2,563,971 worth of new resources were involved at 77 new centers to expand the number of available child care slots by 1,939. There were 302 collaborations increasing awareness by 3,317 people.

Working to increase availability, Cooperative Extension agents have used a variety of means to achieve their goals. They have used needs assessments to determine the exact locations where child care is most lacking. They have secured funding to address the need, often serving on Smart Start boards - but also helping to write proposals for S.O.S. (Support Our Students) middle school and after school initiatives.

Key elements of this goal include:

- 1) More child care is now offered (early childhood, full summer programs, after school, intersession and in sections of the state formerly underserved),
- 2) Families who were not being served are finding resources through Cooperative Extension, Enhancement (including training) programs for child care professionals are becoming far more available in rural areas.

CEMP 13 - Leadership and Volunteer Development

Thirty-six counties work to accomplish two objectives. Objective one is the development of leadership skills targeting limited resource and other non-traditional audiences. The skills learned help individuals and groups of community leaders work

to identify important issues and solve problems related to those issues in their community and county.

Two thousand nine hundred and forty-one limited resource and non-traditional individuals increased their capacity to provide valuable service to the community (assume some leadership roles in church, school, community, etc., volunteer). \$584,712 dollars were saved by increased involvement in addressing community concerns by limited resource and non-traditional leaders. \$2,756,855 dollars of economic value was invested in community/county for community projects/solving community problems. 104 community organizations were developed to continue resolving community problems.

Objective two is designed to empower volunteers, paid staff, and other professionals to act on a shared vision by empowering individuals in manager roles to accomplish more by sharing leadership. 1,324 volunteer systems were empowered with: an economic value of \$1,730,383 and with value of volunteer hours of \$1,787,020 for \$178,702 hours worked by 15,585 volunteers at \$10.00 per hour.

Many counties are embracing the master volunteer concept to partner with paid staff in teaching other volunteers or helping with various training programs. They are also serving as mentors to new leaders in their program area such as 4-H club leaders.

Many counties are reporting new organizations emerging from their leadership and volunteer development programs. One county cited a renewed 4-H program committee with three focus areas of involvement of the 26 members.

Another area of progress is involvement of volunteer managers who are responsible for programs. Nash County has an exemplary program to involve senior citizens with day care centers and other youth programs.

Youth at Risk

The Youth-at-Risk Initiative was designed to develop support systems for youth who live in environments which may hinder or prevent them from becoming competent, coping, and contributing members of society.

The North Carolina Cooperative Extension Service, through 4-H, has provided leadership in building coalitions and designing educational programs for youth in high-risk environments. During the past six years, more than 700 coalitions worked to address youth-at-risk issues. Approximately 351 long-term coalitions worked to accomplish the long-range goals. More than 21,511 volunteers donated over 48,446 days to the Youth-At-Risk Initiative. Over \$4,398,352 of federal, \$3,769,968 of state, \$222,959 of local government, and \$453,211 of private dollars were used to support youth-at-risk programs.

Over 2,960 adjudicated youths have reduced their involvement in the judicial system. Nearly 42,300 youth improved their academic performance as a result of Extension programs. Nearly 8,400 youth decreased their alcohol and other drug usage after participating in Extension programs. Career training and preparation have been provided to over 40,250 youth. Over 2,200 science and technology programs have been conducted. Nearly 6,700 youth improved their literacy skills as a result of Cooperative Extension Programs.

CEMP 19 - Resilient Youth, Families and Communities

The "Resilient Youth, Families, and Communities State Major Program" of the North Carolina Cooperative Extension Service takes action to strengthen the resiliency of youth, families, and communities. Resiliency is the ability to cultivate strengths to positively meet challenges. The program focuses on prevention programming which strengthens "protective factors" and reduces "risk factors." Participants bring together and involve educators, researchers, agency and organizational personnel, youth, families, and communities, advocates, and practitioners who share an interest in strengthening the resiliency of North Carolina's youth, families, and communities.

Objective one states: youth in high-risk environments will participate in community based programs resulting in youth acquiring coping skills, making informed decisions, and developing a sense of purpose and future.

Forty-six counties report 19,894 youth with: increased communicating, decision making, working in groups, understanding self, and relating to significant adult life skills; 5,214 with increased literacy; 6,530 with increased community involvement; and 13,128 with increased knowledge and awareness of alternatives to drugs and alcohol use.

Ten thousand five hundred and eighty-six demonstrated increased life skills; 5,341 improved academic performance; 1,416 reduced use of drugs and alcohol; 631 reduced judicial involvement; 655 reduced incidence of violence.

Objective two states: Families will participate in educational experiences enabling them to identify problems, determine solutions, and develop skills to cope with adverse family situations.

Nineteen counties report 822 family money management plans made, while 4,078 increased communication skills, and 3,606 increased coping and nurturing practices for a savings of 13,207 through effective money management. 4,043 participants reduced conflict through improved family and interpersonal communication.

Objective three states: community groups will take action to strengthen communities by creating environments which reduce youth and family risks through collaborative intervention and prevention programs in high risk communities.

Twenty-three counties reported: 432 collaborations established; 103 prevention programs developed; 229 reductions in criminal activity in targeted communities; 64 economic and community development programs established; 85 support programs established for families (i.e. child care, counseling, etc.); 5,750 increasing knowledge and skills among participants about community collaboration and prevention programs.

CEMP 20 - Youth Development

North Carolina 4-H focuses on life skills taught through a broad spectrum of subject matters. Life skills are defined as abilities, knowledge, attitudes and behavior that must be learned for success and happiness. Life skills enable people to adapt to and manage their life situations. They give individuals a frame of reference for perceiving and responding to life situations and enabling them to achieve an inner satisfaction and happiness (National 4-H Curriculum Manual for Youth K-3, 1994).

Objective one states: Long term support systems will develop competent youth in the following life skill areas: 1.) managing relationships; 2.) decision making; 3.) communications; 4.) serving the community.

Impacts are measured in dollars to benefit youth. 81 counties reported: \$429,605 dollars saved by the community from 4-H Community Service Projects; \$374,224 scholarship dollars received by 4-H'ers; \$603,957 dollars earned by 4-H'ers as a result of their 4-H project work; \$257,998 dollars saved by 4-H'ers as a result of their project work.

Life skills provide a measure of increased competency in youth as illustrated by the following areas: 36,005 managing relationships; 34,815 communication skills; 36,042 making decisions; and 39,211 self-confidence.

Objective two states youth involved in targeted knowledge transfer development activities will demonstrate improved academic performance. 61 counties reported the following impacts as reported by their teachers using 4-H school enrichment materials:

Seventy-one percent of the 39,449 students demonstrated some change or a great change in their class attendance. 70% of the 29,327 students reported some or a great change in homework completed. 65% of the 29,235 students demonstrated some or a great change in the quality of their homework. 77% of the 37,221 students demonstrated some or a great change in their science grades.

Additionally, 4-H school enrichment teachers estimated a savings of \$485,545 to school systems. And, 4,218 volunteers worked 70,971 hours which could be valued at \$709,710.

Objective four states limited income youth residing in Diverse/Public Housing will increase life skills development which will ultimately result in making informed decisions about life choices to manage life situations and transitions. (Saying "no" to

peer pressure without guilt, defining and establishing aspirations, communicating feelings, pregnancy prevention, agricultural health and safety, conflict resolution, and understanding consequences of one's actions are some of the life skills that will be addressed.)

Thirty counties reported: 1,400 youth improving their resistance to peer pressure; 797 youths defining aspirations; and 1,346 youths (5-8) increasing competency within the environment as related to play, clothing, the outdoors, bug out, community, safety, grooming and the other relevant topics.

Forty-one thousand four hundred dollars was saved as a result of community service. 475 volunteers donated 9,231 hours valued at \$93,310.

4-H Summary

The North Carolina 4-H Program created helping relationships to enable youth to become responsible, productive citizens during the 1997 programming year. The youth, families, and communities of North Carolina were well served by the mission accomplishment of 4-H through the related missions of the North Carolina Cooperative Extension Service, the College of Agricultural and Life Sciences, North Carolina State University, and North Carolina A&T State University.

1997 proved to be a great year of productive traditional and innovative programs focusing on four of Extension's major state programs: Child Care; Leadership and Volunteer Development; Resilient Youth, Families and Communities; and Youth Development. A total of 201,898 youth and 23,256 adult volunteers worked to involve 31,756 youth in 1,499 4-H Clubs; 98,083 youth in 3,454 special interest programs; 88,854 youth in 2,975 (K-12) school enrichment designs; and 35,163 young people in 537 after-school, child care settings. Over 3,500 youth "discovered the world" during 20 unit weeks of junior camping and 14 weeks of 4-H specialty camps.

Fifty-four counties targeted child care to train 10,116 child care providers and license 131 different sites. \$2,563,971 in new resources was invested at 77 new centers to expand available child care slots by 1,939.

Thirty-six counties worked to expand Leadership and Volunteer Development by involving 2,941 limited resource participants toward more valuable services for their community with a value of \$2,756,835.

Forty-six counties focused on Youth at Risk and Resilient Youth, Families and communities. In Youth at Risk efforts, over 2,960 adjudicated youth reduced their involvement with the judicial system while 42,300 youth improved academic performance. More than 21,511 volunteers worked over 48,446 days during the past five years.

Resilience programs report 10,586 youth with increased life skills; 5,341 improved academic performance, 1,416 reduced drug and alcohol use, 631 reduced judicial involvement, and 655 reduced violence. 432 collaborations were established; and 103 prevention programs were developed.

Eighty-one counties targeted youth development and increased life skills in 146,073 youth while investing \$1,665,784 in community savings, youth scholarships, project work earnings, and project work savings. Studies of representative 4-H school enrichment programs indicated that 71% of the 39,449 students improved attendance; 70% of 29,327 students improved completing homework; and 77% of 37,221 students received better science grades. Teachers reported these results plus savings of \$485,545 to school systems, and 70,971 volunteer hours from 4,218 volunteers valued at \$709,710.

North Carolina's 4-H Program is a treasure shared by our state's youth, families, and communities. It demonstrates the value of collaborating effort and fiscal efficiency in the spirit of locally based, educational design. Youth, parents, educators, community, and regional and state leaders work to create the treasure that is 4-H. In 1997, that treasure blazed brightly across the state of North Carolina.

NC COOPERATIVE EXTENSION PROGRAM VOLUNTEERS 1997

CEMP #		Hours	\$ Value
1-1	546	2857	28570
1-2	449	2251	22510
1-3	162	812	8120
1-4	73	469	4690
<u>1-5</u>	<u>179</u>	<u>1083</u>	<u>10830</u>
	1409	7472	74720
2-1	121	1463	14630
2-2	34	28	280
<u>2-3</u>	<u>0</u>	<u>0</u>	<u>0</u>
	155	1491	14910
3-1	562	3466	34660
3-2	415	3952	39520
3-3	222	2339	23390
3-4	207	1291	12910
3-5	753	10524	105240
3-6	592	3754	37540
<u>3-7</u>	<u>2518</u>	<u>3208</u>	<u>32080</u>
	5269	28534	285340
4-1	2210	18435	184350
<u>4-2</u>	<u>659</u>	<u>3478</u>	<u>34780</u>
	2869	21913	219130
5-1	1540	24751	247510
<u>5-2</u>	<u>655</u>	<u>12579</u>	<u>125790</u>
	2195	37330	373300

6-1	998	5491	54910
6-2	31	354	3540
6-3	969	3173	31730
<u>6-4</u>	<u>106</u>	<u>2464</u>	<u>24640</u>
	2104	11482	114820

7-1	321	2238	22380
7-2	203	2831	28310
7-3	812	6629	66290
7-4	243	1450	14500
7-5	170	1206	12060
7-6	168	1170	11700
<u>7-7</u>	<u>163</u>	<u>1739</u>	<u>17390</u>
	2080	17263	172630

8-1	246	1028	1028
8-2	363	1710	17100
8-3	145	1337	13370
8-4	574	4628	4628
<u>8-5</u>	<u>247</u>	<u>2623</u>	<u>26230</u>
	1821	11326	11326

9-1	648	4065	40650
9-2	151	398	3980
9-3	453	2103	21030
<u>9-4</u>	<u>166</u>	<u>895</u>	<u>8950</u>
	1418	7461	74610

10-1	0	0	0
10-2	50	2000	20000
<u>10-3</u>	<u>0</u>	<u>0</u>	<u>0</u>
	50	2000	20000

11-1	654	5322	53220
<u>11-2</u>	<u>0</u>	<u>0</u>	<u>0</u>
	654	5322	53220

12-1	906	6181	61810
12-2	232	2316	23160
12-3	197	1124	11240
<u>12-4</u>	<u>397</u>	<u>4301</u>	<u>43010</u>
	1732	13922	139220
13-1	2412	20770	207700
13-2	13678	160034	1600340
<u>13-3</u>	<u>4363</u>	<u>30603</u>	<u>306030</u>
	20453	211407	2114070
14-1	135	495	4950
<u>14-2</u>	<u>147</u>	<u>1042</u>	<u>10420</u>
	282	1537	15370
15-1	684	3306	33060
15-2	216	2141	21410
15-3	161	2087	20870
15-4	15	350	3500
<u>15-5</u>	<u>3</u>	<u>50</u>	<u>500</u>
	1079	7934	79340
16-1	2075	16469	164690
16-2	987	6748	67480
16-3	368	1856	18560
<u>16-4</u>	<u>1475</u>	<u>17201</u>	<u>172010</u>
	4905	42274	422740
17-1	802	16571	165710
17-2	1771	37051	370510
<u>17-3</u>	<u>702</u>	<u>5441</u>	<u>54410</u>
	3275	59063	590630
18-1	509	2103	21030
18-2	18	225	2250
18-3	813	2645	26450

<u>18-4</u>	<u>799</u>	<u>2231</u>	<u>22310</u>
	2139	7204	72040
19-1	4125	23212	232120
19-2	542	3395	3395
<u>19-3</u>	<u>1377</u>	<u>16872</u>	<u>168720</u>
	6044	43479	434790
20-1	13742	170076	170076
20-2	3850	68606	686060
<u>20-4</u>	<u>381</u>	<u>5761</u>	<u>5761</u>
	17973	244443	2444430

TOTAL VOLUNTEERS **HOURS** **\$VALUE**
77906 **782857** **7,828,570**

COOPERATIVE EXTENSION MAJOR PROGRAM ACCOMPLISHMENTS 1997

CEMP 01 - AGING WITH GUSTO!

Brief Program Description. The issues of aging cover a broad spectrum of topics and concern diverse audiences. The aging process is a continuum, beginning at birth and ending with death. It is a relative process, different for each person. Some people feel old at 50; others age with gusto and feel 90 years young. Extension aging programs are designed to help people age with gusto by teaching them how to achieve optimum financial, physical, and mental well-being in their later years. Older adults learn how to prepare for and cope with problems related to finances, legal issues, health, caregiving, housing, and self-care.

Primary Audiences served: Older adults, mid-life adults, caregivers.

Objective 1. Participants in aging issues programs will increase awareness, gain knowledge, change attitudes, develop skills, and adopt practices and behaviors to help make their later years more financially secure.

Counties reporting: 32

Measures of Progress: 8,382 people increased awareness and knowledge of financial management techniques and consumer issues. 2,780 people adopted financial management and consumer practices. 2,402 people increased awareness and knowledge of estate planning. 1001 people adopted estate planning practices. 1,367 people increased awareness and knowledge of retirement planning and savings. 492 people adopted retirement and savings practices.

Impacts: 2,679 people improved their financial status through adoption of consumer and financial management practices. People reported that they increased their savings and/or retirement contributions for future financial stability by \$150,950. 994 people developed and implemented an estate plan. 707 people developed and implemented a plan for possible future incompetency and dependency.

Volunteers Involved: 549 volunteers contributed 2,897 hours valued at \$28,970.

Program Cost/Benefit Analysis

12 counties reported \$ value to targeted audience of \$287,875.
10 counties reported \$ value to society of \$480,405.
10 counties reported estimated program costs of \$14,762.

Narrative: Older and mid-life adults received information through meetings, tours, educational publications, consultation, teletip, and/or videos on the following topics: consumer fraud and scams, financial management techniques, financial decision-making, health care coverage, insurance, estate planning, Medicare Managed Care, long-term health insurance, preparing for possible future dependency, positive aging, physical fitness, emotional well-being, employer group health plans, Medicare and supplemental insurance products, retirement planning, caregiving, telemarketing fraud, pre-funeral planning, investments, health, nutrition, health fraud, safe accessible housing, stress management, taxes, and home-based business information.

Objective 2. Participants in aging issues programs will increase awareness, gain knowledge, change attitudes, develop skills, and adopt practices and behaviors to help them improve their health status.

Counties reporting: 20

Measures of Progress: 2,646 people adopted practices such as decreased fat intake, decreased sodium intake, or increased fruit and vegetable intake. 7,802 people increased awareness and knowledge of healthy "behaviors" such as lowering the fat or increasing the fiber in their diets. 1,991 people adopted behaviors to meet the Food Guide Pyramid guidelines. 2,299 people adopted practices which lead to healthy physiological changes, such as decreases in blood cholesterol, blood pressure, blood sugar, and/or excess weight.

Impacts: People reported avoiding \$160,215 of costs through reduced risk of chronic disease. People reported avoiding \$86,197 of costs through improved health status via fewer visits to physicians. 31,335 people improved their health status through adoption of health practices.

Volunteers Involved: 473 volunteers contributed 2,551 hours valued at \$25,510.

Program Cost/Benefit Analysis

11 counties reported \$ value to targeted audience of \$190,790.
7 counties reported \$ value to society of \$231,070.
11 counties reported estimated program costs of \$30,917.

Narrative: Older and mid-life adults received information through meetings, tours, educational publications, consultation, teletip, and/or videos on the following topics: improving health status, prevention of health problems, balanced diets and nutrition, Food Guide Pyramid, food nutrients, fiber, fat, cholesterol, cooking with herbs to reduce salt and fat, reducing factors that lead to stroke and heart disease, health and wellness, weight loss, exercise, healthy foods, skin cancer, osteoporosis, relationship

of diet to disease, food safety and food preservation, fruits and vegetables and how they may reduce the risk of disease, medicines, sodium, warning signs of stroke, concerns about vitamin and mineral supplements, use of over-the-counter drugs, heart healthy cooking, lifestyle management, and breast cancer awareness.

Objective 3. Caregivers will increase awareness, gain knowledge, change attitudes, develop skills, and adopt practices and behaviors to help them provide better caregiving.

Counties reporting: 15

Measures of Progress: 473 people adopted stress management and other self-care practices, including use of formal and respite services. 1,602 people increased awareness and knowledge of community resources. 1,214 people increased awareness and knowledge of caregiving skills. 447 people adopted caregiving practices that improve the care of the impaired elder or other care receiver. 1,554 people increased awareness and knowledge about the need for coordinating legal, financial, and health care decision making.

Impacts: 863 caregivers reported improved quality of life and decreased stress. 616 people reported improved care for impaired elders and other care receivers. 679 people increased utilization of community resources by participants caring for older adults. 1,328 instances of improved interagency cooperation on aging and health promotion issues were reported.

Volunteers Involved: 187 volunteers contributed 817 hours valued at \$8,170.

Program Cost/Benefit Analysis

7 counties reported \$ value to targeted audience of \$118,780.

5 counties reported \$ value to society of \$212,800.

7 counties reported estimated program costs of \$2,733.

Narrative: Caregivers and home health aides received information through meetings, tours, educational publications, consultation, teletip, and/or videos on the following topics: insurance, estate planning, preparing for possible future dependency, legal options, reducing stress, telemarketing fraud, quality caregiving, healthy aging, community services and resources available to caregivers, financial issues, health care, decision making, funeral arrangements, coping with caregiving stress, helpful hints for homecare, basic nutrition and cooking for older adults, tips for buying economical and nutritious food, special dietary needs for older adults, the "blessings and burdens" of caregiving, self-care practices, planning ahead for elder care, communication across intergenerational lines, how to enhance friendships and relationships in the later years, coordinating legal, financial, and health care decision making, Alzheimer's Disease, breast cancer, older adult health issues and adaptations for the home,

Objective 4. Participants in aging issues programs will increase awareness, gain

knowledge, change attitudes, develop skills, and adopt practices and behaviors to help promote affordable and accessible housing for older adults.

Counties reporting: 8

Measures of Progress: 2,733 people increased awareness and knowledge of housing options, financial options, and accessibility options that lead to affordable or accessible housing. 377 people adopted housing technologies that make housing accessible, such as design features, furnishings, and products. 168 collaborations and linkages with housing related agencies and individuals that foster affordable and accessible housing.

Impacts: 162 more people live in affordable housing. 259 people improved or increased their accessibility to housing.

Volunteers Involved: 84 volunteers contributed 483 hours valued at \$4,830.

Program Cost/Benefit Analysis

6 counties reported \$ value to targeted audience of \$95,825.

3 counties reported \$ value to society of \$377,850.

3 counties reported estimated program costs of \$655.

Narrative: Older and mid-life adults received information through meetings, tours, educational publications, consultation, teletip, and/or videos on the following topics: improving housing conditions, retrofitting and remodeling, accessibility and adaptability of housing throughout the life cycle, special housing needs of the elderly and disabled, design, space planning, and storage, home maintenance and care, energy conservation, universal housing design, removing barriers in the home, home safety, indoor air quality, use of smoke detectors, and affordable housing.

Objective 5. Older adults on fixed incomes will increase awareness, gain knowledge, change attitudes, develop skills, and adopt practices and behaviors to help them improve the quality of their physical health and enhance their self-care.

Counties reporting: 8

Measures of Progress: 1,324 people increased awareness and knowledge of practices that promote health such as use of medicines. 1,156 people adopted practices that lead to improved health status. 560 people increased awareness and knowledge of practices that promote food safety. 475 people adopted practices that promote proper food storage and safety.

Impacts: People reported avoiding \$1,500 of costs through adoption of practices that lead to safe use of medicines. People reported avoiding \$53,050 of costs through adoption of practices that lead to proper food storage and safety

Volunteers Involved: 132 volunteers contributed 814 hours valued at \$8,140.

Program Cost/Benefit Analysis

3 counties reported \$ value to targeted audience of \$33,975.

2 counties reported \$ value to society of \$148,000.

counties reported estimated program costs of \$4,310.

Narrative: Limited income older and mid-life adults received information through meetings, tours, educational publications, consultation, teletip, and/or videos on the following topics: food and drug interaction, using medications safely and effectively, growing and cooking with herbs, safe use of herbs, general food storage and safety, holiday food safety, importance of following Food Pyramid Guide, exercise, life style risks, food preparation and safety tips, cut the fat and fat budgeting,

Success Stories:

1. Six counties in the Northeast District worked cooperatively in planning and implementing a Regional Aging with Gusto Extravaganza. Approximately 130 individuals attended the all-day session which included a keynote speaker, 6 workshop sessions, exhibits, fashion show, and lunch. Approximately \$3,000.00 was secured from donors to conduct this event. The evaluation results noted a very high level of satisfaction by all participants attending the event. The participants reported that they believed they had saved \$11,550.00 by participating in this educational program rather than paying for professional services. 100 percent noted knowledge and skills increase as well as behavior improvement. 80 percent said they were motivated to make choices to improve their health. One participant said "This was one of the best planned and most informative seminar I have ever attended."

2. *Person County reports:* A participant of the Family Caregiver Training Program called to report that she had been able to secure help with her elderly and terminally ill mother. This resulted from contacts/resources she was able to make from the caregiver training class. She had tried for years to get assistance for her mother, had to stop her job to care for her full-time and was really stressed out and in desperate need of respite. She was most appreciative of the program and contacts provided.

3. June 1997 marked the fifth anniversary for the Caregivers Support Group in Iredell County. The participants continue to come and to be helped by sharing with each other. Several have said "I just couldn't make it without the support of others in this group, this group means so much to me; I invite others and tell them how much this group has helped me". Over fifty individuals have been helped through this educational activity. It was the outgrowth of "Training Family Caregivers Program". These caregivers have helped sponsor other trainings and resource fairs. Caregivers are a unique group with a variety of needs. The Iredell County Extension Program has helped caregivers take better care of themselves as well as their loved ones and to know where to turn for additional help in the county.

4. Rowan County's senior adult population increases yearly, but unfortunately there

is a shortage of suitable houses. In cooperation with other agencies and the home builders, the Cooperative Extension Service demonstrated in educational clinics the How-to's of Affordable Home Ownership and the How-to's of Home Retrofitting to Accommodate Older Adults, during a two-day event. Participants learned financial and debt-load management, home equity pro's and con's, mortgage comparisons plus remodeling and retrofitting techniques to improve the functions and capabilities of the home. The attendance of 350 people showed interest, and participants estimated that their new knowledge and skills will save each of them at least \$300 per year. Program participants indicated a desire to expand the clinic subjects in the future in order to continue to learn "what's new in the marketplace".

5. *Lincoln County reports:* Through the Sr. Citizens Council's leadership, which is coordinated through the Extension Service, we have conducted the SHIIP (Sr. Health Insurance Information Program). SHIIP volunteers have presented programs to 8 different groups and worked with 40 individuals in selecting a supplemental insurance policy and assisted them in making wise choices with their Medicare forms. As a result of the volunteers assistance with the 40 individuals, we estimated a savings of \$4000.00 for these clients.

6. *Gaston County reports three success stories involving SHIIP:* An experienced SHIIP volunteer helped a very disabled Medicare recipient collect money from a doctor's office billing service that was in violation of HCFA regulations. The service admitted their procedures were in violation, but made no attempt at restitution, so the volunteer contacted CIGNA and HCFA on the client's behalf. The client was unable to comprehend the situation and his rights. If not for the SHIIP volunteer, he would still not have received his refund. He had avoided going for further care because he felt he could not afford such a large payment again to the doctor.

A SHIIP volunteer, while helping a couple in their 80's clarify their insurance and Medicare coverages for the husband discovered that the wife was a retired State Employee and was covered by Blue Cross, but was carrying duplicate coverage through a supplemental insurance policy costing \$90.00 per month. The couple elected to drop the policy, saving \$1080 per year.

SHIIP volunteers assisted 15 elderly clients in retrieving money paid to doctors because Medicare had rejected the claims filed by the billing services. The clients were concerned and paid the bills when the doctors offices billed them showing the claims had been rejected. The volunteers educated the clients to understand the difference between rejection as the result of misfiling by the doctor's office and the denial of services not covered by Medicare. Approximately \$800 was recovered for clients, the largest single amount being \$317 for one client.

7. *Person County reports:* Faced with medical bills beyond her means, one Person County resident has turned to the volunteer SHIIP (Seniors Health Insurance Information Program) Program coordinated through the local Extension office and Council on Aging for help. Armed with records organized into a notebook by the SHIIP

volunteer, she and the patient visited the medical facility to question a total of \$1700 worth of billings they felt were in error. The medical facility agreed with them and as a result of the volunteer's time and efforts, one happy lady has been spared \$1700 in excess medical charges.

8. 155 Adults attended Estate Planning Seminars held at the Stanly County Center. A follow-up questionnaire was sent to 106 households approximately 9 months following the seminar. 31 responses were received. Of those responding, 7 participants wrote or revised their will since attending the seminar. Other results include; 16 - discussed plans with family, 11 - reviewed present will, 8 - have sought professional assistance, 18 - reviewed and estimated the value of their estate, 12 - reviewed how property ownership is titled, and 11 - improved family records systems. From the responses that we received, the seminars provided information and answered questions for participants so that they could take further actions in their estate plans.

9. Influenza is the fifth leading cause of death in Pitt Co. among people age 65-84. For those 85 and older, it is the fourth leading cause of death. Between 1991 and 1995, 132 Seniors in Pitt Co. died from influenza. On October 19, 1997 Pitt Co. held "Senior Vaccination Sunday". The N.C. Cooperative Extension Service-Pitt Co. Center was one of 12 area organizations which co-sponsored the event for individuals 65 and over. Five sites provided influenza and pneumococcal vaccinations. A total of 858 vaccinations were provided county wide. At the site co-hosted by Cooperative Extension, 396 flu and 125 pneumonia vaccines were provided to 404 seniors.

CEMP Contact Persons: Carol A. Schwab, Co-Chair, Ila Parker, Co-Chair

Team Members:

- Jean Baldwin
- Jackie McClelland
- Chuck Moore
- Jewel Winslow
- Denise Baker
- Luci Bearon
- Sarah Kirby
- Angela Fraser
- Pearl Stanley

CEMP 02 - AGRICULTURE AND NATURAL RESOURCES POLICY

CEMP 02 Focus:

Public policy issues recognize the need for both policy and technical dimensions in educational programs. CEMP 02 focuses on improving the efficiency and effectiveness of agriculture and natural resource policy through better informed

stakeholders, decision-makers, and the general public. Informed individuals and groups increase their knowledge of the policy-making process. They gain greater knowledge and awareness of agriculture and natural resource issues and develop problem solving and consensus building skills to deal with them.

Controversial issues addressed through public issues education principles and concepts under CEMP 02 include: water quality, water use, animal waste management, economic development, agricultural rules and regulations, land use, zoning, and solid waste.

Primary Audiences Served:

- Farmers
- Environmental groups
- Government officials
- Rural landowners
- Land developers

Because public issues education cuts across a number of program areas, several CEMPs contain projects having policy accomplishments, even though they are reported formally against these other CEMPs. A review of all the CEMPs found the following to have policy objectives and reports of accomplishment that also could have been reported under CEMP 2 (Participant numbers under Measures of Progress and Impacts do not include those from CEMPs other than CEMP 02).

- CEMP 3 Agriculture and the Environment (objectives 1,3,4,6,7)
- CEMP 4 Animal Production and Marketing Systems (objective 2)
- CEMP 7 Crop Production and Marketing Systems (objectives 2,4,5,6)
- CEMP 12 Health and Human Safety Initiative (objective 3)
- CEMP 13 Leadership and Volunteer Development (objective 3)
- CEMP 15 Natural Resource Conservation and Management (objectives 1,2,3)
- CEMP 17 Residential and Community Horticulture, Turf, Forestry and Pest Management (objectives 1,2,3)
- CEMP 18 Residential and Community Water and Waste Management (objectives 1,2,3,4)

Objective 1: Participants will improve their understanding of existing and evolving domestic/international agriculture and natural resource issues, legislative and regulatory options, and their impacts.

Counties (units) reporting accomplishments: Chowan, Gates, Guilford, Hertford, Madison, Martin, Pasquotank, Richmond, Sampson

Measures of Progress:

1. Participants in educational programs focusing on environmental and natural resource issues - (Number) - 2497.

Impact:

1. Increased knowledge and awareness of environmental and natural resource issues and policies - (Number of those participating who demonstrate) - 1041.
2. Increased knowledge and awareness of environmental legislation and regulations affecting agriculture - (Number of those participating who demonstrate) - 1444

Volunteers:

Number: 121
Hours: 1463
Value: \$ 14630

Cost/Benefit Analysis:

Value to Targeted Audience: \$ 353700 (9 reports)
Value to Society: \$ 10972999 (9 reports)
Estimated Program Cost: \$34718 (9 reports)

Program participants gained increased knowledge and understanding of various agricultural and natural resource issues including animal and other agricultural waste, farm legislation, biotechnology, wildlife habitat, water quality improvement, fertility and pesticide management, farm land preservation, zoning, national agricultural policies, and the local agricultural economy. Individuals gained an appreciation for the importance of agriculture to the economy of Martin County. In Madison County a farm land preservation ordinance was drafted and passed, deferring over one million dollars from the county's tax value as agricultural and forest land. A water quality improvement project was established in New Hanover County to educate homeowners on Best Management Practices for landscape establishment and maintenance to reduce stormwater runoff. Farmers and agribusinesses learned about farm legislation and its impact in Pasquotank County while civic groups, farm groups, and school children learned about biotechnology and transgenic farming issues. A "Friends of Agriculture" group in Sampson County was kept informed of rules and regulations being proposed to regulate hog farms. This group got involved in the political process through lobbying of state legislators. Several other counties utilized information about the 1996 Farm Bill to inform producers about policy options under the Bill. In the White Oak River Watershed, Cooperative Extension formed an advisory board of stakeholders from Carteret, Jones, and Onslow counties. Meeting monthly to understand the issues and policy options, they formulated consensus-based policy recommendations that went to elected officials and selected government agencies.

Objective 2: Participants will increase their understanding of, and involvement in, the process by which US, NC and local agriculture and natural resource legislation, rules, and regulations are developed.

Counties (units) reporting accomplishments: Carteret, Chowan, Hertford, Sampson, Union.

Measures of Progress:

1. Participants in educational programs that focus on the process by which agricultural and natural resources legislation, rules, and regulations are developed - (number) - 924

Impact:

1. Participants with increased knowledge of the policy making process - (number participating who demonstrate) - 906
2. Increased public participation in policy making - (increase in number participating) - 186

Volunteers:

Number: 44
Hours: 128
Value: \$ 1280

Cost/Benefit Analysis:

Value to Targeted Audience: \$ 150000 (5 reports)
Value to Society: \$ 11099999 (5 reports)
Estimated Program Cost: \$ 2312 (5 reports)

The policy making process is better understood in several counties as a result of Extension's educational programs. In the Chowan River Basin, over 20 individuals, representing government, agriculture, business, tourism, and environmental groups, participated in the policy making process involving the Chowan River Basinwide Management Plan. Extension and NC Division of Water Quality personnel facilitated meetings of the Chowan River basin Council. Through participation in the council, citizens had an impact on water quality policies and regulations and are more likely to support those policies than if they hadn't been involved in the process. In Hertford County, information concerning public policy development was presented at a county Farm Bureau monthly meeting. Information presented created more involvement in a local/state policy development forum concerning regional surface waters. A Richmond County Cooperative Extension Service agent helped facilitate the resolution of a hunter/landowner dispute in a neighboring county. Meeting with a hunter/landowner committee, their task was to draft hunting legislation that would be acceptable to both sides of the issue. Through a series of meetings, a list of hunting regulations was drafted. The proposed legislation passed through the public hearing and is being presented to the county commissioners. In Union County, farmers were facing new pesticide rules and regulations. Through the use of educational meetings and newsletters these individuals have a better understanding of the policy and who is responsible for setting them. They also have an understanding of how they can be a part of the policy and law making process. In the Neuse River Basin, Cooperative

Extension used newsletters, media coverage, collaborative educational systems, and a workshop to help local farmers and other citizens understand the proposed Neuse Nutrient Sensitive Waters Management Strategy and its implications for local citizens.

Objective 3: Participants will understand and use the public issues education process including the principles of conflict resolution and facilitation in conducting educational programs and in helping to resolve local issues.

Counties reporting accomplishments: Chowan

Measures of Progress:

1. Participants in educational programs dealing with public issues education and conflict resolution - (number) - 60

Impact:

1. Participants adopt public issues education, conflict resolution, and facilitation principles and techniques - (number participants adopting) - 60
2. People participating in a collaborative problem solving process to resolve a community/public issue - (number participating in process) - 60
3. Community/public issues resolved through collaborative problem solving - (number issues resolved) - 3

Volunteers:

Number: 0
Hours: 0
Value: 0

Cost/Benefit Analysis:

Value to Targeted Audience: \$ 388000
Value to Society: \$ 10099999
Estimated Program Cost: \$ 2024

North Carolina Cooperative Extension Service faculty at the state and county levels are receiving additional training in facilitation and consensus building, and, as a result, are becoming more involved in resolving controversial local issues. The Natural Resources Leadership Institute has trained Extension and non-Extension personnel throughout the state, and graduates constitute a growing cadre of trained facilitators. Many examples of their involvement can be cited. A facilitation process was used to build consensus on use of EPA Section 319 grant funds allocated to the Chowan and Pasquotank River Basins for study, implementation, and education concerning Best Management Practices to reduce non-point source pollution. Following achievement of consensus, it was feasible for NCCES to develop grant proposals with input from

NCDA, NRCS, DWQ, SWCD, farmers, and environmentalists. Research will target residential (septic systems) and urban (spray fields) potential pollution sources as well as agriculture. Results from the proposed research and education efforts should help in developing equitable laws and regulations if needed as part of basin-wide management plans to reduce non-point source pollution.

In the Chowan River basin, a 20-member Chowan River Basin Council is charged with providing advice for development of NC Division of Water Quality's Chowan Basinwide Management Plan. The Cooperative Extension Service helps facilitate Council meetings and provides technical information, thus giving representatives of state government, conservation organizations, agriculture, forestry, business, tourism, and concerned citizens an opportunity to influence future policy concerning the Chowan River. They have arranged for technical experts to provide information on monitoring, bacteria, and water quality programs in Virginia (75 percent of Chowan's flow). With this information, the Council can suggest actions to further improve water quality. Citizen involvement in policy making will help ensure better compliance with policies and regulations.

Success Stories:

Local System: Richmond

Person Reporting: Bert Coffey

After repeated offers and requests, the health board voted to attend a two hour nutrient management course given by the Richmond Co. Extension Service, to prepare themselves for making a decision on proposed intensive livestock rules. The class was attended by 8 of the 10 health board members including the health director. Topics addressed included: waste utilization plans, nitrogen in the environment, ground water, animal waste content, current regulations. Board members were given a sample test similar to the one producers take and shown a demonstration using the university's groundwater model. In an evaluation given afterwards the comments were positive and indicated new knowledge and understanding was gained.

Local System: Moore

Person Reporting: Charles Hammond

In February 1997, approximately 300 people attended the Moore County Board of Commissioners meeting because of a conflict between landowners and deer hunters who hunted with dogs. The commissioners asked that a committee be appointed and requested Extension to provide leadership. The charge to the committee was to develop an action plan whereby deer hunters can continue to hunt with dogs in Moore County and observe the wishes of those landowners that prefer no hunting with dogs on their property. The committee was organized with representation from all groups. Game Wardens were contacted to discuss the type of legislation needed to address the problems in the county. Legislation from other counties was reviewed. Two facilitators were secured from the "Natural Resource Leadership Institute". Seventy persons from the different groups were involved in developing rules to be presented

to County Commissioners. Most people were very satisfied with the process and outcome.

Local System: Wayne

Person Reporting: Bob Pleasants

Extension cooperated with the Wayne County Young Farmers Organization and N.C.S.U. specialists to conduct a workshop to explain proposed Neuse River Nutrient Sensitive Waters Management Strategies and their potential impact on local citizens. As a result, sixty citizens increased their understanding of the proposal, and some fifteen issued public comment on the proposed rules, either verbally at a public hearing or in writing.

Local System: Madison

Person Reporting: Maurice McAlister

The addition of a Farmland Preservation Ordinance to the Madison County Zoning Laws culminated almost a full year's involvement by Extension and other related agencies with interested farm leaders, and county officials. Five agricultural districts cover the farmland in the county, and are expected to provide for the continuation of production agriculture in the rural areas of Madison County in the 21st century.

Local System: Person

Person Reporting: Craven Hudson

The need to protect farmland was identified 10 years ago by the Durham County Commissioners and various county committees. Numerous attempts to develop a protection program failed for various reasons, chief among them an effective organization to staff the Farmland Board. Once Extension stepped forward to perform the task, results began. A Voluntary Agricultural Districts Ordinance was created and adopted. An awareness campaign including attractive signs for District members and mass media reports was initiated. Sixteen Ag Districts consisting of 1420 acres were voluntarily protected from non-farm development as a result of Extension's leadership efforts in 1997. Durham County leads the state in Voluntary Ag Districts. It is quickly moving towards offering incentive-based measures to protect more farmland, but more importantly, to assist farmers who wish to continue farming in the face of intense development pressure.

System: NCSU Campus

Person Reporting: Steve Smutko

Cooperative Extension's Natural Resources Leadership Institute is a program to train professionals from land management agencies and resource-based industries, educators, and activists with environmental and conservation organizations in a variety of leadership skills centered around collaborative problem solving. The goal of the program is to train leaders who can build consensus around contentious environmental

issues and move beyond conflict to find solutions. The Institute consists of 3-day workshops held monthly from January through June, and a year-long practicum where participants are to apply the skills they learned in the workshops to situations they face at work, in their organization, or their community. An interdisciplinary faculty team from NC State University and the University of North Carolina at Chapel Hill develops curriculum, and organizes, manages, and teaches the training workshops. The program in 1997 consisted of six workshops around the state and in Washington D.C., and 2 one-day practicum review sessions. In 1997 the Institute enrolled its third class consisting of 26 participants, and graduated 30 fellows from the 1996 program.

System: NCSU Campus
Person Reporting: Steve Smutko

Public Issue Conflict Resolution and Participatory Decision-Making. The objective of this component of the public issues education program is to assist local, state and federal government agencies and other organizations plan and carry out facilitated meetings of affected stakeholders to resolve conflicts centered around environmental issues. In 1997, Extension assisted the U. S. Forest Service to convene and facilitate stakeholder deliberations centered around a controversial timber sale in Madison County. The result was a set of recommendations to the North Carolina National Forests Supervisor on an alternative to the proposed sale that satisfied the interests of the environmental organizations, timber industry, and other stakeholders represented at the table. Also, in response to heated disputes centered around hog production in Craven and Beaufort counties, Extension convened and facilitated working groups to develop recommended policy governing future growth of intensive livestock operations in Craven County. Recommendations in Beaufort County are still pending.

System: NCSU Campus
Person Reporting: Michele Marra

Information was provided on the 1996 Farm Bill by helping county agents and farmers understand the new state and federal conservation programs and rules affecting North Carolina farms. The focus was on providing summary information about the program rules as well as providing advice on how they might be coordinated with state programs to farmers' best advantage. Written materials were published and various electronic communications relating to the EQIP and CRP programs were sent to county extension crops and environmental agents in the state through an electronic mail group.

System: NCSU Campus
Person Reporting: Nancy White

Collaboratively sponsored by NC Cooperative Extension Service from NCSU, Onslow, Jones, and Carteret Counties, the White Oak River Advisory Board is a citizen's group including persons from the local government officials. They are the first effort of the

WECO Project--Watershed Education for Communities and Officials. This group began meeting in August 1996. Over 12 months, the Board reviewed technical material and developed a consensus management recommendation to address their concern about the impacts of Highway 24 at the mouth of the river. They recommended, to protect a valuable shellfish resource and prevent further exacerbation of water quality problems related to the causeway, that storm water runoff from Highway 24 not be discharged into the river, as was currently planned in the scheduled road expansion by NC-DOT. These recommendations were adopted by commissioners for Carteret and Jones Counties, May and June 1997, and the White Oak River Watershed Advisory Commission of Onslow County, May 1997. This policy statement became part of the public record for the DOT hearings, May 1997. It was also included in the basinwide management plan, fall, 1997. Additionally, DOT agreed to support the Board's recommendations, and they revised their stormwater plans to direct runoff away from the shellfish resource in the river, October 1997. The Board's continued efforts will be to work on bacterial contamination in the river's shellfish resources.

System: Multi-County Neuse River Environmental Education Project
Persons Reporting: Bill Lord and Craven Hudson

Through special funding of the NC General Assembly, Cooperative Extension was provided with funds to develop an environmental educational program for the Neuse River Watershed. New positions funded include five agents at the county level and two specialists on campus. Additional resources are available for development of materials and programs, onfarm demonstrations, working with the media, a web site and related educational items. The program has been very successful in bringing educational information, such as the nature of the issues and problems in the Neuse, and the new Neuse River rules and regulations that affect landowners, to the attention of citizens throughout the area. Examples of some of the stakeholder groups for whom educational programs have been held include: Johnston County farmers - 2 meetings, 100 people; Johnston County Agribusiness Association - 2 meetings, 80 people; Franklin County Livestock Association 1 meeting, 50 people; Wilson Regional Pork Conference, 100 people; Johnston County Nurseryman's Association, 25 people; Person County Swine Producers-- 25 people; Person County Cattle Producers--30 people; Guilford Cattlemen's Association--45 people. Through these and similar meetings throughout the watershed, citizens are becoming informed and more knowledgeable concerning ways to improve water quality in the Neuse River.

CEMP 02 contact persons:

Leon Danielson, co-chair
Marjorie Rayburn, co-chair

Team Members:

- Ted Feitshans
- Gregory Jennings
- Rick Hamilton
- Charles Hammond
- Lanny Hass
- Steve Hodges
- Craven Hudson
- Todd Lowe
- Michele Marra
- James Parsons
- Steve Smutko
- Nancy White

CEMP 03 AGRICULTURE AND THE ENVIRONMENT

Agriculture and the Environment State Major Program mission is to develop and implement educational programs to improve the clientele understanding of the complex relationships between agriculture and the environment. Programs were targeted to seven clientele groups:

- Livestock, poultry and fish producers;
- Field crops producers;
- Nursery, greenhouse, turf and landscape professionals;
- Agribusiness professionals;
- Agricultural service agencies;
- Special interest groups; and
- Pesticide certification and training.

Objective 1: Livestock, poultry, and fish producers will adopt and promote economically and environmentally sound practices to manage water and waste materials for the purpose of improving air and water quality protection.

Units Reporting Accomplishments: 46

Program Accomplishments, Measures of Progress:

1. There were 2,595 land application operators of animal waste trained and certified in 1997.
2. The following number of best management practices were adopted: Soil test analysis for 350,000 acres, waste analysis of animal manures that were applied to 178,816 acres, plant tissue analysis to determine if correct crop fertility were taken on 12,244 acres of cropland, 1,184,667 tons of feed were sampled for analysis, conservation practices were implemented on 179,301 acres of land,

140,244 tons of animal waste were composted and 564 spreaders and other manure application equipment were calibrated.

Program Accomplishments, Impacts:

1. 122,629 Tons of soil erosion (loss) were reduced on pastures, feedlots, lounging areas and land application fields as a result of adoption of conservation practices.
2. Livestock and poultry organic by products containing 20,041,294 pounds of nitrogen, 20,969,870 pounds of P205 with a value of \$6,386,541 were utilized as crop fertilizer.
3. 2,789 out of 6,066 producers utilize approved waste utilization plans.
4. The number of farms utilizing best management practices include: 87 walking trails, 129 stream crossings, 272 managed streambank vegetation and 618 mortality composters.
5. There were 58 permit and water quality violations or odor complaints against livestock producers during 1997. 525 volunteers contributed 3,196 hours valued at \$31,960 for this objective.

Value to Targeted Audience: \$ 13,808,697

Value to Society: \$ 13,867,598

Estimated Program Cost: \$ 110,855

Objective 2: Field crop producers will adopt and promote economically and environmentally sound practices to manage water, soil, nutrients and pesticides for the purpose of improving water quality protection.

Counties Reporting Accomplishments: 47

Program Accomplishments:

Appropriate BMPs were applied to almost 2 million acres. Of the BMPs utilized, no-till was applied to the greatest number of acres (approximately 763,574 acres) followed by residue management 559,640 acres, conservation tillage (366,227), nutrient management plans (266,728 acres), and controlled drainage (212,075).

Approximately 139 miles of vegetative buffer or forested riparian areas were restored along intermittent and/or perennial streams.

Integrated Pest Management was utilized on 678,125 acres, pest scouting on 787,774 acres, and biological control of pest on 126,720 acres for a total of biotechnologies used on over 1.5 million acres.

Over 2,000 farms (108,290 acres) established field borders, filter strips, or permanent wildlife habitat.

Impact:

The use of biotechnologies rather than traditional/conventional practices reduced pesticide usage by approximately 159,489 lbs. Nitrogen commercial fertilizer,

compared to conventional use or previous rates, was reduced by 78,600 lbs while commercial phosphorus fertilizers were reduced by 74,533 lbs. Soil loss was reduced by 7,865,487 lbs of soil. Wildlife habitat was established on 9,829 acres.

Over 436 volunteers contributed 4,050 hours which at \$10/hour is valued at \$40,500 in volunteer hours. Several county units developed cost-benefit measures. The estimated value of field crop environmental education were:

Value to targeted audience	\$ 18,647,674
Value to society	\$ 28,023,744
Estimated for program cost	\$ 625,983

OBJECTIVE 3. Nursery and greenhouse growers,turf and landscape professionals will adopt and promote economically and environmentally sound practices to manage water, soil, nutrients and pesticides for the purpose of improving water quality protection.

Counties Reporting Accomplishments: 33

Program Accomplishments:

1. Over 1055 individuals (Nurserymen and Greenhouse Growers) adopted BMPs.related to nutrient management strategies including techniques such as cycled irrigation (331); water reuse (169);split application and/or controlled release fertilizers (1090); foliar/soil test analyses to determine fertilization rates and timing (826); conservation practices (915); and integrated pest management (1403).

2. Over 4000 Landscape professionals were trained in landscaping BMP's and over 3200 were introduced and drained in professional certification programs including: new registered landscape contractors (19) continuing training (256); new certified plant professionals (40);continued certified plant professionals (187);new certified landscape technicians (11), continued landscape technicians (19); licensed pesticide and applicators for ornamental and turf in 1997 (6542) and participants in recertification training (5958).

IMPACTS: Training for professionals in ornamental landscape, nursery, greenhouse operations and turf businesses concentrated on providing training in integrated pest management, landscaping for water quality, and designing and retrofitting nurseries and greenhouse operations to reduce impacts in nutrient sensitive watersheds. Workshops attracted large numbers of landscape, greenhouse, nursery and turf professionals with over 4000 attending the Green and Growing Show and over- 3200 participants in the Turf Conference. Success stories provided by agents in local counties included personal "thank yous" from extension clientele for helping provide environmentally friendly approaches to 1) running a turf maintenance company , 2) design and layout of a nursery 3) developing a pesticide container recycling program for golf courses in

an area of 51 golf courses in 3 counties. This effort won a Program Award from the Association of County Commissioners.

Horticulture Programs lead to the adoption of erosion control practices on 3767 acres. Over 11,843 tons of waste products were used or recycled and horitucultual water management and conservation strategies were practiced on 4963 acres. More than 2679 producers utilized environmentally friendly pest management practices.

230 Volunteers contributed 2539 hours valued at \$25390. The total estimated value of nursery, greenhouse, and landscape environmental education programs was:

Value to Targeted Audience:	\$ 1,758,283
Value to Society:	\$ 2,893,700
Estimated Program Cost:	\$ 74,699

Objective 4: Agribusiness professionals will adopt and promote economically and environmentally sound practices to manage water, soil, waste materials, nutrients, pesticides, and petroleum products for the purpose of improving air and water quality protection.

Counties Reporting Accomplishments: 18

Program Accomplishments:

Extension faculty conducted 113 industry meetings and trade shows promoting environmentally sound agriculture, with 3123 agribusiness professionals participating. In addition, there were 191 environmental educational programs sponsored by agribusiness. During the year, 187 companies produced literature promoting the use of BMPs and environmentally sound production. In addition, 89 environmental products and equipment were marketed for use in agricultural pollution control. To support the education program, 207 volunteers committed 1291 hours for an estimated value of \$12,910 of volunteer labor. The estimated value of the environmental educational programs were:

Value to targeted audience	\$ 759,000
Value to society	\$ 20,547,998
Estimated program cost	\$ 27,092

Objective 5: Extension will network with agricultural service agencies including NRCS, ASCS and NCDA to promote economically and environmentally sound practices to manage waste materials, nutrients, pesticides, and reduce nonpoint source pollution for the purpose of improving air and water quality protection.

Units reporting accomplishments : 34 counties

Accomplishments with Statewide Measures of progress totals. The collaboration of Extension with other state and federal agencies continues to be successful as we partner to protect the waters of North Carolina from nonpoint source pollution. More than 1500 publications, reports and interactions were generated. Jointly more than 200 multiagency educational programs have been delivered. One hundred thirty seven multiagency coalitions have been initiated and more than 190 collaborative projects implemented.

Statewide Impacts: Multiagency cooperation allows each agency to focus on their strengths in an effort to achieve a common goal, reduction of nonpoint source pollution. The ultimate benefit is the highest quality program possible at minimal expense due to increased efficiency.

Narrative: Nutrient and manure management continues to be extremely important in North Carolina. Animal waste management plans written as a part of the North Carolina Nondischarge Rules (.0200s) will reduce nutrients entering the waters of the state. Mandatory and voluntary education programs that have been conducted have and will continue to minimize the potential for environmental impacts.

Value to targeted audience:	\$ 8,854,960
Value to society:	\$ 21,036,599
Total estimated program costs:	\$ 726,268

Objective 6: Special interest groups (including public officials, environmental activists, the media and consumers) will increase their understanding of and appreciation for the complex relationships between agriculture and the environment.

Counties Reporting: 32

Cooperative extension coordinated 237 community and special interest environmental educational programs. One hundred seventy eight programs were conducted to promote greater use of best management practices. Forty one local policies were adopted that reflected both the agricultural community's and the special interest groups' needs. Public awareness and knowledge of the link between agriculture and the environment was increased by participation of 51,403 citizens in educational programs. Enhanced attitude toward agriculture was reflected by 484 media stories promoting a positive image of agriculture.

609 Volunteers contributed 3,823 hours valued at \$ 38,230. The total value of citizen type agricultural/environmental educational programs is:

Value to Targeted Audience:	\$ 427,300
-----------------------------	------------

Value to Society: \$ 10,056,748
 Estimated Program Cost: \$ 26,012

Objective 7: Pesticide Certification and Licensing Program

Units reporting accomplishments : 79 counties

Accomplishments with Statewide Measures of progress totals. The scope of this program continues to be quite large statewide. Pesticide Best Management Practices (BMPs) have been implemented on over 935,000 acres with 11,506 applicators adopting one or more BMP. Overall, certification or recertification was accomplished for over 15,000 pesticide applicators. Container recycling continues to be popular, with almost 222,000 containers recycled in 1997. County staff had the assistance of over 2,500 volunteers, adding \$31,000 in value to their pesticide certification programs.

Statewide Impacts: Amount production costs reduced through proper and more efficient use of pesticides: \$4,885,058 Savings through the elimination of pesticide containers from landfills: \$120,740.

Narrative: The Pesticide Certification and Licensing Program continues to be extremely important in the state. It is through this program that most pesticide applicators obtain the information they need to use pesticides while minimizing the potential safety hazards and the potential for environmental impacts.

Value to targeted audience: \$ 2,529,100
 Value to society: \$ 22,996,846
 Total estimated program costs: \$ 141,178

EXAMPLE SUCCESS STORIES (Highlighted By Objective):

OBJECTIVE 1:

Forty-six Gaston, Lincoln, Catawba, and Cleveland County dairy producers have completed waste operator training and 100% of the producers in Lincoln and Catawba have completed their certified nutrient management plans with the remainder nearly complete. Six farms installed cow mattresses to reduce the solids going to waste storage ponds. Three dairies along Long Creek have cooperated in a project to improve water quality in the creek by adopting such practices as excluding livestock from streams, and constructing environmentally sound heavy use areas and stream crossings. Results of stream testing since 1993 indicate a 77% reduction in

phosphorous levels with current levels at the lowest value the analysis method can accurately measure.

Eighty-five dairy and swine waste applicators were trained in 1997. Operator certification exams of the applicators resulted in a 90% pass rate indicating that they now have knowledge to properly utilize animal waste without environmental impact. One hundred twenty one individuals from 61 poultry farms, when combined, generate 197,000 pounds of nitrogen annually have undergone Dry Poultry Waste Training in Iredell County. By completing the training, producers and applicators will be able to improve nutrient management and utilize poultry litter in an environmentally friendly manner.

OBJECTIVE 2:

Local System: Swain

Person Reporting: Christy Bredekamp

A significant need existed among the Fraser fir growers in Jackson and Swain counties to decrease their application rates of phosphorous due to high levels of P205 in the soil. Traditionally growers have applied Diammonium phosphate(18-46-0) year after year as a source of nitrogen and phosphorous for their trees without soil sampling throughout the rotation. Education efforts were made in meetings, newsletters and one on one visits to take soil and tissue samples for proper nutrient management on their farms. As a result over 27,200 lbs of P205 was reduced in soil application saving the participating growers .75 cents per bag using 34-0-0 as opposed to 18-46-0. Their trees are healthier with better vigor, color, density and uniformity increasing their grading standard and thus their sale price. In addition any potential environment damage due to the excess of P205 was eliminated.

Local System: Pitt

Person Reporting: Danny Lauderdale

104 landscape maintenance personnel from 6 counties learned integrated pest management techniques at the 1997 Pitt County Trufgrass Workshop. Insect, disease, and weed management. Those attending also learn how to operate mowers and string trimmers safely. Participants were evaluated to determine those in the industry using soil testing, IPM, slow release fertilizers, and certifications. One participant said, "this was a very informative meeting....ranks at the top as far as effectiveness....best I have been to in years.

OBJECTIVE 3:

Local System: Moore

Person Reporting: Al Cooke

To Charles Hammond

In 1995 after 25 years as a golf course superintendent I took a gamble and started a landscape business. I am over the proverbial hump and thought it was time I thanked the people who have helped make Master-Keeper successful.

I have known Al Cooke since he came to your office. I never imagined how much I would use his knowledge until I started Master-Keeper. If I don't know the answer or have the solution who do I call? Al Cooke of course! You have no idea how much this has meant to me. If Al doesn't know, he knows who does. I tell my clients that Master-Keeper, at times uses outside resources. When I give them copies of Extension reports it reenforces that their landscapes are in good hands.

Thank you for having Al Cooke. I plan to keep calling.

Wayne Maples

Local System: Lincoln

Person Reporting: Kevin Starr

A Lincoln County liner nursery experienced two especially challenging pest problems (fungus gnats and broad mites) in 1997 that posed a significant threat to their profitability. A combined effort of the local agent, Plant Disease and Insect Clinic, and the entomology specialist at N.C. State led to the accurate identification of these problems and appropriate control recommendations. The nurseryman instituted control measures which made these problems more manageable and reduced the level of economic loss. It is estimated that by using the control recommendations for broad mites, the nurseryman was able to achieve \$10,000 in sales over what he would have realized had the recommendations not been followed. The knowledge he has gained this year will lead to reduced losses from these pests in the future.

Local System: Brunswick

Person Reporting: Matthew Martin

In 1997, Matthew Martin with the Brunswick County Cooperative Extension Service, received a grant to expand plastic pesticide container recycling to golf courses in Brunswick, New Hanover, and Pender Counties. In December 1997, there were 51 golf courses in these three counties. Matthew Martin has worked to distribute pressure rinse nozzles and plastic container storage bags to all golf course superintendents that are interested in participating in the program. Participating superintendents have ensured that containers are properly rinsed and stored for recycling. Matthew Martin published the details surrounding this program in "Golf Course Management" magazine (Feb. 1998) published by the Golf Course Superintendents Association of America with more than 40,000 subscribers. This program also won the 1997 Outstanding County Program Award from the Association of County Commissioners. This was the only NC Cooperative Extension Service Program to win this award.

OBJECTIVE 4

Local System: wilson

Person Reporting: Norman Harrell

Tobacco farmers that utilize conductivity meters in Wilson County to monitor fertility levels in transplant float water were using the meters improperly. There was a misconception that the meters reading was in parts per million (ppm), while it was actually reading in mmhos/cm. Conductivity meters were also not being calibrated for proper readings. These errors could lead to under or over fertilizer levels in the float water. An extension effort to address this problem was made. Southern States of Wilson networked with extension on this effort by donating the conductivity standard solution to calibrate meters with. Thirty-seven farmers attended a tobacco greenhouse meeting. As a result, 15 conductivity meters were calibrated. These producers utilized meters correctly and fertilized accordingly. This prevented any under-fertilized transplants as well as any over-fertilization that would have ultimately end up in the environment.

Local System: johnston

Person Reporting: Eric Spaulding

Farmers, agribusinesses, and the Feed Grains Advisory Committee indicated that a New Technology Workshop was needed in order to understand benefits and opportunities of planting genetically engineered crops. A Biotechnology workshop was held which specifically dealt with how to boost efficiency and increase profits by using new technology, determining the value of new technology, safety of biotechnology, and moving biotechnology from the laboratory to the marketplace. As a result, 700 producers used genetically engineered cotton and soybeans as part of their IPM program to reduce pesticide use, protect the environment, and as a strategy to reduce hard to control weeds and insects on over 40 percent of Johnston County's acreage. The high yielding, genetically engineered varieties reduced production costs 10 percent and increased profitability \$1.3 million. One agribusiness has begun implementing a precision farming program and hired an additional full time employee.

OBJECTIVE 5

County: Onslow

Reporting: Dr. Diana Rashash

Interagency collaboration, which aids us in keeping track of who needs assistance and scheduling our time effectively, is on-going among CES, NRCS, and SWCD agents in Onslow County. Several projects that will continue to foster collaboration have been initiated. Joint visits to farms by CES and SWCD personnel have enabled both agencies to be more effective. A joint presentation to the Onslow County Commissioners was very favorably received. The Onslow Extension agents also assisted the SWCD agent with getting the county to fund an additional SWCD

position, which also helps us to complete our tasks.

County: Iredell

Reporting: Mike Miller

Extension has networked with other agencies to promote nutrient management plans as well as Best Management Practices in order to keep producers in compliance. In addition to this, type A and B Operator Training has currently finished up in this county with all known producers having received the training and a better than 90 percent pass rate on the test. Dry litter training has started this past fall, with collaborative efforts of NRCS in Wilkes county and Extension agents providing the training. At this time over 400 Poultry producers have been trained in the area, and training will continue into Spring, 1998. These training sessions are voluntary, and attendance has been between 90-97 percent of all producers invited.

Local System: mcdowell

Person Reporting: Mario DeLuca

Eleven hundred 4th grade students and teachers, gained an appreciation of the importance of agriculture in the two Ag. Awareness Field Day held in 1997. A change in the scheduling of the event in the school year necessitated holding the event twice in 1997. Participants received workbooks with information and worksheets a week prior to the event. At the event students attended eight 15 min. sessions dealing with various agricultural topics. An essay contest on "Why Agric. is Important" was also held with the event. 18 winners received \$50 savings bonds. The essay contest provided \$900.00 in prizes to the students. Activities and program materials of this nature generally cost about \$10.00 per student at petting farms. The total direct value to our school system for this program in 1997 comes to \$11,400.00. Considering over 4000 students have participated in the past 8 years, this represents a \$40,000.00 savings to our schools since it's inception.

Local System: vance

Person Reporting: Ben Chase

The North Carolina Cooperative Extension Service taught over 800 school age youth and teachers in Vance and Warren Counties about agriculture and the environment. Participants learned the relationship between agricultural practices and water quality as well as the impact that they have on water quality and the environment in their daily life. Educational efforts were also made with 5 County officials and 150 non-farm public about policies and information about benefits of waste management. These efforts were accomplished by environmental field days, field trips, the classroom and at meetings. According to surveys received at meetings, 94 percent indicated that they learned new concepts or gained a better understanding about the waste regulations or waste management. 88 percent said that they would be able to apply the information learned.

OBJECTIVE 7:

County: Avery

Reporting: Mike Pitman

There is a continued need to keep pesticide applicators informed and up to date on issues (including new Federal and State regulations) pertaining to the proper and safe use of pesticides. Over 375 applicators received training in these subjects: 1) Integrated Pest Management, 2) Pesticide Container Disposal, 3) Worker Protection Standards, 4) Ground Water Protection, 5) Pesticide Laws and Regulations.

County: Pitt

Reporting: Sam Uzzell

Pesticide education is an integral part of Extension programming. Several hundred pesticide license holders are involved in pesticide education classes, pesticide container recycling, or recertification training. These contacts enable pesticide users to become aware of ongoing issues facing them, as well as educational subject matter each pesticide user should be aware of. Efforts are made to address the needs of private applicators as well as commercial pesticide users. Ongoing programming encourages adoption of IPM, use of biological control where possible, and adherence to labelled instructions. In December 1997, a regional Pesticide School was conducted. There were 50+ students applying for a commercial license. The passing rate was 70 percent. Also, in 1997 there were 230 private pesticide applicators who were recertified. Pesticide container recycling efforts continued in 1997 and approximately 12000 plastic pesticide containers were recycled.

CEMP-03 TEAM MEMBERS

Robert Evans (Cochair)

Allen Calwell (Cochair)

Dan Bailey

Daniel Campeau

David Crouse (Obj5)

Tom Hoban (Obj6)

Billy Little

James Pitman

Karl Shaffer

Stephen Toth

Ted Bilderback (Obj3)

Tom Carter (Obj1)

Ted Feitshan

Frank Humenik

Rich McLaughlin (Obj7)

Matt Poore

Ron Sheffield

Mitch Woodward

Greg Jennings(Obj4)

Deanna Osmond (Obj2)

Kim Powell

Matt Taylor

Kelly Zerling

CEMP 04 ANIMAL PRODUCTION AND MARKETING SYSTEMS

BRIEF DESCRIPTION: This state major program is based on the needs of the animal sector of NC's agriculture. All major species are covered in this one CEMP--dairy and beef cattle, swine, horses, sheep, goats, aquaculture and poultry. In some cases, problems and opportunities are associated with growth, in others the challenge is to restore or maintain profitability.

Demand for educational programs has increased particularly in the issue driven problems. Often these have been mandated by state or federal legislation. Farm clientele are often looking at alternative enterprises such as aquaculture, small livestock species and exotic animals.

This state major program addresses these needs. For producers it covers information on production practices and on the tools and abilities to evaluate the economic consequences of different decisions.

There are two major groups of clientele addressed by CEMP 4. They include those that are involved in animal agriculture including farmers and their families and the agribusiness community. These clientele can range from the small scale limited resource farmer to the most technologically advanced operator, both independent and contractor.

The second major clientele addressed is the general public not directly involved with the production of animals. However, they are greatly impacted by animals in their daily lives. This CEMP addresses the need these people have of understanding the importance of animal agriculture to them on a day to day basis.

OBJECTIVE 1: Producers will select, adopt and successfully implement practices or enterprises that will achieve individual and family goals related to profitability and quality of life.

COUNTIES REPORTING ACCOMPLISHMENTS: 64

MEASURES OF PROGRESS:

Increased awareness/knowledge of BMP practices:

Dairy:	713
Beef:	10952
Hog:	1421
Horse:	5951
Sheep/Goat:	2457
Poultry:	2870
Aquatic:	586
Limited Resource:	837

Adoption of BMP to optimize income:

Dairy:	476
Beef:	3122
Hog:	950
Horse:	1572
Sheep/Goats:	776
Poultry:	1139
Aquatic:	135
Limited Resource:	646

Application of improved farm financial planning procedures/practices:

Dairy:	240
Beef:	773
Hog:	456
Horse:	478
Sheep/Goats:	227
Poultry:	312
Aquatic:	48
Limited Resource:	287

IMPACTS:

Income optimized by adopting recommended nutrition practices:

Dairy:	1,300,554
Beef:	1,734,168
Hog:	308,808
Horse:	257,870
Sheep/Goats:	92,424
Poultry:	289,003
Aquatic:	126,751
Limited Resource:	104,925

Income optimized by adopting recommended breeding practices:

Dairy:	576,423
Beef:	861,941
Hog:	340,770
Horse:	52,128
Sheep/Goats:	79,975
Poultry:	6,000
Aquatic:	133,000
Limited Resource:	18,350

Income optimized by adopting recommended marketing practices:

Dairy:	233,100
Beef:	1,257,304

Hog:	2,723,583
Horse:	104,314
Sheep/Goats:	132,654
Poultry:	904,800
Aquatic:	93,650
Limited Resource:	129,660

Income optimized by adopting recommended buildings/facilities:

Dairy:	584,000
Beef:	269,751
Hog:	471,398
Horse:	81,997
Sheep/Goats:	32,166
Poultry:	1,141,133
Aquatic:	108,600
Limited Resource:	17,150

VOLUNTEERS INVOLVED:	2,244
HOURS:	19,002
DOLLAR VALUE:	\$190,020

VALUE TO TARGETED AUDIENCE:	\$9,514,647
VALUE TO SOCIETY:	\$3,246,629
PROGRAM COST:	\$ 554,845

NARRATIVE:

Because the **aquaculture** industry is a relatively new venture; it requires a great deal of production data and one-on-one work. Agents are asked to assist in the important decision of determining the feasibility of an aquaculture operation in an area. Maintaining water quality, disease detection/diagnosis/treatment and fingerling production are important production practices being taught. Using web pages has provided the information to a larger audience. Feed quality problems were solved for producers of hybrid striped bass in Pitt County leading to an estimated \$750,000 value of fish saved. Assistance in early field diagnosis of "hamburger gill disease" helped one producer save catfish worth about \$22,000. Temperature data recorders on six trout farms have provided data to assist producers in forecasting the growth of trout and, in turn, helped provide a basis for business planning. In one case a prospective producer was helped to avoid a source of water with inappropriate temperatures for trout production for much of the year.

Beef Cattle: One of the most exciting programs in recent years has been the development of the North Carolina **Certified Beef Production** program as part of an 8-state regional effort known as **Southeast Pride**. This program is a health management educational program for beef producers interested in improving the health, quality, and reputation of feeder cattle in the region. This program includes an extensive training

program for extension agents, veterinarians, producers, and other industry leaders to be qualified as certifiers. Since the program began in July of 1997, about 70 individuals have qualified as certifiers including many of our livestock agents. Also, about 500 producer/cooperators have subsequently been trained, passed an exam for certification, paid a membership fee, and have enrolled approximately 2,500 head of cattle in one or more of the three levels of certification. Cattle are required to meet progressively higher standards for vaccination and weaning as they are qualified as White, Red, or Blue Tag certification. Improved marketing by use of truckload lots of feeder cattle resulted in \$ 49,000 additional value from 22 loads from Sampson County compared to graded sales. Iredell and Wilkes County area beef producers realized an additional \$ 53,450 on 1,492 calves marketed through graded sales compared to weekly auction markets. Two producers from Forsyth County using graded sales for the first time earned an additional \$ 1,000. Increased net returns for 27 producers in Buncombe and Haywood Counties were over \$44,000 from participation in pre-conditioned feeder calf sales compared to regular auction markets.

Breeding management for reproduction and genetics has been an important area of improvement for livestock producers. Breeding soundness examinations conducted in Vance and Warren Counties helped 6 producers avoid calf-crop failures. Several counties reported assisting producers in selection of improved genetics among breeding stock including use of AI and performance-tested bulls. Calf and heifer losses were reduced markedly by use of AI and calving ease sires on first calf heifers in one herd in Caswell County.

Goat Production for meat is growing locally and nationally. A world wide web page established in Lenoir County has links to over 200 educational sites and has had over 5,521 "hits" in a 7-month period with several subsequent e-mail contacts resulting. A multi-county meat goat educational program in western NC attracted 54 participants who learned about Boer goats, and management practices. A field day in Person County attracted over 125 people from Virginia and North Carolina from which two participants began to use AI in goats.

Another area of significant achievement in the past two years has been the development of a series of **Grazing Management Schools**. These have been set up mostly for beef producers as two-day intensive training sessions in various parts of the state with a combination of lecture and hands-on approaches to learning. In addition to several schools for beef producers, two grazing schools have been held for dairy producers, and one for goat producers. Participants pay a registration fee and receive a reference notebook that includes many principles of intensive grazing management. Several counties and areas have held field days and demonstrations on pasture management and fencing techniques. Intensive grazing management practices on one farm in Rowan County led to \$ 1,250 in saved feed costs and an increased value of \$450 for 30 calves.

In other forage and feed related work, biocontrol of musk thistles on 4 farms in Cleveland County led to 75 % reduction on 665 acres after three years and an

increased value of forage production of about 20 % or \$ 16,000. A noxious pasture weed, "puncture vine" was identified in Chowan County and eradication procedures have begun by NCDA. The Southeastern NC Hay Directory (11 counties) has been useful in facilitating hay marketing and use of forage analysis for both buyers and sellers. Forage analysis for nitrates in several counties helped beef producers save money and avoid health crises among their cattle. The potential of custom harvested haylage is being examined in Onslow County where one producer has more than tripled net income per day during the harvest season from harvesting haylage instead of hay. A total annual economic impact of feeding cotton wastes to beef cattle in Harnett and Johnston Counties was nearly \$ 64,000 in feed value and reduced land fill costs for disposal. Use of by-product feeds by one stocker cattle farm in Catawba County saved \$ 18,000 over conventional feeding and that concept was shared with 15 other producers during a tour.

Dairy Cattle: During the past two years, about 120 dairy producers have participated in a dairy management education program known as **Dairy Wise**. The initial Managing for Success program was a two-day training on principles of business management and creative problem solving. Later, subject matter management workshops included Feeding Management, Financial Management, Labor Management, and Reproductive Management. All sessions were conducted as being interactive and participatory so that producers would be actively involved in exercises, discussion, and learning from each other as well as from the agent and specialist facilitators. Several individual participants reported significant benefits in assisting them with important decisions or solving costly problems on their farms. Increased income over feed costs amounted to over \$ 70,000 on 12 dairy farms in Lincoln, Gaston and Cleveland Counties from improved management practices. Reduced veterinary expenses and improved reproduction accounted for another \$ 22,000 among dairy farms in that area. Milking management schools conducted in English and Spanish were well received among producers in several counties in western North Carolina. Feed quality management practices including strategies for reducing effects of mycotoxins in feeds have been implemented on many farms.

Cooperation with extension workers in Virginia and South Carolina led to a successful **Tri-State Large Dairy Herd Management Conference** conducted in North Carolina in February, 1998. **Dairy Records Management Systems (DRMS)** at NCSU is the premier dairy production record system in the country and now processes production records for nearly 2 million dairy cows. A comparison of pasture-based versus confinement dairy systems is a current project of interest to some dairy producers in the Southeast.

Horses: One very positive program for increasing the effectiveness of extension programs for horse owners and producers has been the Regional Equine Information Network System (**REINS**). Through guidance of a coordinating extension agent, horse owners in a multi-county area are organized into a regional horse educational organization. These link together with each other, the Cooperative Extension Service, the North Carolina Horse Council, N. C. Department of Agriculture, and agribusiness. REINS volunteers assist with educational programs, newsletters, on-farm

demonstrations, and as resource leaders for 4-H programs. These efforts are effective because volunteers receive over 30 hours of training on horse management and science topics as well as teaching techniques and program planning. Those that complete training and pass an exam are selected as official REINS volunteers to assist extension program efforts. From 1996-97, 112 Regional Equine Information Network System (REINS) certified volunteers were organized into 14 REINS regions servicing all 100 NC counties. The volunteers, working under the guidance of 16 REINS coordinating agents have annually provided an estimated 13,440 hours of volunteer service valued at \$201,600. Over 4,000 horse owners have received direct contact through conferences, tours and on-farm demonstrations.

Another very effective program in the horse area has been the extensive use of focused 2-day **Equine Short Courses** for horse producers and managers. These sessions have been in great demand on a number of topics and often include participants from several states. Participants have reported significant potential financial benefit from such training. In Granville County, an owner of a horse boarding and training facility reported annual savings of \$ 10,000 on 50 horses from participation in a county seminar on feed and forage testing, and efficient use pasture and feed resources.

Poultry: The poultry industry in North Carolina is vertically integrated and responds quickly to new information from applied research and demonstrations. Evaluation of organic versus inorganic sources of trace minerals by NCSU extension specialists has shown that organic sources of zinc, copper, and manganese are biologically more active and nutritionally more available. This can reduce mineral excretion thereby lowering environmental concerns. Zinc methionine can improve growth rate, livability, and immune function in poultry including macrophage function, the first line of defense against pathogens. Over 20% of turkey and broiler producers have adopted the use of zinc methionine or other active sources of zinc to improve flock health and carcass quality, with estimated savings of over \$1,000,000 each year.

Rapid egg cooling using cryogenic gases has been developed by specialists in Poultry Science and Food Science. Eggs can be cooled from 100 degrees F to 45 degrees in 2 to 6 minutes thereby reducing proliferation of potentially harmful organisms such as Salmonella. Large scale field testing is being completed. Expected benefits include food safety and increased shelf life which could result in annual premiums of \$15,000,000 nationally.

A plan for close monitoring of turkey flocks was developed by Poultry Science specialists along with faculty from the College of Veterinary Medicine to help address problems with Poul Enteritis Mortality Syndrome (PEMS) and other infectious transmissible diseases. Critical control points were defined and practices implemented to minimize introduction of diseases. PEMS cases decreased from 77 in 1996 to 15 in 1997. Other diseases also decreased and production performance improved.

Several North Carolina turkey and broiler producers have begun to feed higher levels

of Vitamin E based on NCSU studies showing improved early disease resistance and longer shelf life of meat. These benefits should affect both economic return to producers and increased consumer satisfaction with poultry meat products.

Feeding of a probiotic, a harmless naturally occurring bacterium, can reduce early Bobwhite quail chick mortality by competitive exclusion of pathogenic organisms from the quail's intestinal tract. Over 200 producers who raise over 6 million Bobwhite quail have used the probiotic and increased survivability by 10%, a financial benefit valued at \$300,000 annually. Southern States Cooperative has developed gamebird and ratite feeds containing the probiotic and have increased sales of those speciality feeds by 17%.

Swine: There has been a trend in the swine industry in North Carolina toward more vertical integration in recent years. However, there remains need for new and timely information. A very successful program in the past year has been N. C. State University's cooperation with the National Pork Producers Council to organize and conduct a **Professional Swine Managers' Training** program in NC. This intensive 2-day session included principles of production and business management with both independent and contract farm managers attending. Extension assistance to Eastern Foods, a farmer owned cooperative, has helped meet a need for reducing purchase costs and enhancing market opportunities for independent swine producers in the region. Cooperative purchases in 1997 were expected to reach \$ 6,000,000 with a savings of perhaps 10 to 15 % compared to each producer working independently.

The on-going **Swine Evaluation Program** has evolved in recent years and includes as objectives: to define production potential and goals; to develop economical feeding strategies; and to provide a rapid response to identified research needs. The **Healthy Hogs Seminars** and **Area Swine Conferences** offered each year have been very popular in the swine industry. The use of artificial insemination in swine and early pregnancy diagnosis in sows with use of ultrasound are examples of recent successful on-farm applied research and demonstration efforts. Many swine producers routinely use AI and some integrators have purchased ultrasound machines for their companies' use in reproductive management.

Animal oriented **Youth Programs** are among the most active in the country with outstanding efforts and participation among all species groups. Each of these programs has very effective participation from extension agents and volunteers and financial support from respective animal industries. The establishment of the Dairy Youth Foundation a few years ago has added significant support to that program with over \$170,000 raised. Collectively, North Carolina's animal-related 4-H programs are the largest nationally according to USDA's ES-237 figures for project activities. A strong volunteer leader training program and use of advisory committees contributes to this success.

Aspects of quality of life on animal-based farms have been addressed in Washington County with an annual "Farm Wives Night Out" program which has featured farm safety. Also, dairy couples in Lincoln, Gaston, and Cleveland Counties participated

in a program 2 years ago that emphasized making time to spend with your spouse. One couple in particular has commented on how implementing techniques for successfully juggling farm and family commitments had indeed helped their marriage.

In addition to the specific programs mentioned above, specialists and agents are involved with many other outreach efforts educational meetings, tours, various on-farm research and demonstrations, performance testing programs, and writing articles for newsletters and popular press. Our specialists and agents have also been involved with environmental issues as animal industry producers have had to meet more stringent regulations. More use of electronic communication for delivery of educational materials includes use of fax machines, videotapes, Internet, and development of World Wide Web home pages in departments and counties.

OBJECTIVE 2: NC citizens will address issues of mutual concern that relate to animal agriculture, including human nutrition, nuisance identification, food quality assurance, quality of life, economic impacts, and the appropriate treatment of farm animals.

COUNTIES REPORTING ACCOMPLISHMENTS: 27

MEASURES OF PROGRESS:

Improved knowledge/attitudes about animal agriculture:

Number of farmers: 4,262
Number of Non-farmers: 46,935

Newspaper and other mass media stories/commentaries indicating improved knowledge/awareness: 1,726

IMPACT:

Increased understanding/appreciation of animal agriculture:

Number of farmers: 3,522
Number of non-farmers: 27,893

Increased understanding of food supply facts/quality standards:

Number of farmers: 2,779
Number of non-farmers: 17,074

Farms adopting appropriate practices, standards to address concerns and issues:

Number adopting: 2,242

VOLUNTEERS INVOLVED: 679

HOURS: 3,678

DOLLAR VALUE: \$36,780

VALUE TO TARGETED AUDIENCE: \$381,890

VALUE TO SOCIETY: \$194,215

PROGRAM COST:

\$48,095

NARRATIVE: The major emphasis of this objective is to educate the public about the importance agriculture in every day living. In previous years, several tools were developed to assist agents with this endeavor. The 80 slide program that has been developed was pared down and revised so that it can be made into a video tape to offer more flexibility in its use. That is in the final stages of development. The tabletop display, slide set and brochure have been utilized and seen by about 10,000 people.

Agents coordinated many youth programs including shows that teach the value of agriculture to those participating and rallies communities behind agriculture projects. Environmental Field Days offer unique opportunities to speak to youth and teachers in the school systems. Several agents conducted tours for business leaders, general publics and legislators to inform them of the agriculture industry in their area. One unique program was designating a night at a ball game as "Dairy Night". The public was exposed to many aspects of the dairy industry both educational and fun.

SUCCESS STORIES:

1. Randolph County--Barry Foushee

With the need to improve the general public's knowledge, attitudes, understanding and appreciation of animal agriculture, Extension hosted the annual Agriculture and Environment Day. This is part of "Leadership Randolph", a highly structured nine month program sponsored by the Chamber of Commerce in which business and industry professionals receive information and participate in special tours of "behind the scene" look at local situations. Each month, day long sessions are scheduled at locations around the county. Twenty-eight participants toured a ham curing facility and broiler, beef, dairy, quail and swine farms. All indicated an improved knowledge and a change in attitude about animal agriculture, specifically that all livestock farms are not polluters of the environment as portrayed by the media. They also reported being more aware and appreciative of the diversity of animal agriculture and what it contributes to Randolph county and its economy.

2. Rowan County--Todd Williams

In an effort to promote milk and dairy products as a good source of nutrition as well as honor local dairymen, Rowan Extension created "Dairy Night" which was held at a Piedmont Bollweevils game. Seventy-eight dairy people from 5 counties were recognized at the game. Extension networked with officials from Food Lion, Inc. to get 2000 "Got Milk" t-shirts printed for the event, costing \$9,032. Rowan dairymen helped to organize a cow milking contest before the game in which local politicians participated. Extension involved three area newspapers and 2 radio stations to help promote the event. Literature with Extension logos and "Amazing Milk Facts" was available. Door prizes were given to those who could correctly answer milk trivia questions and kids competed in milk drinking contest in between innings. Fun was had by all but more importantly the public was informed about the wholesomeness of milk

and about the Extension Service.

CEMP CONTACT PERSONS:

Steve Washburn and Gerda Rhodes

CEMP TEAM MEMBERS:

Ken Anderson

Ben Chase

Barry Foushee

Tom Losordo

Bob Mowrey

Mike Stringham

Geoff Benson

Walter Earle

Richard Lichtenwalner

Richard Melton

Todd See

Lon Whitlow

CEMP 05 - CHILD CARE

Objective I: To improve the quality of child care in North Carolina.

Counties reporting accomplishments:

Fifty four counties reported data against this objective. These reports were submitted by both 4-H and Family and Consumer Science agents.

Measures of Progress:

of providers trained for quality programming - 9,320

Youth who developed skills for baby sitting - 796

Increased # of child care sites licensed or registered - 124

Increased # of sites increasing license status - 7

Impact:

Improved skills adopted by child care providers - 6,866

of Centers Accredited by NAEYC - 23

of staff who received National credentials - 66

Volunteers Involved:

of Volunteers to date - 1540

Hours to date - 24,751

Dollar value at \$10/hr. - \$247,510

Cost/benefit Value to targeted audience - 27 counties reporting - \$1,651,901

Cost/benefit to society - 18 counties reporting - \$2,630,711

Cost/benefit program cost - 29 counties reporting - \$895,557

Training -

Various activities were reported to support the objective. However, the data indicate that every one of the 54 counties are addressing the objective by conducting training. In fact in some counties Cooperative Extension is the only agency meeting

this need. Child Care professionals working with children in early childhood as well as school-age programs were participants in this training. Topics offered for this training include child development, nutritious snacks, health and safety, playground safety, first aid and CPR. Agents are beginning to use evaluation tools to determine the benefits of their work in the form of improved teacher performance. Parents are reporting that they see improvement in the way teachers work with their children because of this training.

Collaboration -

Cooperative Extension agents have skills in collaborating that are in evidence in this report. In the field of child care they are reporting collaborations with Smart Start, TEACH, Public School pre-school teachers, Parks and Recreation Departments, Support Our Students, the North Carolina Partnership for Children, local safety agencies, and various housing authorities. They serve as board members, write grant proposals, bring together various community partners to support child care, and educate legislators through conference presentations.

Impact -

The impact of the work of Cooperative Extension can be measured in the numbers reported on the spread sheet but there are several impacts that are not easily quantifiable. For example, many teachers are increasing their professionalism as evidenced by the number that are working toward a CDA certificate, joining professional organizations, attending professional conferences, and working toward national accreditation in their programs. In some counties (Onslow for example) CPR and First Aid training is offered to child care providers at a greatly reduced cost. This saves the providers money but also makes sure that they will have access to this vital information. Cooperative Extension staff in many counties can conduct site visits offering valuable technical assistance to child care staff in many remote areas of the state. This is a valuable resource for state agencies who can not be in these locations.

Objective II: The amount of quality child care will be increased as a result of improved collaboration among community agencies, increased resource development and the education of business leaders, county officials, schools and private providers.

Number of counties reporting - 25

Measures of Progress:

Increased awareness and utilization of child care resource and referral agencies by providers - 3,317

of new and expanded Extension collaborations - 302

Amount of new financial resources supporting child care as a result of CES collaboration - \$2,563,971

Impact:

Increased number of new slots created - 1,939

Increased number of new centers - 77

Volunteers:

Number to date - 655

Hours to date - 12,579

Dollar value at \$10/hr. - \$125,790

Cost Benefit Analysis:

\$ Value to targeted audience - 13 counties reporting - \$981,158

\$ Value to society - 10 counties reporting - \$934,725

Estimated program cost - 15 counties reporting - \$886,320

Collaboration:

Cooperative Extension Agents have worked effectively to increase collaboration and bring resources to their counties. They serve vital roles on the advisory boards of Smart Start partnerships, Support Our Students, Resource and Referral agencies, Family Resource Centers and professional child care associations. Agents have brought together disparate groups to support child care programming such as the Department of Mental Health, public schools, and Work First collaborators. Consequently Cooperative Extension plays a role in initiating action, leading the groups through the planning stage and following up with programs and technical assistance. In total agents report 302 new and expanded collaborations in their counties.

Grants:

In many cases agents were not only responsible for helping to write child care grants but were also the grantee. Agents have increased the amount of child care available by securing grants to open or expand family child care, school-age child care and center based early education programs. In one county funds were secured by the agent to transport the children of Work First clients to a school-age program enabling the parents to continue working. Staff morale and performance has improved due to the support of the Agent in securing grant funds for Resource and Referral and Smart Start initiatives. At least \$2,563,971 in new resources has been secured by the agents for their counties.

The Resource and Referral system has benefitted from the work of Cooperative Extension through development of advisory boards, successful grant writing and actually running the county agency. Agents are also developing materials in Spanish which will can be used in programming for Hispanic communities.

Availability and quality issues are being addressed in several ways. A parent reported that their child could not have gone to the summer program if it had not been for the scholarship that was provided by the agent. At least 1,939 new slots for children were established as a result of the direct work or collaboration of Cooperative Extension staff.

CEMP 5 co-chairs Wanda Hardison and Barbara Vandenberg

Committee members -
Dr. Carolyn Dunn
Dr. Karen Debord
Carolyn Goodman
Julie Landry
Carolyn McKinney
Carrie Thompson
Howard Scott
Deborah Womack
Lou Woodard

CEMP 06 COMMUNITY ECONOMIC DEVELOPMENT

I. Brief Program Description: This state major program has four major objectives: (1) integrating special audiences into the local community development process; (2) teaching economic development concepts to local leaders; (3) informing local leaders and citizens about economic trends and their expected impacts on the local economy, and (4) facilitating business development assistance by bringing together local private expertise with local needs for business management information.

II. Units Reporting Accomplishment:

- Objective 1: 19 counties reporting accomplishments
- Objective 2: 6 counties reporting accomplishments
- Objective 3: 7 counties reporting accomplishments
- Objective 4: 12 counties reporting accomplishments

III. Statewide Measures of Progress Totals:

Objective 1

1. Number of participants gaining awareness and knowledge: 1135
Total number of participants: 1447
2. Number participating in groups: 2904
Total number of participants: 2989
3. New community organizations formed: 24
4. New community development projects formed: 41

Objective 2

1. Number of persons gaining awareness and knowledge of computer models, videos, and fact sheets: 753
2. Applications made of computer models: 72

3. Applications made of videos: 119
4. Applications made of fact sheets: 974

Objective 3

1. Number of persons attending conferences who increased their awareness and knowledge: 2069
2. Number of requests for additional information: 709

Objective 4

1. Number of persons attending workshops: 715
2. Number of applications made of videos, notebooks, and fact sheets: 212
3. Number of persons increasing their awareness and knowledge of opportunities: 346
4. Number of persons increasing their awareness and knowledge of market plans and community analysis: 169

IV. Statewide Impact Totals

Objective 1

1. Number of special audience persons participating in local public hearings: 851
2. Number of additional special audience persons participating in voting: 3626
3. Number of additional special audience persons participating in labor force: 598
4. Number of additional special audience persons participating in the community development process: 1261
5. Number of additional special audience persons participating in community development organizations: 594

Objective 2

1. Number of persons attending local conferences and distance learning conferences: 431
2. Value of time at conferences, at \$10 per hour, for 431 persons and 1.19 hours per person: \$5129
3. Percentage of persons rating conference information useful: 71%
4. Businesses and payrolls attracted to counties as a result of educational information: 7 businesses and \$300,000 in payroll

Objective 3

1. Percentage of conference participants rating conference information useful: 61%
2. Value of time at conferences, at \$10 per hour, for 1515 persons and 1.23

- hours per person: \$18,835
3. Number of guidance counselors using information: 109
 4. Value of lines of newspaper stories on subject, at \$1.50 per line, for 10,920 lines: \$16,380
 5. Value of radio time on subject, at \$20 per minute, for 350 minutes: \$7000
 6. Value of TV time on subject, at \$100 per minute, for 40 minutes: \$4000

Objective 4

1. Number of small and home based business start-ups and annual payroll resulting from educational efforts: 19 businesses with payroll of \$149,249
2. Number of small and home based business plans developed: 33
3. Number of persons increasing their income through participation in the community development process: 212
4. Number of community analyses performed: 6

V. Volunteers and Benefit/Cost Analysis

Objective 1

1. Volunteers Involved

Number: 1000

Hours: 5896

Dollar Value at \$10/hr: \$58,960

2. Benefit/Cost Analysis

\$ Value to Targeted Audience: \$182,350

\$ Value to Society: \$468,791

Estimated Program Cost: \$60,295

Objective 2

1. Volunteers Involved

Number: 30

Hours: 140

Dollar Value at \$10/hr: \$1400

2. Benefit/Cost Analysis

\$ Value to Targeted Audience: \$31,700

\$ Value to Society: \$60,200

Estimated Program Cost: \$2385

Objective 3

1. Volunteers Involved

Number: 881

Hours: 1773

Dollar Value at \$10/hr: \$17730

2. Benefit/Cost Analysis

\$ Value to Targeted Audience: \$57711

\$ Value to Society: \$59200

Estimated Program Cost: \$55712

Objective 4

1. Volunteers Involved

Number: 106

Hours: 2464

Dollar Value at \$10/hr: \$24640

2. Benefit/Cost Analysis

\$ Value to Targeted Audience: \$111950

\$ Value to Society: \$159000

Estimated Program Cost: \$20922

VI. Description of Program Progress and Accomplishments

Progress toward the program objectives was accomplished through a number of methods and audiences. Large group workshops and conferences, small group teaching, and interaction with organizations and businesses were frequently used delivery methods. A theme was the pooling of resources between public and private groups. Videos, fact sheets, and radio and TV programs were also used.

The content of the programs was varied and extensive. Programs ranged from using tourism and nature as economic development tools to facilitating the design of new homes by limited resource audiences.

The method and content of all programs had one common goal in common – they were all working toward the improvement of the standard of living of citizens and communities.

VII. Success Stories

Two "success stories" follow.

CEMP #: 06

Local System: Mecklenburg

Person Reporting: Minnie Mitchell

Through partnerships between the Cooperative Extension Service, Habitat for Humanity, town officials, and the NCSU Design School, a Charlotte community saved

\$80,000 to \$100,000 in architectural design fees by having local limited resource persons participate in the design of new community buildings. The buildings will also directly reflect the needs and desires of the local community.

CEMP#: 06

Local System: Cherokee Reservation

Person Reporting: Robert Hawk

A cooperative agreement between several local organizations, businesses, and the Cooperative Extension Service developed a plan for alternative recreation opportunities for the public. They developed a mountain bike trail system to promote Eco-Tourism on the Reservation. To date, 30 miles of trail have been marked, a draft of the trail has been developed, and planning has begun for maintenance and operation of the trail.

CEMP Team

Mike Walden, Peggy Brown, co-chairs

Chuck Moore, John O'Sullivan, Mitch Renkow

John Richardson, Ellen Smoak, Marilyn Cole,

Glenn Woolard, Francis Voliva, members

CEMP 07 - CROP PRODUCTION AND MARKETING SYSTEMS

PROGRAM DESCRIPTION: Agronomic, horticultural, and forestry crop production is critically important to the citizens of North Carolina. The diverse crops produced on over 4.1 million acres across the state are worth an estimated 2.5 billion dollars annually and represent approximately 15 percent of the state's total income. The diversity of agricultural crops produced in North Carolina has been a key ingredient in establishing and maintaining a viable economy. Though crop diversity has been essential for North Carolina agriculture, this diversity is jeopardized by public opinion, state regulations, foreign trade agreements, and the continued threat of the elimination of government programs. Farm management decisions must incorporate considerations based on the potential losses of government programs for tobacco and peanuts, the use of Roundup Ready and Bt cotton, precision agriculture, changes in government regulations, and expanding global markets. The State Major Program "Crop Production and Marketing Systems" addresses the educational needs of full-time farmers, part-time limited resource farmers, agribusiness, and non-farm citizens. Our goal is to provide unbiased, research-based information on production practices, marketing options, understanding and use of new technologies in crop production, environmental concerns, and governmental regulations.

A total of 75 counties reported accomplishments under one or more of the seven

objectives outlined in the Crop Production and Marketing Systems State Major Program. Accomplishments and impacts for each objective are discussed separately.

Objective 1: Tobacco and peanut farmers will be assisted in evaluating alternative production practices, investigating innovative agricultural opportunities and exploring marketing options to ensure continued farm productivity and enterprise profits. Counties Reporting Accomplishments: 32

Tobacco remains the leading cash crop for many North Carolina farmers. Extension has helped tobacco growers understand and prepare for the change in the tobacco program by providing information to reduce inputs, increase farm profits through diversification, improve farm management strategies, and make better marketing decisions. County educational programs continued to focus on providing information about transplant greenhouses, particularly in the areas of fertility requirements, pest management, and economics of using greenhouses versus plant beds. The establishment and proper use of greenhouses have reduced labor costs in many counties. Some growers have realized additional profits through the sale of transplant seedlings and from off season use of the greenhouses to produce ornamentals and vegetables. Educational programs have helped farmers reduce farm labor costs through better management of the labor force and better pest management programs. Growers have also made better decisions about variety selection. The incorporation of new disease resistant varieties have saved growers money, reduced the amount of pesticides, and reduced labor costs. A new marketing system of baling tobacco was introduced through extension education programs to many farmers in 1997. This new system has the potential to increase net farm income with little investment.

The 1997 peanut program provided far less support for North Carolina peanut producers. The decline in support prices and a new peanut program made reducing production costs to maintain profit margins even more critical. Extension programs were designed to help producers understand the value of weather-based advisory systems to determine the need for foliar fungicide sprays. This strategy, part of an overall IPM approach to pest management, has reduced pesticide use and reduced costs. More growers are implementing insect and disease management programs based on need rather than a regular spray schedule. Not only are profits maintained, but production is more environmentally sensitive. Growers are delivering a more mature and thus higher quality peanut to the sheller because of extension programs that offer assistance in evaluating maturity of a farmer's field. The weather during the 1997 growing season led to a very late peanut crop. Utilizing the maturity evaluation program offered by county extension agents, growers were encouraged to delay harvests until the crop was mature. Peanut yields and profits were greatly increased as a result of this program.

Marketing options were the subject of many extension educational programs. NCCES presented programs that explained options and as a result 292 farmers in 20 counties adopted new marketing options. These new marketing strategies increased profits for growers by more than \$3 million.

More than 2,870 producers in 33 counties adopted improved production practices on an estimated 166,660 acres resulting in additional profits of more than \$10 million.

An estimated 2,301 farmers in 29 counties increased awareness of alternative production systems on 90,070 acres because of extension tobacco and peanut education programs.

Objective 2: Part-time and limited resource farmers will increase the sustainability of their farms through crop diversification, intensive management practices, water and nutrient management, and expanded markets. Counties Reporting Accomplishments: 32

There is a continued need to provide part-time, limited resource farmers with information to help increase farm profits. Several counties are making special efforts to involve part-time farmers in extension programs that promote production of high value crops like tobacco or specialty crops. Through diversification these farmers can realize greater profits with little or no increase in inputs. County programs designed to help these farmers include programs on organic farming, where one county reported 50 organic growers with 14 being CFSA certified. In 1997, extension programs resulted in more than 360 North Carolina farmers including new crops in their operations affecting 14,973 acres. Profits for these farmers increased more than \$969,000 because of the extension programs.

Programs on variety selection, use of no-till, BMP and IPM strategies to manage pests and reduce pesticides resulted in 1,256 adopting the recommended practices in 28 counties, affecting more than 17,700 acres. Profits for these farmers increased more than \$1.9 million in 1997.

Market options and strategies were also discussed at several meetings. Across North Carolina, 1,092 citizens in 27 counties increased their awareness of alternative marketing options, with more than 490 changing their strategies.

Objective 3: Farmers will continue to evaluate recommended or conventional production practices and management systems, integrating them into sustainable farming systems.

Counties Reporting Accomplishments: 58

North Carolina producers must consider many factors when preparing for the upcoming growing season, when managing the crop during the growing season, and in harvesting, storing, and marketing. Extension programs have help growers understand the impacts that decisions at all levels have on farm profits and sustainable farm life. Field demonstrations, field days, on-farm tests, and commodity meetings are considered the primary teaching opportunity for updating producers on new production practices and the potential of new varieties and agricultural products. Through these channels' producers can obtain unbiased, research-based production information for

agronomic, horticultural, and forestry crop production and management.

1997 saw the acreage planted with herbicide tolerant soybeans increase greatly. Extension education programs, field demonstrations, and on-farm tests have allowed growers to evaluate the potential use of this technology for their farms. These new technologies offer alternative, environmentally safe herbicide use, but growers need to consider long term affects of using one chemical to control weeds. Growers learned that proper crop and chemical weed control measures are essential for long term management strategies.

Agents have presented the latest BMP information to growers. Most growers who carry out the suggested practices have seen an increase in profits that is often accompanied by a reduction of pesticide use, more efficient use of labor, and improved management skills. In 1997, approximately 58 counties reported that 18,715 citizens increased their awareness and knowledge of efficient production systems with 9,970 growers adopted extension recommendation for BMPs resulting in an increase in farm profits of \$25 million state wide. It is estimated that more than \$10 million was saved through improved pest management.

Efforts were made to educate producers about practices that help keep production costs below farm income. More than 6,600 North Carolina farmers in 53 counties adopted recommended practices affecting over one million acres.

Objective 4: Growers and agricultural professionals evaluate and adopt appropriate alternatives to conventional pesticides, nutrients and tillage to enhance environmental quality and maintain profitability. Counties Reporting Accomplishments: 39

Extension efforts to educate producers on the importance of reducing adverse environmental impacts of farming have been effective. Through meetings, workshops, demonstrations, and field days, extension agents have increased grower awareness of IPM practices and benefits. Programs discussed new disease, insect, and herbicide tolerant varieties and their impact on reducing pesticides. Educational efforts have also targeted the importance of the use of scouting and spray thresholds to provide more effective pest control and reduce pesticide use. Farmers and consultants were offered scouting training in several areas of the state. Those who participated in the workshops have a better understanding of how to scout for pests and when control measures are needed.

An Integrated Orchard Management Program (IOMP) was implemented in Henderson County. This program will help apple growers establish an IPM program for management of pests and nutrients. Another county helped Christmas tree growers avoid serious economic loss from a new insect pest. Early detection, as a result of the scouting program, saved growers \$100,000. Across the state more than 10,200 citizens in 37 counties increased awareness and knowledge of IPM with more than 4,000 producers carrying out recommended practices on 616,373 acres. Implementing these practices saved farmers \$5 million and reduced pesticide use by 433,400

pounds of active ingredient.

Educational programs have also targeted the benefits and restrictions of no-till production. An increase in no-till production in some areas has resulted in a reduction of soil erosion in environmentally sensitive areas. Some concern about no-till and management of perennial weeds has resulted in additional educational efforts to help growers lower risk of profit loss. Other educational programs have helped growers chose management practices that reduce nitrogen use or promote the use of timely applications. The results are a reduction in nitrogen contamination of surface and ground water. The nursery industry has benefitted from educational programs addressing the proper application of fertilizers, tissue and water analysis, and soil sampling. High quality plants have been produced when growers follow nutrient recommendations and apply nutrients at the proper time. An estimated \$9 million was saved in 33 counties through the adoption of recommended management practices.

Objective 5: Producers will become knowledgeable of regulations and environmental constraints on production practices, evaluate the impacts of these constraints on their farm, and develop least cost methods of compliance that will maintain quality of farm and rural life. Counties Reporting Accomplishments: 28

North Carolina farmers at all levels have been affected by changes in the Farm Bill and in federal and state government regulations. Extension programs have been designed not only to inform farmers about new regulations but also to help them comply. Agents report the continued use of meetings and workshops for pesticide training at the county level. Included were topics such as new regulations, proper storage, application and container disposal, worker protection standards, and record keeping. The information presented to producers and agribusiness has given them the knowledge and skills needed to comply with state and federal regulations. Some 578 producers in 27 counties increased their awareness of the regulations and constraints. More than 840 producers adopted best management practices in 25 counties, affecting almost 27,500 acres of North Carolina crop land.

Animal waste management is a critical area for educational need. Extension programs across the state help growers adhere to specified guidelines and make efficient use of waste on crop land and pastures. Emphasis was placed on monitoring nutrient levels to prevent environmental damage. Producers have been helped in the development of waste and nutrient management plans with some agents going further to offer assistance in developing whole farm plans. Many agents reported cooperative educational efforts with other agencies such as NCDA and FSA. Several counties implemented new programs about new warm season grasses that make more efficient use of nutrients. An estimated increase for 26 counties of more than \$150,000 was seen when growers adopted BMP such and using IPM strategies, participation in cost-share programs and the proper use of soil, tissue, and waste analyses within environmental and safety regulations.

Objective 6: Farmers will utilize and citizens will become knowledgeable about biotechnology and the use, benefits, and risks associated with the production of genetically engineered plants. Counties Reporting Accomplishments: 22

1996 was the beginning of the New Technology Era for NC producers. Roundup Ready soybeans and Bt cotton became the first available genetically engineered crops for our farmers. 1997 saw a dramatic increase in acreage planted with herbicide tolerant crops. NCCES responded to the increase demand for information by providing side-by-side demonstrations of Roundup Ready and traditional soybeans. In some areas the herbicide tolerant varieties did very well, while in others yields were disappointing. Extension programs helped growers understand the potential and limitations of these crops. It also allowed growers to determine if the new varieties fit into their current management practices. Similar programs were implemented for new herbicide tolerant corn and cotton. An estimated 4,200 producers in 21 counties became knowledgeable about the use of genetically engineered crops, using the new varieties on 127,290 acres. This represented a profit of almost \$2.3 million that includes a savings of \$719,900 in pesticide use.

Many counties reported efforts to educate the public about the positive and negative aspects of using genetic engineering in agriculture. Some counties provided programs for secondary schools, while others targeted adult civic groups. The result of these programs was an increase in knowledge of the use of genetic engineering to produce food, feed, and fiber. Citizens are better qualified to evaluate the use and safety of the new technology. Extension programs reached 3,200 citizens in 15 counties giving them an understanding of the use, benefits, and risks associated with food, food products, and fiber crops generated from genetically engineered crops.

Objective 7: Farmers, farm organizations, and agribusinesses will become knowledgeable of local and global market factors and develop strategies to cope with or take advantage of these factors to maximize farm profits. Counties Reporting Accomplishments: 22

Education programs were developed in several counties to help producers explore marketing options. Educational delivery in the form of county or multi-county meetings, provided North Carolina farmers and agribusiness with information about alternative marketing systems and the benefits of using these systems. Several tobacco programs focused on the global market and on global competition and its impacts on North Carolina producers as well as alternative marketing strategies. The information helped producers make better decisions about when and how to market the commodities produced on their farms. In 1997, more than 5,700 citizens in 22 counties became aware global trends and trade policies. Seventeen counties reported 1,480 adopted practices associated with new products and 1,590 adopted practices in 19 counties that impact marketing success. The result was an increase of \$2.7 million through the adoption of new marketing strategies and \$1.2 million increase through adoption and marketing new products.

Success stories:

Local System: Edgecomb
Person Reporting: Art Bradley

Tobacco greenhouse operators continue to recognize the importance of sampling their water to determine nutrient status. Sixty-two percent of greenhouse operators sampled their water in 1997 and those growers who detected boron and/or bicarbonate problems saved \$60,750 by not having to purchase replacement plants. Both problems can be corrected with little trouble, however undiagnosed problems can result in fewer and less healthy transplants.

Local System: Edgecomb
Person Reporting: James R. Pearce

An Edgecombe County peanut grower was asking me questions about how to fumigate his peanut fields for 1997. I asked him why he was fumigating as I had seen his peanut crops over the years and have noticed very little black root rot problems. His neighbors had convinced him of the need to. They told him his dying plants from previous years was "CBR." I reminded him that the disease they were talking about was a virus that looked very similar to "CBR." He did not fumigate and saved \$40 per acre on 310 acres of peanuts for a savings of \$12,400.

Local System: Bertie
Person Reporting: William J. Griffin, Jr.

Irrigation Scheduling. An EXNUT irrigation scheduling program is being developed for Virginia type peanuts in Bertie County through cooperation with the National Peanut Research Lab in Dawson, Georgia. The program was run on 25 fields and irrigation recommendations made three times weekly over a period of forty-five days after planting to two weeks before digging. Average yield per acre on the 25 fields was 4,251 pounds per acre. The expected county average yield in 1997 will be 2,600 pounds per acre for a difference of 1,651 pounds. Farmers contribute the scheduling program for at least a 400-pound increase per acre. Impact of the scheduling program on 1431.2 acres irrigated is \$183,193. A cotton irrigation scheduling program was experimented with on three fields in 1997. Yield increases of 400 pounds per acre was achieved for an increase income of \$280 per acre.

Local System: Watauga
Person Reporting: Jerry Moody

In response to the need for competent IPM scouts, we have begun training those growers who would like to scout Fraser firs. These 12 people who complete the first year of training will be allowing larger growers to adopt the IPM practices that we have been teaching them. We will have developed a new industry that will create a positive impact upon the agricultural community.

Local System: Lincoln
Person Reporting: Matt Taylor

The two main thrusts of our programming have been Cereal Leaf Beetle Scouting and the use of Beneficial Insects to control Musk Thistles. The Cereal Leaf Beetle Program had 11 cooperating farms with 1345 acres of small grains. These fields were scouted regularly for Cereal Leaf Beetles. Scouting and low Cereal Leaf Beetle numbers resulted in farmers reducing spraying by 2-3 times, saving farmers \$9.40 per spray per acre. The beneficial insect program has been placed on 552 acres, saving cooperators \$9.80 per acre per year for the next three years. These two programs have saved farmers \$38858.00 in reduced pesticide application costs.

Local System: Pitt
Person Reporting: Mitch Smith

How does a tobacco farmer learn to produce tobacco transplants in a new greenhouse?.....by following Extension recommendations. Beginning in December 1996, five Pitt County tobacco producers have been counseled in order to provide the latest research concerning tobacco greenhouse production. Eleven basic practices were recommended and monitored using on-site visits with each of these producers. As a result of this process, sixty-six percent of these practices were incorporated into their operations. These adoptions represent a potential savings of \$85,384 to these county producers. Among the recommended practices to these producers were water sampling, proper equipment purchases, and using the proper seeding date.

Local System: Rowan
Person Reporting: Darrell Blackwelder

Commercial vegetable production requires highly developed management skills to be competitive in the market place with quick access to pertinent information such as tissue and soil analysis as well as other cultural information. Ninety five percent of commercial producers have computers, but all lacked the knowledge on how to access the World Wide Web for accessing information. Information by postage is too slow often arriving to late for utilization. Networking with the NCDA Agronomic Division and a local internet access company, the Extension Service coordinated a workshop explaining the efficiency and usefulness of the World Wide Web for commercial vegetable producers. As a result of the workshop, five growers out of twelve producers regularly access the Web. Interest has spread to other growers with six producers requesting a repeat the workshop in the fall of 97. Knowledge gained by growers has influenced growers to attend a fall workshop.

Local System: Caldwell
Person Reporting: Craig R. Adkins

Ornamental nursery growers in the foothills are growing 35 new species of conifers.

Some growers planting these new conifer species have had little exposure to the vast array of potential pest problems. An IPM grant in the amount of \$7,275 was obtained by the NCCES agent for the purpose of developing an IPM program and manual for conifer species. 250 nurserymen and their employees were provided with a manual and trained on implementing an IPM program designed for identifying and controlling disease, insect and mite pests with minimal chemical inputs. 44 growers adopting this program saved \$660,000 in chemical costs and reduced the input of chemical active ingredients into the environment by 2,640 pounds. Through this program, growers now have an increased awareness in the judicious use of pesticides and an alternative pest management approach for the ornamental nursery crops industry.

Local System: Caldwell
Person Reporting: Craig R. Adkins

Commercial landscapers and homeowners often select and install landscape plants that are inappropriate and undesirable for the landscape site. This leads to low survivability and the unnecessary application of pesticides to stressed plants. The NCCES agent conducted programs to increase the knowledge and awareness of 450 landscapers and homeowners on proper plant selection, plant pest management, and landscape practices in residential and commercial landscapes. Feedback indicated that 310 in attendance had a change in attitude with respect to aesthetic appearance and environmental protection of their landscapes. By adopting the landscape practices recommended, total property value increased by \$310,000. Many of the respondents believed that they were now playing a role in protecting the environment through better plant selection, plant growth and plant health care, and the adoption of IPM practices in the landscape.

Local System: Vance
Person Reporting: Peter Hight

Two farmers grew tobacco organically for a niche market for the first time in 1997. A severe aphid population developed on their crop and the organic pesticide options were very limited. Cooperative Extension designed a replicated test to evaluate the existing organically approved pesticides for aphid control. Extension applied the pesticides in the test and within 24 hours the growers knew the pesticides were ineffective. Cooperative Extension advised the growers to top the tobacco earlier than normal to remove the succulent growth where the aphids were concentrated. After topping, aphid numbers rapidly dropped to negligible levels. The growers avoided unnecessary pesticide applications, saving \$1450.00. Their average yield was 2600 pounds per acre which is a better than average for tobacco.

Local System: Haywood
Person Reporting: Tom Harvey

Many tobacco barns are in a state of disrepair or not in the control of tobacco producers, creating a lack of available curing space for the Haywood County burley

crop. Temporary post-row curing structures have been promoted as an economical alternative for curing tobacco for those farmers wanting to increase production or those with limited curing space available. Farm Bureau and the Extension Service certified 15 Haywood producers who applied for a \$500.00 grant from the Philip Morris Tobacco Company to build temporary curing structures during 1997, bringing \$7,500.00 in grant money to Haywood. 45 other producers have built temporary structures in 1997 or recent years taking the temporary curing capacity to approximately 150 acres for Haywood County. Utilizing these structures saves about 50 percent in labor costs during hanging and let down for classing. This is an additional savings of \$28,800.00 to those farmers for 1997.

Local System: Craven

Person Reporting: Billy Dunham

After the storms of 1996, many farmers were financially strapped for the 1997 crop year. At the request of two of our farmers, I gave them special attention for the 1997 crop year beginning with soil sampling in fall of 1996, variety selection, nutrient management plans, weeds, insect, and disease control. For liming requirements we used wood ash saving them \$16,000. During the growing season I made regular visits to the farms to advise the producers as to what type of management to use. As a result, even with a dry season both producers indicated they increased their net production returns by 25%.

Local System: Fletcher

Person Reporting: Lanny Hass

We conducted a Greenwise program in Blowing Rock. This is a 3 day intensive management program for Nursery producers. One of the largest Christmas tree producers was in attendance. After the meeting he made several comments about how useful the training had been. One is that he had no direction in his life until this training. The personal mission statement session had changed his total perspective. He was now placing emphasis on relationships instead of tasks and was putting first things first in his life. He measured some efficiency factors before the meeting. His efficiency is now increased 35%. He says he is being more effective instead of efficient.

Local System: Martin

Person Reporting: C. L. Sumner

Improved net profit is essential for the Limited Resource Grower to remain in business. Cooperative Extension in conjunction with a local firm that designs and sells drip-irrigation systems networked together to get 5 small farmers established in plasticulture production on a trial scale. These growers networked together to buy the plastic, drip tape, and rent the machine to put the plots in. They split the cost among themselves and exchange labor. They put in approx. 1 acre each. The avg. amount of increase for each participant was \$2500. The results were added income to each as

well as future expansion in plasticulture.

Local System: Caldwell

Person Reporting: Kevin E. Johnson

The Caldwell Extension Center has worked closely with the city of Lenoir in utilizing the municipal sludge as a lime source for farmers. The material if used properly will supply farmers with a lime equivalent material free of charge. Through educational programs and an on-farm test, 25 farmers have applied this material to 500 acres of land saving them \$20/acre in liming cost. The total savings for the farmers in Caldwell County is approximately \$10,000.

CEMP 07 - Crop Production and Marketing Systems Committee

Jan Spears Co-Chair

James Stephenson Co-Chair

Doug Sanders

Michael Shaw

Mike Linker

Sterling Southern

Steve Hodges

Blake Brown

Craig McKinley

Roger Cobb

David Smith

CEMP 08 - FAMILY & CONSUMER ECONOMICS

Based on 120 County Reports for 1997 from 58 counties

BRIEF PROGRAM DESCRIPTION. The Family & Consumer Economics CEMP promotes informed financial management and other consumer decision making by individuals and families. Serious problems at all income levels can in many cases be prevented, and this CEMP emphasizes education to prevent problems in basic money and credit management, consumer fraud, and in saving/investing for the future. For problems requiring immediate attention and assistance, CEMP #8 prepares Extension Agents to provide accurate information about and make referrals to appropriate counseling and intervention services, in an active network of organizations with mutual concerns. CEMP #8 also emphasizes the household as producer of goods and services that extend and/or increase income. Extension Educators are encouraged to organize trained volunteers to deliver skill training to youth and adults, while FCE Agents focus on the family and business resource management aspects of income production.

PRIMARY AUDIENCES SERVED. Audiences for the five objectives cover a wide spectrum in regard to age, gender, marital status, education level, income, type of employment. Special programs target persons with limited sources of information, limited resources, lower reading levels, and problems requiring specific consumer information, such as credit, housing, and health care/insurance. Extension Agents

have responded to requests from a number of other agencies and organizations to provide education to help WorkFirst and other limited resource audiences achieve financial self-sufficiency. Other audiences are targeted in three new programming efforts: NCCES coordinates a pilot project for training Marines in the Financial Fitness curriculum; is part of a ten-year national project to teach personal finance to young people (the JumpStart Coalition); and is part of a national effort (with the American Savings Education Council) to reach mid-life adults with critical information on saving and investing for future financial security (a five-year program under the federal SAVER Act - Savings Are Vital for Everyone's Retirement).

OBJECTIVE 8.1 30 counties reported accomplishments

Limited resource consumers and families will make and use money management plans and adopt decision-making practices that will help them achieve family financial goals.

Measures of Progress: 5725 people increased awareness and knowledge about money management and the decision-making process; 1458 personal goals were made and written; 3014 people identified family and community resources; 2460 people demonstrated ability to use the money management skills and decision-making approach learned; \$121415 dollars of debt were reduced

Impacts: 2075 money management plans were made; 693 people attained personal goals; \$94228 dollars saved or reallocated to meet family needs; 1582 individuals or families improved self-sufficiency; 519 people succeed in the reduction of debt level

Volunteers: 264 volunteers donated 919 hours, valued at \$9190.

Objective 8.1 Narrative. Limited resource audiences across the state are engaged in programs to develop money management skills that contribute to the achievement of family financial goals. Program reports from 30 counties involve young single parents, the working poor, pregnant and parenting teens, headstart mothers, court-ordered youth and adults, senior citizens and individuals receiving public assistance. Extension Agents across the state collaborate with local and state agencies to help WorkFirst families develop essential life skills. Extension has been urged to provide additional educational program support for limited resource audiences on EBTs (preparing food stamp recipients to plan the use of the new debit cards); IDAs (Individual Development Accounts restricted to first-time home buying, small business investments and post-secondary education); and EFT (preparing people without checking accounts to make decisions in selecting and managing direct deposit of federal transfer payments). LRA audiences participate in skill-building activities that help them: develop a basic budget; navigate the maze of financial concerns associated with buying a home; use available resources to free up income to use to meet other family needs; get optimal use of income through wise consumer choices; and make optimal use of retirement income. LRA participants have achieved such financial goals as: purchasing their first home; saving money by learning to do their own taxes instead of hiring a preparer; avoiding being drawn into fraudulent consumer transactions that result in income lost; and reducing their level of debt. Youth involved

opened their first savings account and limited resource community residents were trained to conduct money management programs for others.

OBJECTIVE 8.2 26 counties reported accomplishments.

Consumers will increase knowledge of and adopt financial planning techniques to meet changing responsibilities for self and others over the life cycle. (Also see Objective 1.1 for reports of comparable outcomes.)

Measures of Progress: 7656 people increased awareness and knowledge of financial resources; 3614 people demonstrated goal setting, making financial plans and record keeping skills; 5372 people acquired knowledge of best management practices such as increased savings and investments, reduced consumer debt, more money designated for retirement management; 4250 people increased satisfaction with ability to use resources

Impacts: 2821 demonstrated success in obtaining, protecting and using financial resources; 2302 adopted financial planning and record keeping system; 899 documented a plan for resources over life cycle; 1982 people improved their financial status resulting from financial planning

Volunteers: 366 volunteers donated 1714 hours, valued at \$17140.

Objective 8.2 Narrative. 26 counties reported working with a variety of audiences, some general and some narrowly targeted. Young people were reached through: workshops and day camps offered to the public; 4-H and other groups; and in the schools (especially the High School Financial Planning Program). Financial management programs were offered to adults on broad topics and on specific topics such as: budgeting & record keeping; credit management (1997 agent training); how and why to save money; investment fundamentals; budgeting for home ownership; planning for college costs; pre-retirement planning; living on a retirement budget; and the impact of consumer fraud on otherwise sound financial plans (1997 agent training). Targeted adult audiences included: mid-life and older women for the Women's Financial Information Program; prospective and current Medicare beneficiaries (1997 agent training); prospective and current Habitat for Humanity homeowners; pre-release prisoners; mental health patients, women's shelter residents; prospective and current small business owners; and pre-retirement audiences, especially regarding tax-deferred investment options (1997 agent training).

OBJECTIVE 8.3 15 counties reported accomplishments.

Families, individuals and special needs groups will make informed decisions in securing and maintaining affordable housing that meets their changing needs. (Information on housing for LRAs is also reported under Objective 8.1)

Measures of Progress: 750 people adopted practices which lead to living independently or living in affordable housing; 2299 people increased awareness and knowledge about housing financial decisions; 1023 increased awareness and

knowledge of household budgeting; 2434 people increased awareness and knowledge about housing maintenance and/or repair; 4013 increased awareness and knowledge about selection of affordable home furnishing and home improvements

Impacts: 584 people had success in finding, securing and maintaining housing; 473 people adopted and implemented successful budgets for housing; 663 people succeeded in budgeting for repair, maintenance and/or remodeling costs; 1553 people succeeded in living independently in one's own home

Volunteers: 158 volunteers donated 1470 hours, valued at \$14700.

Objective 8.3 Narrative. 15 Counties reported on a variety of affordable housing programs. Topics included whether to rent or buy, multiple aspects of the home buying decision and new programming on post-home buyer decisions (1997 agent training). Educational activities were reported on how to budget for: getting into new housing (rental or purchase); selecting and caring for furnishings; maintenance and repairs; and remodeling. Counties reported specific programming for residents of housing authority units, first-time home buyers, Habitat families, and other homeowners.

OBJECTIVE 8.4 33 counties reported accomplishments.

Individual consumers and families will learn decision-making skills and adopt practices that make better use of available resources and improve their financial status.

Measures of Progress: 17906 increased awareness and knowledge of consumer decision making skills in such areas as financial services, insurance, transportation, health care, elder care; 4499 adopted practices in the selection and care of consumer products that extend use and reduce costs; 3656 adopted practices in the selection and use of consumer services; 4547 increased knowledge of consumer credit options and concerns; 2880 increased awareness and knowledge of public policy issues affecting consumers

Impacts: 6696 increased skill and satisfaction with consumer decisions; \$103963 costs avoided through selection and care of consumer goods; \$112551 financial status of individuals and families improved; 578 people increased participation as informed consumers in the public policy debate on consumer issues

Volunteers: 696 volunteers donated 4932 hours, valued at \$49320.

Objective 8.4 Narrative. 33 Counties reported on educational programs that were designed and presented on consumer decision making issues of concern to general audiences such as senior citizens, young families, and youth. Targeted audiences included worksite groups, agency staff, prison inmates, teen parents, displaced homemakers, work-first families, African-American women, Hispanic workers. Topics included: distinguishing between needs and wants: consumer credit decisions (1997 agent training); auto purchase, insurance, and maintenance; clothing selection and

wardrobe management; consumer fraud prevention (1997 agent training); health care and insurance (1997 agent training); elder care planning and caregiving options.

OBJECTIVE 8.5 16 counties reported accomplishments.

Individuals and families will extend and/or increase income through home production for family use and/or production and marketing of goods or services through employment or self-employment.

Measures of Progress: 6624 increased awareness and knowledge of practices to extend or increase income; 1641 attained skills to produce consumer goods; 3929 adopted practices to extend or increase income; 747 increased knowledge of home-based/other small business; 1149 increased decision-making skill regarding employment or self-employment

Impacts: \$253599 dollars saved through practices to extend income: \$46417 increased income through employment: \$9500 increased income through self-employment: 3791 improved use of human and financial resources

Volunteers: 296 volunteers donated 3493 hours, valued at \$34930.

Objective 8.5 Narrative. 16 Counties reported on educational programming for individuals and families to extend income and/or increase income. The overriding need for better management of available income is being met in part by educating adults and youth to produce some of the goods and services for their households. And the need for additional income is being met in some cases by educating adults and youth about home-based and other types of small business. Agents reported organizing volunteers to teach the skills needed for home production (to extend income) and/or to increase their marketable skills. They also reported on educational activities (in cooperation with the network of groups that counsel and assist small business) to meet the educational needs of current and prospective small business owners (1997 agent training).

OVERALL CEMP#8 SUCCESS STORIES

8.1 Guilford County, in cooperation with the Department of Social Services and First Farmington Apartments, sponsored house cleaning workshops for 36 participants focusing on house cleaning made easy. Participants gained knowledge and skills and became aware of ways of keeping their homes clean without being costly to their budget. They learned to organize and prioritize work to get their housekeeping done. As a result, 23 participant learned greater skills and adopted practices to make better use of available resources and improve their home management skills. 23 participants indicated they saved \$1,524, and 3 participants were able to remain as residents at their apartments without being evicted during inspection.

Wake County provides an Earned Income Credit program to Habitat for Humanity participants. Approximately 25 individuals received handouts and information

concerning EIC. Sixty percent were familiar with this program. One individual who did not know about the program was able to file a tax return and received over \$3,000, which allowed her to have extra income without having to take a second job.

Rowan County: Sixty two limited resource participants completed 5 classes on money management, credit, credit profiles, home maintenance, and home ownership. Twenty are working to pay down debts, fifteen have opened bank accounts, four are trying to save for a home down payment, one has applied for a Habitat house, and the others are struggling with maintaining employment or locating employment. Cooperating agencies were CES, housing authorities, City of Salisbury, Consumer Credit Counseling Service, Credit Bureau, banks and realtors. 18 participants expressed the need for one-on-one guidance and volunteers and agency staff have agreed to assist.

8.2 A Mecklenburg County FCE Agent experienced in offering the 7-week women's Financial Information Program cooperated with the Union County FCE Agent to meet the need for financial education among older women. A planning coalition of six agencies and 3 citizen volunteers planned and implemented the program, recruiting 10 speakers, 8 facilitators, 42 participants, a free facility. All 50 participants rated the series as "excellent." Specific impacts involved empowerment to be better organized, to take care of details, to know helpful resources, to plan ahead, to invest for the future, and to have confidence in handling financial affairs. All said that they would recommend the series to a friend and to women of all ages.

Forsyth County: An "Investors Fair" helped 406 consumers improve their ability to diversify their investments and develop a lifetime approach to financial security. Under the Extension Service and the Triad Investors Educational Council's leadership, 397 participants reported increased satisfaction with their ability to use resources for retirement management. Because of the positive behavior changes in surveyed participants, the program will be repeated.

Nash County: As a result of possible cuts in work hours/reduction in overtime pay, a local employer requested worksite workshops on "Controlling Holiday Spending," and "Using Credit Wisely." One of the participants stated that he had taken the worksheets home and used them with his family. He went on to say that this was the first holiday season that his family had not incurred credit debt. He was pleased with this progress and felt that his family would enjoy greater financial security in 1998.

Jackson County: "I saved over \$4000 on a car!" "I am saving about \$50 a month now!" These are two of the comments following a joint-county seminar sponsored by Extension in Jackson and Swain counties in July 1997. "Living with Less and Saving More" provided the 19 people who attended with strategies for saving money in all areas of their lives -- everything from transportation to grocery shopping to travel. Over half of those attending gained new ideas and put them to work. A survey sent out 6 months after the program saw some very positive financial rewards for those participants who put into practice what they had learned.

Onslow and Craven Counties: NCCES and the Family Service Centers at Camp Lejeune, New River Air Station and Cherry Point Air Station have collaborated to provide 8 week-long workshops that trained 144 Command Financial Specialists, who in turn have helped an estimated 6000 Marines and family members avoid or address financial problems. NCCES is helping evaluate this pilot project for the Marine Corps.

8.3 Macon County families are being squeezed out of the housing market because of escalating land values and limited economic opportunities. A housing board was organized around the National Partners in Home ownership format involving Extension and 21 other organizations. 14 actions were identified by the group in the areas of production, financing, building communities, opening markets, education and counseling, and public awareness that could help alleviate the problems. Projects currently underway are: development of a "one Stop" Home Financing Catalog for low income, first-time home buyers that will describe the various financing options that are available. Homeowner education and counseling sessions, assembling a collection of affordable stock housing plans and a housing fair directed at the first time home buyer, and a public awareness campaign with local media.

Mecklenburg County: Extension reached 112 families through a Homebuyers Home Study course followed by individual and small group counseling. Participants included young and single parent families, a diversity of ethnic backgrounds, and special needs not being addressed in the standard marketplace. Most sessions were conducted after the typical workday to meet client needs. The completion certificate allowed families to participate in loan programs with reduced down payment and closing costs.

Forsyth County. (Also addresses 8.5) New home owners in Forsyth County who acquire homes through Habitat for Humanity lack knowledge in home maintenance and repair. To address this, Extension conducted a training for 40 homeowners on simple home repairs, including repair of faucets, commodes, doors, walls and electric sockets, which included demonstration and hands-on applications. As a result of the training, participants reported an average savings of \$200 each in their home repair expenses over an average year. This training not only taught new skills that resulted in cost savings, but also taught new skills that increased the pride of home ownership.

Guilford County. Last year, Americans spent 70 billion dollars on residential remodeling projects. Extension, in cooperation with the Greensboro Home Remodelers Council, sponsored a 3-week workshop, "Nuts, Bolts, and Basics," a seminar with 55 participants focusing on financing options; remodeling decision making; bedroom, kitchen and bath remodeling projects. Completed surveys indicated that approximately \$100,000 was saved as a result of information gained in the workshops.

8.4 In Lee County, 85 women gained a better understanding of how credit reports are established, how to obtain a copy and understand their individual reports, how the report is used in securing credit and how to correct errors on the report. 15 reported applying for a copy of their credit report and found them to be accurate. 3 reported errors and took the necessary steps learned to correct the errors.

Randolph County. There is a great need to teach senior adults how to avoid telemarketing fraud. A program on telephone fraud provided by the Attorney General's Office has been used to address this issue. The program teaches senior adults how to recognize a con artist and how to say no to their schemes. Approximately 521 persons have viewed the video. As a result of this program, many of the participants have stated that they have "hung up" on possible con artists.

Wilkes County provided educational opportunities for citizens to learn about the Medicare managed care plans now available for Medicare recipients in some areas of North Carolina. In Wilkes County 35 people attended a program sponsored by Extension and the Department of Insurance to determine the advantages and disadvantages of this new type of health care. Fifty percent of those attending the program reported reviewing and comparing policies. Seventy-five percent requested more information from companies and the Department of Insurance. Fifty-five percent reported saving money by switching to Medicare managed care plans from traditional supplemental policies.

8.5 Mecklenburg. Although adult basic sewing classes are not held on a regular basis, there is a need for Clothing program volunteers to plan the 4-H Fashion Review, judge garments, teach classes, and serve on the Advisory Board. Adult clothing programs focused on improving "Sewing for Pay" skills and developing a volunteer corps. A workshop on "Sewing Resources on the Internet" spawned a Home Page for Mecklenburg County Sewing Volunteers. Members attended a hands-on class on Internet Research methods. Two club programs were presented later using Internet-obtained information. Similar Internet research classes were then conducted for Food & Nutrition Masters, and Extension Homemaker volunteers. Several participants now routinely use the Internet who had no prior experience.

Catawba. Recognizing the changing roles of women in the family, Minority Women for Change in Catawba County and Cooperative Extension collaborated to present a forum, "Pathways for Minority Women in the 21st Century." One hundred fourteen minority women heard presentations on the subjects of spiritual, financial, physical, and cultural enrichment. Participants reported gaining "encouragement, practical tips and contacts for my business," "feeling better about owning my own home," "feeling better about establishing and maintaining credit," "better knowledge of ways to improve myself," "excellent information about financial planning and maintaining good credit." Twenty-two women volunteered to become part of the steering committee for 1998. One attendee initiated implementation of a workshop for potential small- and home-based business owners. Another woman let the development of a heart-healthy-nutrition program in the family resource center in her community.

CEMP #8 CONTACT PERSONS

Janice Holm Lloyd, Co-Chair - NCSU Family Resource Management
Specialist (8.4, 8.2)

Nita Royal, Co-Chair - Area Specialized Agent in Financial Planning Education at Triad
Money Management Center (8.2)

CEMP #8 TEAM MEMBERS

Linda Aycock - Nash FCE Agent (8.4)

Glennie Beasley - Chatham FCE Agent (8.1)

JoAnn Cope - Macon FCE Agent (8.5)

Jim Daughtry - Jones et al. Area Farm Management Agent (8.2)

Sarah Kirby - NCSU Housing Specialist (8.3)

Ellen Miller - NCSU Apparel & Textiles Associate (8.5)

Claudette Smith - NCA&TSU Family Resource Management Specialist (8.1)

Deborah Taylor - F&CE Agent (8.3)

Bob Usry - NCSU Youth Economics Specialist (8.4)

Mike Walden - NCSU Extension Economist (Consumer Economics) (8.2)

CEMP 09 - FAMILY AND PARENT EDUCATION

Brief description of CEMP Program focus: The Family & Parent Education State Major Program is helping parents and families acquire and develop the skills needed to foster qualities of responsibility, cooperation, courage and self-esteem. Appropriate actions are being taken to provide quality information on how to strengthen family relationships through improved parenting skills, financial management, problem-solving skills, empowerment, conflict resolution, effective communication, and stress management. In addition, Extension personnel are equipped to make appropriate referrals for family services, support services, and self-help support groups.

Primary Audience(s) served: Individuals, parents, and families in various stages of the life cycle.

Objective 1: *Participating individuals and families will increase parenting skills related to caring for oneself, understanding ones children, motivating, nurturing and guiding them, and serving as advocates when needed.*

Counties(units) reporting accomplishments: Alamance, Alexander, Alleghany, Anson, Ashe, Avery, Buncombe, Caldwell, Chatham, Chowan, Cleveland, Columbus, Craven, Cumberland, Dare, Davidson, Davie, Duplin, Franklin, Gates, Greene, Harnett, Haywood, Hertford, Iredell, Jackson, Lee, Lincoln, Madison, McDowell, Mecklenberg, Mitchell, Moore, New Hanover, Northampton, Onslow, Pamlico, Pasquotank, Perquimans, Pitt, Randolph, Robeson, Sampson, Stanley, Swain, Union, Warren, Washington, Watauga, Wayne, Wilson

Respective MOPs description and numbers: 21,474 individuals increased awareness and knowledge of developmental stages, basic needs, and appropriate behavior of children. 15,704 individuals increased awareness and knowledge of appropriate discipline strategies. 7,484 individuals adopted appropriate discipline strategies. 10,530 individuals increased awareness and knowledge of techniques to control

stress, time, and energy. There was 7,887 adoptions of techniques to control stress, time, and energy.

Respective Impacts description and numbers: 6,820 families demonstrated improved family relationships through the resolution of financial conflicts. 7,550 families demonstrated improved responsibility of parents and children. 8,134 families adopted improved quality of family life by adoption of effective parenting through appropriate discipline techniques and critical nurturing practices.

Volunteers-numbers-hours served-value: 656 persons volunteered 4076 hours of service valued at \$40,760.00.

C-B Value to Targeted Audience: 25 counties reporting -- \$198,252.00,

C-B Value to Society: 17 Counties Reporting -- \$605,524.00

C-B Program Cost: 26 Counties Reporting -- \$432,469.00.

A concise narrative to capture all accomplishments for the objective: Counties reported offering a variety of educational programs related to parenting and child care including health and stability of the family; discipline strategies; communicating with children; developmental stages of children; nutrition education; financial planning; safety; child abuse awareness and prevention. These programs were conducted in a variety of ways with diverse target audiences, and frequently in collaboration with other government and community agencies. Listed below is a sampling of programming efforts throughout the state:

Watauga and Pasquotank County FCE agents were granted \$1,800. to do a Parents Helping Children Parenting Class Pilot Program. A series of six weekly classes were held for a limited resource audience (Out For Lunch graduates). Participants reported an increased awareness and knowledge of developmental stages, basic needs, appropriate behavior of children, appropriate discipline strategies and better communication skills with their children.

Randolph County reported a "2nd Time Around" program for grandparents who provided major parenting responsibilities.

In *Caldwell* County Parents as Teachers taught parents what they can expect their child to be doing at different ages and how they can enhance their learning. By helping parents understand their child's development, child abuse will be reduced. Developmental screenings are conducted periodically so that problems may be caught and referred for help in order to make sure the child is ready to start school and ready to learn.

Moore County reported that a multi county effort was planned and implemented to increase awareness of work based parenting programs. An awareness program was designed and presented in two different locations. Approximately 21 representatives from a variety of businesses and organizations attended. 4 businesses volunteered to participate in a pilot effort to conduct a survey and planning session on worksite

parenting programs with their employee parents.

Wayne and Mecklenburg counties have conducted parenting sessions for the inmate population in their counties. Participants learned about methods to help children and other family members adjust to the situation, what to expect upon release and return to family situation, and other coping methods to deal with the stress of incarceration. 36 inmates have received certificates for successful completion of the six session series.

Success Stories: *Washington* County conducted on-going Family Life Education classes throughout the year in connection with Smart Start. At-risk and court adjudicated parents were referred to these classes by the *Washington* County Preschool Interagency. Fourteen parents attended the most recent twelve week series.

In *Union* County educational classes, transportation, children's snacks, parental incentives, child care, and education instruction were provided to 24 parents who were referred by the court system, DSS, and health care workers. If this preventive education eliminates foster care for the 48 children involved, that would be a savings of \$375. per month per child. For the 20 families involved to be removed from the DSS rolls, that would be a savings of \$150. per month per family. The economical impact of this proposal would total \$31,500. over the six week period during which the classes were taught. The above series was repeated twice, reaching 48 more parents.

Objective 2: *Limited resource parents will use effective parenting skills and identify possible solutions to family problems associated with money to promote optimal child development and to reduce stress to improve their ability to face the daily challenges of parenting.*

Counties(units) reporting accomplishments: Caswell, Catawba, Columbus, Forsyth, Granville, Guilford, Hertford, Iredell, McDowell, Onslow, Pamlico, Pasquotank, Robeson, Rowan, Stanly, Union

Respective MOPs description and numbers: 409 limited resource parents demonstrated proper application of techniques learned to resolve financial conflicts. 978 limited resource parents increased knowledge and awareness of strategies to resolve family financial conflicts. 1,680 limited resource parents increased knowledge and awareness of child growth and development. 837 limited resource parents adopted appropriate discipline techniques and critical nurturing practices.

Respective Impacts description and numbers: 445 families demonstrated improved family relationships through the resolution of financial conflicts. 1,023 families demonstrated improved responsibility of parents and children. 888 families adopted improved quality of family life by adoption of effective parenting through appropriate discipline techniques and critical nurturing practices.

Volunteers-numbers-hours served-value: 151 persons volunteered 398 hours of service valued at \$3,980.00

C-B Value to Targeted Audience: 5 Counties Reporting -- \$4,680.00

C-B Value to Society: 6 Counties Reporting -- \$18,050.00

C-B Program Cost: 7 Counties Reporting -- \$4,333.00

A concise narrative to capture all accomplishments for the objective: A variety of educational programs were implemented in 15 counties with limited resource clientele including budgeting; alleviating stress; effective discipline; responsibility and self-discipline. Some of the programs include:

In *Forsyth* County the FCE agent provided weekly classes to 87 young mothers on parenting and financial needs of young children. The topics included raising children in a safe environment, disciplining effectively, and budgeting money for proper care. 50 percent of the teen moms adopted practices in budgeting their finances in caring for children. Provided several classes for the Smart Start Program "Fathers and Friends" that focused on parenting skills for dads. The men learned how to interact with their children by role-playing and modeling positive parenting behaviors and characteristics.

In *Guilford* county 77 limited-resource single parent families/teen parents participated in educational programs related to parenting, 80 percent adopted behaviors which helped them to praise their children and develop their own positive self-concept. They were able to cope with negative or positive comments.

In *Onslow* County a new collaborative effort started in 1997 to help individuals with needs where resources were limited. The Unmet Needs committee is composed of several county agencies in addition to military offices and county churches. Ramps were built for special needs children, wheelchairs were purchased for children that their parents fell in financial eligibility cracks. This committee has been very successful and will continue to seek grant money and local funding to keep their services going.

Success Stories: In *Robeson* County over 100 families were enrolled in a parenting class offered by the FCS agent. Some of these classes were court ordered. After having these classes, 45 families regained custody of their child(ren) saving the state thousands of dollars by keeping these kids out of the "system".

Objective 3: Families and individuals will improve skills in critical thinking, family, conflict resolution, and effective decision making.

Counties(units) reporting accomplishments: Alleghany, Buncombe, Catawba, Columbus, Edgecombe, Forsyth, Harnett, Hertford, Hyde, Iredell, Mecklenburg, Mitchell, Pasquotank, Person, Robeson, Union, Wayne, Wilson, Yancey

Respective MOPs description and numbers: 9,548 people increased awareness and

knowledge of skills in critical thinking, communicating, leadership, managing finances and managing stress. 2,565 persons adopted skills in critical thinking, communicating, leadership, managing finances, and managing stress.

Respective Impacts description and numbers: 2,126 program participants reported improved self-esteem of family members by adopting strategies of affirmation, positive reinforcement, and expression of affection. 2,802 persons said their quality of family life improved through the adoption of skills such as improved communication, conflict management, and effective decision making. And 2,301 people improved their interpersonal relationships through the adoption of skills in critical thinking, communicating, leadership, managing finances, and managing stress.

Volunteers-numbers-hours served-value: 478 persons volunteered 2,348 hours of service valued at \$23,480.00

C-B Value to Targeted Audience: 8 Counties reporting -- \$ 141,243.00

C-B Value to Society: 7 Counties reporting -- \$ 47,643.00

C-B Program Cost: 9 Counties reporting -- \$ 157,574.00

A concise narrative to capture all accomplishments for the objective: Counties reported conducting programming in leadership development; children's school readiness; parenting skills; stress reduction; conflict resolution; effective decision-making; communication skills; building self-esteem; handling problems relating to pressures in daily living; and building strong families. Some of the programs include:

In *Alleghany* County the Cooperative Extension Service collaborated with BRE, Alleghany Schools, and Partnership for Children to develop kindergarten readiness bags- books, puzzles, playdough, etc. & distributed to children entering 97-98 kindergarten at parent/child information sessions. Children were given a tour of school, rode the bus, ate lunch & dinner in the cafeteria. Parents were given information about what is expected of children in school, when to get physicals, go for screenings, ideas of ways parents could help children improve communications, decision-making, and critical thinking skills.

In *Harnett* County information related to decision making, leadership and communication skills was taught through classes for parents, a "Choices" program for local adolescent girls in cooperation with Business and Professional Women's group, church groups interested in children's advocacy, child care training distribution of educational materials, training for Hospice Volunteers, programs for Juvenile Probation, training teen leaders, parenting programs and others.

In *Wayne* County a "Worth Waiting For" program that focused on abstinence education, self esteem, and making good decisions was presented to 169 young people. Evaluations indicated that participants felt the information received was needed very much. After the programs and the news article covering the event, numerous calls were received from community members asking for repeat programs.

In *Mitchell* County workshops on communication, decision-making, and conflict

resolution were held for two sessions of CHOICES, an intensive training program to help women get back into the workforce.

Success Stories: In Wayne County a 10 week "Becoming A Mother" program targeted 15 teen, limited resource mothers. The 1 hour sessions covered topics like self-esteem, goal setting, communication skills, managing conflict, and handling stress. 12 of the 15 participants indicated on the final evaluation that they had a better understanding of the control they have over their lives. Some comments from participants included: "I have learned better ways to communicate with my children" "It has taught me a lot of things about coping with stress" "the lessons helped me by showing me how to express myself without using the accusing "YOU".

In Wilson County the Door-to-Door Parenting Program was designed to empower individuals and families to meet their needs and goals through a learning partnership. The Family and Consumer Education agent networked and collaborated with one local agency, Department of Social Services to recruit participants. The majority of the participants are currently associated with the Department of Social Services receiving a particular service, and they requested being a part of the Door-to-Door Parenting Program. The program is deemed to be successful because of the positive feedback the FCE agent and Department of Social Services case workers have received.

Objective 4: Families will become aware of support services and will use them effectively.

Counties(units) reporting accomplishments: Anson, Columbus, Franklin, Gaston, Harnett, Hertford, Iredell, Jones, McDowell, Mecklenburg, Pasquotank, Stanly, Washington, Watauga

Respective MOPs description and numbers: 4,132 people increased awareness and knowledge of community services. 1,466 persons increased their ability to communicate with service agencies. 1,659 persons increased their awareness and knowledge of skills such as listening, managing finances, and managing stress. And 771 people adopted skills such as listening, managing finances, and managing stress.

Respective Impacts description and numbers: 474 people said they improved their quality of family life through utilization of community services. 390 reported improved self-esteem by implementing suggested strategies for strengthening families. In addition, 524 persons reported improved family relationships through the adoption of skills such as listening, managing finances, and managing stress.

Volunteers-numbers-hours served-value: 427 persons volunteered 2,659 hours of service valued at \$26,590.00

C-B Value to Targeted Audience: 6 Counties Reporting -- \$ 13,016.00

C-B Value to Society: 4 Counties Reporting -- \$15,236.00

C-B Program Cost: 5 Counties Reporting -- \$ 9,084.00

A concise narrative to capture all accomplishments for the objective: Extension educators often serve as a referral system to help families access specific kinds of professional help. Some of our CEMP counties chose this objective as a focus of emphasis, and conducted programs in key issues facing our young people; poor achievement among youth; collaboration among agencies; health services; caregiver services available; community service exhibitions; advocacy for children and families; healthcare insurance; and others. Examples of Extension's efforts include the following:

In *Gaston* County the Parenting Advisory Committee developed and distributed over 500 copies of a Parenting Resource Guide to agencies, schools, child care centers, libraries, county and city officials, etc. The Guide is user friendly, cross-referenced by subject, and provides agencies with details about where families can get information, help, an support.

As a result of Extension programming in *Hertford* County 42 families are using community services such as mental health, social services, Choanoke Area Development Association, Choanoke Public Transportation Authority, Smart Start, and Services for Abused Families with Emergencies to help handle family and parenting concerns.

In *Stanly* County Family Resource Centers operated by the Cooperative Extension Service have enabled families to better utilize services and resources offered in the county. Three full-time Family Specialists and a FRC coordinator, all CES staff, have worked with these families to connect them to services/resources available through CES and other agencies in the community.

Success Stories: In *Franklin* County one of the most significant successes that has been achieved as a result of the implementation of a Children, Youth and Families Grant is the cohesion of a community. The ACE (Achieving Community Excellence) Program has brought a community together to learn how to better their lives. Community residents have learned to express their needs and to address them. They are targeting financial management, children services, and health and safety issues. There is a new security in this neighborhood and a well developed trust between neighbors, neither of which ever existed prior to the NC Cooperative Extension Service intervention. There are approximately 175 residents, over 50 are youth between the ages of infant and 14.

CEMP 09 team: Georgia Kight and Wayne Matthews (co-chairs)

Nancy Abasiakong	Reba Green-Holley	Pam Outen
Jean Baldwin	Marilyn Gore	Jackie Roseboro
Joyce Boatwright	Melissa Hight	Claudette Smith
Lucille Carter	Carmen Long	Verlene D Stephenson
Deborah Crandall	Thearon McKinney	Karen Wicker
Karen DeBord	Margo Mosley	

CEMP 10 - FOOD AND FOREST PRODUCTS MANUFACTURING

PROGRAM DESCRIPTION

The North Carolina Cooperative Extension Service, Department of Food Science works closely with the North Carolina food industry. The last few years, a major focus has been in the area of regulations. Since the E. coli outbreak in the western part of the US, the industry has redoubled its effort to produce a safe and secure food supply. Most of the industry is changing or will change to a Hazard Analysis Critical Control Point (HACCP) based safety system. This system has recently been mandated for the seafood industry and by the Food and Drug Administration (FDA). Regulation of other products will follow. More recently the United States Department of Agriculture (USDA) regulated meat and poultry industries have incorporated the process into their inspection program. This means the industry has turned from an inspection-based safety system heavily dependent on regulatory input, to a system now in tune with Total Quality Management. In this new system, the production processes are analyzed for potential hazard(s), controls are identified for the hazard(s), and monitoring of these controls by measurable criteria is effected. Reporting and verification steps keep the system working.

Food Science extension specialists have worked hand-in-hand with other agencies to help small businesses and new food entrepreneurs. Program coordination with the North Carolina Department of Agriculture and Consumer Services' (NCDA & CS) regulatory agencies, their marketing group, the Speciality Foods Association, and the Small Business and Technology Development Centers lends a hand to these individuals.

The North Carolina Cooperative Extension Service, Department of Wood and Paper Science works to increase the competitiveness and profitability of North Carolina's forest products industry, improve markets, and increase consumer understanding of forest products and their proper use. The continued long-term expansion of the state's primary and secondary wood products industries not only depends on the national and international economy, but on the individual firm's abilities to compete by obtaining and efficiently using raw materials and utilizing existing and new technology. Wood Products Extension concentrates its efforts on providing educational opportunities for managers and key personnel of primary and secondary wood products firms and the consumers of wood products. These opportunities allow clientele to develop their knowledge and skills to further their effectiveness in the assembly, processing, distribution, and use of wood products. The forest products industry modernization will increase their competitiveness in our growing international economy.

UNITS REPORTING ACCOMPLISHMENTS

Department of Food Science Extension Specialists: Dan Carroll, Pat Curtis, David Green, Kevin Keener, Dwain Pilkington, Lynn Turner, John Rushing, Donn Ward

Department of Wood and Paper Science Extension Specialists: Joe Denig, Craig Forbes, Larry Jahn, Phil Mitchell

Martin County Extension Center: Jim Kea

STATEWIDE MEASURES OF PROGRESS TOTALS

Objective 1: Food processors will adopt new technology, hire and train qualified personnel, and develop in-house quality systems to ensure regulatory compliance along with sustained growth and profitability.

Increased participation in training

Number participating: 1,200

Number increasing understanding: 1,456

Objective 2: (A) Forest products manufacturers will increase their competitiveness, productivity, profitability, and utilization of innovative technology, and (B) North Carolina citizens will increase their knowledge of wood products, their proper application, and maintenance.

Adoption of new manufacturing techniques

Number of firms adopting: 257

Consumer adoption of practices related to selection, use, and maintenance of wood products

Number adopting: 93

Increased knowledge of economic importance of the wood products industry

Number increasing knowledge: 917

Increased consumer understanding of forest products and their proper use

Number increasing understanding: 809

Objective 3: New and potential entrepreneurs especially in the food and forest products manufacturing areas will benefit from programs in business setup, management, quality, technology, and regulations by entry into the marketplace showing sustained growth and profitability.

Requests for assistance from small business and entrepreneurs

Number: 170 (in foods)

Number of new companies in food and forest products manufacturing

Number: 30 (in foods)

STATEWIDE IMPACT TOTALS

Objective 1: Food processors will adopt new technology, hire and train qualified personnel, and develop in-house quality systems to ensure regulatory compliance along with sustained growth and profitability.

Processors in the area of fruits and vegetables, dairy products, poultry, seafood, and meat and meat products are rapidly adapting new quality systems based on HACCP to improve quality and safety to meet regulatory requirements and increase profits.

Objective 2: (A) Forest products manufacturers will increase their competitiveness, productivity, profitability, and utilization of innovative technology, and (B) North Carolina citizens will increase their knowledge of wood products, their proper application, and maintenance.

Dollars saved through improved utilization or productivity

Dollars: \$2,160,000

Increased production of value-added products

Dollars: \$400,000,000

Dollars saved through improved yield, efficiency, productivity, and marketing

Dollars: \$3,340,000

Objective 3: New and potential entrepreneurs especially in the food and forest products manufacturing areas will benefit from programs in business setup, management, quality, technology, and regulations by entry into the marketplace showing sustained growth and profitability.

Increase in number of small businesses in food and forestry manufacturing

Number: 30 (in foods)

NARRATIVE PROGRAM PROGRESS AND ACCOMPLISHMENTS

Food Science

Specialists in the Department of Food Science have taken an active role in preparing the food processing industry for the advent of new HACCP based regulations. With the new seafood rules from FDA and the USDA Food Safety Inspection Service (FSIS) Pathogen Reduction final rule for red meat and poultry, food processors are turning to training to learn how to comply. Seafood processors and large meat poultry processors are currently required to comply in January 1998. Food Science specialists have been conducting training throughout the state readying processors.

A Seafood HACCP Training Curriculum has been developed that is recognized by the

FDA as the national model. The development committee was chaired by a North Carolina State Food Science Specialist. North Carolina processors and regulatory specialists have been trained.

The Red Meat and Poultry extension activities included training programs to ensure regulatory compliance in implementation of the Sanitation Standard Operating Procedure (SSOP) portion of The Pathogen Reduction Act of 1996. In the poultry area, a food science specialist serves as an instructor in state and national HACCP workshops. In addition, specialists are training processors for compliance required in January 1998 for large processors.

Assistance was given to over 200 businesses involved in food processing. At least 30 new companies were assisted during startup.

In addition to working with established processors, Food Science Extension has worked with entrepreneurs and small business owners who are establishing new products for the market. When regulatory agencies or small business centers are approached by these persons, they recommend the person obtain guidance from Food Science Extension. There they receive assistance in formulation, processing, safety, and labeling. Their product is tested for shelf stability. The entrepreneur is then directed to the appropriate regulatory agency and to marketing and small business assistance.

Wood and Paper Science

The mission of Wood Products Extension within the Department of Wood and Paper Science is to increase the competitiveness and profitability of North Carolina's forest products industry, improve markets, and increase consumer understanding of forest products and their proper use. Wood Products Extension concentrates its efforts on providing educational opportunities for managers and key personnel of primary and secondary wood products firms and the consumers of wood products. Faculty conducted, organized or participated in numerous workshops, conferences, seminars, short courses, and classes for forest industry and consumer audiences. Sample topics included wood drying, quality control, rough mill processing, marketing, wood preservation, and proper uses of wood products. These efforts reached an estimated 1,784 individuals. Major events are listed below.

Conducted, organized, and taught at the following events:

Hardwood Plywood Manufacturing: Quality Control for Increased Profits Short Course, Raleigh

In-House Hardwood Log and Lumber Grading Short Course, Burnsville

In-House Basic Wood Technology and Rough Mill Improvement Workshops, Waynesville

Southeastern Dry Kiln Club Spring Meeting, Pisgah Forest

Advanced Dry Kiln Operators Short Course, Hickory

In-House Quality Control Edge Gluing Short Course, Lexington

Carteret County Moisture and Home Care Seminar, Morehead City

Basic Dry Kiln Operators Short Course, Clyde
Lumber Drying and Value-Added Class, Raleigh
In-House Plywood Quality Control Workshop, Windsor
SCANPRO 1997, Charlotte
Southeastern Dry Kiln Club Fall Meeting, Lexington
In-House Grading, Trimming, and Edging Workshop, Rutherfordton
Small Bandmill Fundamentals, Jacksonville
In-House Rough Mill Workshop, Hickory
Wood Recertification Training Workshop, Raleigh
Moisture and Pests Agent Training, Raleigh

Presentations at the following events:

Wood Technology Clinic and Show, Portland, OR
Hardwood Manufacturers Association National Conference, New Orleans, LA
Parks and Recreation Maintenance School, Wheeling, WV
Southeastern Saw Filers Association Annual Meeting, Clyde
Small Scale Forestry in the Urban-Rural Interface Field Day, Raleigh
Hardwood Plywood and Veneer Association Fall Meeting, Hilton Head, SC
Trade Mission Delegation Visitation from Ghana, Raleigh
Forest Products Society Annual Meeting, Vancouver, BC
Forest Products Society Regional Meeting, Harrisburg, PA
Forestry Agent In-Service Training, Bahama
Single Family Rehabilitation Specialist's Workshop, Charlotte
North Carolina Association of Housing Code Officials Annual Meeting, Atlantic Beach
North Carolina Society of Consulting Foresters Summer Meeting, Winston-Salem
Willamette Industries' Atlantic Executive Sales Meeting, Charlotte
Residential Energy Forum, Greensboro
Rural Partner's Forum, Raleigh
The Business of Beneficial Waste Workshop, Raleigh

Helping producers and buyers in solving problems or answering their questions associated with the production and use of wood products is also an important activity. Many of these problems and questions require extensive time in gathering the information needed by an agent, industry or final consumer. Faculty handled 197 requests of this type in 1997.

Martin County Center

ProLogger, which focuses on continuing education requirements for North Carolina's loggers, is designed to improve logger safety, environmental concerns, and business management within one year. Those who complete the required 24 credit hours of training will receive the Professional Logger designation and a diploma. Approximately 50 local firms have participated in this training. Organizations involved in the training included the North Carolina Forestry Association, the Cooperative Extension Service, the North Carolina Division of Forest Resources, the Society of Consulting Foresters, the American Pulpwood Association, and insurance carriers and equipment vendors

for the forest products industry. This program continues to reduce injuries and keep fatalities in the range of three to five per year. Savings per year due to reduced workers compensation are estimated at \$2,000,000 per year.

SUCCESS STORIES

Wood and Paper Science

There is a great need to increase the competitiveness and profitability of North Carolina's forest products industry. To meet this need, extension specialists within the Department of Wood and Paper Science are actively involved in providing educational and technical assistance to North Carolina forest product manufacturers. While the entire wood products industry is served by Wood Products Extension, the following examples are indicative of the many impacts accruing as a result of useful educational opportunities being provided in a timely and inclusive manner.

One sawmill operation made modifications to their lumber handling dispatch system. The results of this one mill indicated a production gain of 10,000 board feet per day or increased income of \$300,000 per year.

One Southern pine manufacturer improved their drying of thick export material by using Extension information and consultation to make needed corrections in wood drying procedures. This mill estimates its savings to be at least \$160,000 annually.

The lack of adequate markets for North Carolina's forest products, especially low quality hardwoods, is the primary barrier to good, long term management of the state's forests. Extension programs focused on educational and technical assistance to North Carolina forest products manufacturers resulted in the location of a hardwood chip facility and export terminal in Eastern North Carolina in 1989. In 1997, this company was contacted to determine its economic impact. To date, approximately 4.2 million tons of wood fiber have been exported to the international market with an estimated F.O.B. value of \$400,000,000. Until this market was developed, the product was essentially a "throw away" by-product for the North Carolina logging industry. This \$15,000,000 investment has also led to the creation of an estimated 400 new jobs.

Martin County Center

The 1997 Carolina Log'n Demo had 3,500 attendees who had the opportunity to view state of the art harvesting equipment and learn about water quality, safety, and other services related to the logging industry. In addition, 72 exhibitors (representing 12 states and Canada) showcased over 150 product lines. Estimates indicate the exhibitors sold over \$10,000,000 in equipment and \$200,000 was pumped into the local economy.

TEAM MEMBERS

Darwin Braund
Tom Campbell
Larry Jahn, Co-Chair
Jim Kea
John Rushing, Co-Chair
Donn Ward

CEMP 11 - FOOD SAFETY AND QUALITY

Brief description of CEMP program focus: Safety of the food supply is a shared responsibility. Food producers, preparers and consumers must all follow appropriate food safety procedures so food enters and leaves their portion of the food supply chain safe for human consumption. The NCCES has taken on the responsibility to educate North Carolinians and help them to make informed and responsible decisions with a full understanding of the risks and benefits of food system technologies. Information on the safety of the food supply is sometimes conflicting and consuming which may lead to consumer mistrust and lack of confidence. Food safety issues are complex and require some understanding of the who food production system and the sciences employed in food production. Communicating concepts that involved risk versus benefit analysis adds even more challenge to the educator.

Primary Audience(s) served: SMP 11 works with food producers, processors, preparers and consumers to improve their knowledge and change their food handling behavior.

Objective 1: Participants will adopt behaviors that decrease the risk of foodborne illness.

Counties (units) reporting accomplishments: 47

Respective Measures of Progress description and numbers:

1. Number of consumers who increased knowledge about safe food handling:
20,281
2. Number of consumers who improved attitudes about the need to handle foods safely: 14,109
3. Number of food service workers who increased their knowledge about safe food handling: 2,036
4. Number of food service workers who improved their attitudes about the need to handle food safely: 1,933

Respective Impacts description and numbers:

1. Number of consumers adopting safe food handling practices by consumers.
Adoption of these practices has the potential to reduce the incidence of food borne illness in homes. 14,345

2. Number of food service workers adopting safe food handling practices. 26,671

Volunteers--numbers--hours served--value:

Number: 654 Hours: 5,322 Dollar Value at \$10/hr: \$53,220

Cost/Benefit Value to Target Audience: \$486,980 (47 counties)

Cost/Benefit to Society: \$1,479,210 (47 counties)

Cost/Benefit Program Cost: \$78,288 (47 counties)

The Food Safety and Quality SMP is an effort to get North Carolinians to adopt behaviors that decrease the risk for foodborne illness. The program has impacted food service workers and managers, government workers, child care workers, youth and homemakers. One accomplishment of note this year was the formation of a food safety cadre of 12 food safety extension agents who have entered an intensive three-week on campus graduate course and have committed to a 2-year follow through to increase academic competency in the North Carolina Cooperative Extension Service. This program is a major first step in providing more technical expertise in the field.

Serving Safe Food is a nationally recognized 16-hour certification program developed by the National Restaurant Association. Three trainings have been jointly conducted by DHHS and faculty from NCSU to teach extension agents and environmental health specialists in the delivery of this program. Thirty-four extension agents and 71 environmental health specialists have completed the training as of December 1997. The mean exam scores for all three trainings was 91%.

Eleven county teams (extension agents and environmental health specialists) have been formed and are actively planning joint SERVSAFE training(s) for local food service managers and workers. Five local county teams, within and across counties, have successfully conducted this training for 243 food service operators in North Carolina. To be consistent with the National Food Safety Initiative, which encourages partnering between industry, academia, and government, county teams involve local food service operators in the planning of these programs to ensure their success.

NCSU has also conducted this training for owners, operators and managers of McDonald's restaurants located in North Carolina. Ninety-two percent or 166 of the participants passed the certification exam. As a result of this training, McDonald's regional management has reported that food safety is being addressed during orientation trainings. Also, food safety audits and checks are being routinely completed at all restaurants.

Food Service Training for Teen Food Handlers. Approximately 24% of food service workers are teens (16 to 19 years). Over 60,000 teens in North Carolina work in the food service industry each year. These teens need to learn the importance of applying safe food handling principles while they are working as well as general employment skills.

A focus group of seven teens from Hertford County, North Carolina, was conducted to determine how the teens wanted to learn about food safety and what were their perceptions about working in the food service industry. As a result of this focus group, the Try It! You Might Like It!: Food Safety in Food Service curriculum is a series of four lessons covering getting a job, food safety principles, applying safe food handling practices, and keeping a job. A four-week pilot study was completed

with 16 teenagers in Hertford, North Carolina.

Two 16-hour trainings were offered jointly with the Division of Aging in 1996 and 1997. Training topics included general food safety and sanitation. Seventy-six coordinators from across North Carolina completed the training. Six regional trainings have been scheduled and the training is being opened up to adult day care center and home providers.

The NCCES is the primary source of food preservation information for consumers. Many extension agents who provide information have not received formal training. In March 1997, two home Food Preservation course (two days of training) were conducted for the 48 extension agents. Information about the science and art of the following food preservation methods was covered: canning high and low acid foods, pickling, jams and jellies, drying, curing, and freezing. A corresponding 159 page Home Food Preservation Desk Reference as also developed to assist agents with answering difficult food preservation questions.

Many of the environmental health specialists (food inspectors) have little or no background in food science or food safety. These inspectors come to the program with a wide array of educational backgrounds and are expected to carry out a variety of different inspection related procedures. Their duties range from evaluating septic tank sites to inspecting food service establishments. North Carolina has a unique training program designed to provide the new recruits with basic knowledge in the areas needed to carry out their varied responsibilities. After the opportunity to become familiar with their county and associated responsibilities, the new hires attend a six week training program. This training provide participants with knowledge and resources which will be useful to them in making day to today decisions. Food safety is a critical area for those who are expected to make food safety decisions during restaurant inspections. The DHHS has joined with the NCCES to offer food science and food safety training to food inspectors twice annually.

NCCES developed and conducted a Food Safety and Quality Science (FSQ) Symposium. Twenty two youth in 1997 from North Carolina school systems have been selected to participate in this program. A food safety exam was administered to the participants at the beginning and end of the 1997 program. The test average at the entry level was only 25% while the exit test average was 85%, thus indicating that indeed knowledge had been gained. To date, 67 youth have participated in the programs over a three year period. Two of the participants have been accepted into the Scholars Program at NCSU. Approximately one-third of the participants are either attending CALS at NCSU or are in the process of applying for admission.

North Carolina State University and the North Carolina Cooperative Extension Service designed a database to promote food safety education via the Internet. It is not intended to repeat information that is already available on the Internet, but to provide a "Gateway" to these food safety sites, while also including new information. The food safety information retrieval system is just one of six areas in North Carolina's State Major Program (SMP) for improving Food Safety and Quality.

This food safety information retrieval system is broken down into eight main categories to help narrow your search for food safety information. Navigational buttons are located at the bottom of every page to help you find information in addition to the categories and to allow you to freely move about the site. One

extremely important button on all pages is the Food Safety Resources button. This will take you to a comprehensive page which has links to sites such as government agencies, academic institutions, cooperative extension services, a master list of consumer publications, other food safety databases, consumer hotlines and many other educational resources.

WRAL-TV, a CBS television station in Raleigh, NC promoted the food safety information retrieval system during a food safety segment about food preparation for the Thanksgiving holiday. WRAL-TV then linked the site to their web site so their viewers could quickly access it during the holidays. The site was also ranked "among the best" in December 1997 by Tufts University and the American Dietetics Association. Their ranking was based on accuracy, depth, and user friendliness.

Objective 2: No accomplishments to report

Success stories:

Agnes R. Evans, Moore

In an effort to increase knowledge of the danger of food poison a Food Safety Exhibit was developed for National Health and Fitness Day. 165 Employees knowledge was increased on the danger of leaving food in the Car, that was purchased during the lunch hour. 10 participants made a commitment to change their behavior since it was getting hot outside.

Susan Noble, Robeson

To keep citizens current on new developments in food safety, Food and Nutrition Agent included safety information in nutrition programs as many people feel their food handling habits are just fine and thus, they would not attend a program strictly on food safety. For example, the proper preparation and storage of herbal oils and vinegars were included in a program on cooking with herbs to reduce sodium. In a program on heart healthy cooking, the safety aspects of serving food buffet style were covered. As result of such programs, 46 consumers adopted safe food handling practices. A positive comment from 1 participant was that she was "going home and throw out my herbal oil before I kill my husband".

Elaine Whitaker, Surry

Foodborne illness is a concern that effects all citizens in Surry County. 71 seventh-grade students participated in a class demonstrating bacterial transfer from hands to other people and foods. Glo-germ was used to enable students to "see" germs. One month after the class students were polled by their teacher to determine changed behaviors from knowledge learned in the class. 98% of the students report more thorough hand washing, using warm water and soap. All the students report washing for a longer time and reported observations of inappropriate food handling in their school cafeteria and in area restaurants. Students have formally requested air dryers be installed in the school to reduce waste and improve sanitation.

Peggy Nuckolls, Davie

This summer a "Young Chef's Cooking School" was offered to disadvantaged families in Davie County. The series of five workshops allowed children to have hands on experiences in the kitchen. They learned about basic nutrition and cooking skills. The children were also able to tour a professional kitchen and see different occupations in food and nutrition areas. These children did not have to pay for this learning opportunity it was sponsored by the N.C.

Cooperative Extension Service and the American Culinary Federation Foundation. According to the survey's done by parents and kids, 100 percent learned new skills and want the opportunity to participate again next year.

Jennifer L. Burnette, Franklin

After doing an open-line radio show on "Safe Methods for Preserving Foods at Home" we received numerous requests for information and resources. One lady called in and said after hearing the show she was going to purchase a pressure canner. "It's not worth the risk, and pressure canners aren't that expensive". Through education and media efforts, clients are deciding to make changes. Even though, this client and her mother have canned green beans in a water-bath canner in the past, she has decided to follow recommendations for safe canning and process them only in a pressure canner.

Geissler Baker, Guilford

Of 55 canner lids checked, 40 percent (21) of the pressure canner dial gauges tested inaccurate and needed to be replaced or adjusted. Inaccurate dial gauges can lead to improperly processed home canned foods posing great risk of bacterial contamination resulting in food poisoning. Cooperative Extension is the only agency that provides this valuable service to home food preservers. They depend on CES to provide them with standardized processing times to ensure safe home canned products.

ServSafe Success Stories:

In order to promote safer food handling in food establishments, Extension planned an 18 hour ServSafe training for restaurant managers. 44 managers (36 from Orange and 8 from Durham) completed the course, and 42 passed the certification exam. (One Spanish and Chinese student did not pass the exam.) Scores ranged from 58 to 96, with an average score of 87.75. Participants reported the following changes: more hand washing, more accurate temperature checks, storing food off the floor, posting signs to help employees take temperatures and wash hands, changing procedure for storing leftovers. Several managers reported training their employees after the training. (Alice Pettitt, Orange)

The need for food safety is ever increasing as can be seen by the President's Food Safety initiative. To address this need the Cooperative Extension Service in collaboration with the PPCC District Health Department sponsored a SERVSAFE food safety training for restaurants and food service organization owners and managers. Eighteen participants completed the course. Ninety percent of the participants passed

the National SERVSAFE Exam. Seventeen completed evaluations and showed an increased knowledge of safe food handling procedures and an improved attitude about the need of food service workers to handle food safely. As a result, 17 plan to adopt practices to reduce the possible incidence of foodborne illnesses. (Yvette Sutton, Pasquotank)

A collaborative effort between the New Hanover County Health Department and The New Hanover County Cooperative Extension Service resulted in a "Serving Safe Food" Certification Course. This was taught to 100 participants in New Hanover County of which eighty percent were certified. (Brenda Carter, New Hanover)

Twenty-eight restaurant employees attended a ServSafe class for training on safe food handling practices for restaurant employees. The participants were given preliminary and post tests covering the course topics. Ninety-nine (99%) of those completing the class improved their test scores upon the completion of the ServSafe class. All of the participants stated they "learned" something from the class they could immediately apply in their work establishments. (Suzzette Goldmon, Durham)

CEMP contact persons (co-chairs): Pat Curtis and Sandra Woodard

Team Members:

Cynthia Brown, Dan Carroll, Gary Davis, Angie Fraser, David Green, Tom Hoban, Brinton Hopkins, Kevin Keener, Carolyn Lackey, Alice Pettitt, Dwain Pilkington, John Rushing, Christine Smith, Lynn Turner, Donn Ward.

CEMP 12 - HEALTH AND HUMAN SAFETY

Description: Health and human safety are pressing public concerns at the individual, family and community levels. NCCES develops community-based programs to enable individuals and communities to address health and human safety needs including 1) healthy lifestyles, 2) home safety and crime prevention, 3) agricultural health and safety, and 4) community capacity building. Program goals include helping people reduce health risks and take responsibility for health related decisions; helping people make their homes safer; helping farm workers and others understand work-related health and safety concerns and to adopt practices to reduce illnesses and injuries; and helping communities become better able to analyze and take action on health-related needs.

Primary Audiences: Individuals and families with emphasis on rural families, limited-resource families, communities with limited resources, senior citizens, adolescents, teens, new parents, children/older teenagers, senior citizens, disabled persons, all ages, multi-generation families, civic groups, farm owners and operators, farm workers, small and part-time farmers, limited-resource farmers who are faced with environmental inequities, foresters, aquaculturists, migrant laborers, agricultural

technicians, nursery operators, greenhouse managers, homeowners, landscapers, gardeners, agri-business personnel, agri-chemical personnel, physicians, emergency medical technicians/personnel, hazardous materials, and landfill operators,

OBJECTIVE 1: Healthy Lifestyles NC youth and adults will adopt healthier lifestyles by reducing high-risk behaviors and taking responsibility for their health related decisions.

Counties(units) reporting accomplishments: 24
Volunteers-numbers-hours served-value: 906 served a total of 6181 hours with an estimated value of \$61,810
Value to Targeted Audience: \$1,938,710 (24 reports)
Value to Society: \$380,670 (24 reports)
Program Cost: \$47,602 (24 reports)

Objective narrative: 46,363 participants increased their awareness and knowledge of preventative health behaviors such as eating properly, exercise, and safety in the home. 13,370 participants adopted recommended health care practices such as dietary intake. It has been estimated that almost \$171,000 in costs have been avoided due to Extension efforts.

OBJECTIVE 2: Home Safety/Crime Prevention Individuals and families will adopt one or more home safety practices to promote a healthier living environment.

Counties(units) reporting accomplishments: 18
Volunteers-numbers-hours served-value: 277 volunteers have served a total of 2,441 hours estimated to be worth \$24,410.
Value to Targeted Audience: \$18,988 (18 reports)
Value to Society: \$167,696 (18 reports)
Program Cost: \$21,238 (18 reports)

Objective narrative: 2,051 individuals adopted practices to remove safety hazards in the home and 1761 adopted practices to increase home safety. 17,437 individuals adopted preventative measures including installing ventilation systems, radon, and carbon monoxide tests. Costs avoided through the reduction of home accidents total \$39,322.

OBJECTIVE 3: Agricultural Health and Safety Educationally and economically diverse people involved in various aspects of agriculture and natural resource management will understand the health and safety concerns inherent in their work, will develop skills and techniques allowing them to adopt appropriate practices to reduce illnesses and injuries.

Counties(units) reporting accomplishments: 13
Volunteers-numbers-hours served-value: 197 volunteers provided a total of 1124 hours valued at \$11,240.

Value to Targeted Audience: \$577,620 (13 reports)

Value to Society: \$286,000 (13 reports)

Program Cost: \$38,382 (13 reports)

Objective narrative: 2490 participants were reported to have increased awareness of agricultural (chemical) exposure and other agriculturally related health risks. 2068 participants increased their awareness and use of personal protective equipment. It was determined that \$320,704 was avoided in costs through reduced agricultural illnesses and injuries.

OBJECTIVE 4: Community Capacity Building for Health and Safety North Carolina communities will improve their capacity to analyze and take action related to health and health related needs through the adoption of recommended practices, public policy education, and community mobilization.

Objective 1 (objective description)

Counties(units) reporting accomplishments: 6

Volunteers-numbers-hours served-value: 397 volunteers provided a total of 4,302 hours valued at \$43,010.

Value to Targeted Audience: \$5000 (6 reporting)

Value to Society: \$5850 (6 reporting)

Program Cost: \$770 (6 reporting)

objective narrative: 16 strategic partnerships/coalitions have been formed for improving health statuses and 11 community health assessments have been conducted. 10 lay health advisors projects, immunization campaigns or early detection programs have been established to improve health status of citizens.

SUCCESS STORIES

Stroke Screenings held in May for senior citizens showed that 12 percent of the participants were at high risk for stroke. The Framingham Heart Study was used to determine those people at high, moderate, and low risk. 30 percent of the participants were referred to a doctor because of a high systolic reading, high cholesterol reading, or possible atrial fibrillation. Four of the participants had systolic readings of over 200. They were spoken to by the nurses and immediately referred to their doctor. The screening showed that 52 percent didn't know more than two of the warning signs of stroke. The warning signs of stroke were explained to all the 153 participants during their exit interview.

NCES-Onslow County is now the primary provider for training the day care providers for CPR and First Aid. This has happened for two different reasons. One is that the providers get the majority of their training through the Extension office and know the quality of the training. Second is that the Extension office has an agency agreement with the American Red Cross chapter in Onslow County and can provide the training for less money than the providers would have to pay at the local community college

or individually through the local red cross chapter. CPR was also provided as a training through the 4-H program this past summer and is being taught to middle school students who are participating in the Save Our Students Program which is a collaborative effort between the Board of Education and the Onslow Extension Office.

Research indicates that diet and exercise play a significant role in the cause, treatment, and prevention of disease and conditions that affect people. As a result of joint efforts of Catawba County's Wellness Director and the FCE agent, sixteen County employees completed the Noonlighting I program. Graduates lost a total of 108 pounds and walked 519 miles. Two lowered blood pressures and all achieved weight loss. Four participants met or exceeded their weight-loss goals. All participants indicated their intentions of continuing to practice adopted lifestyle changes. One participant reported a decline in the amount of medicine required to control a chronic illness.

Farming is the most hazardous occupation. The whole family benefits when farm youth are educated to prevent injury, illness, and possible death. The 4th Annual, 6-county, Farm Safety Day Camp provided the opportunity to teach and refresh 9-13 year old youth safety practices. Two-hundred youth, 37 monitors, 25 presenters, 14 committee members and 33 guest, totaling 310, participated in the 1997 camp. Fifty-seven sponsors/donors contributed over \$10,000.00 for the event. Each participant received a complete first aid kit and was taught the use of its contents. "Hands on" at the 12 learning stations was the best learning technique. Parents have commented that ATV safety information was impressive. One of the teen monitors lost her father to a grain bin accident earlier in the year. She felt more than ever the need to volunteer and to learn additional safety skills.

The Orange County Coalition for Immunization held a children's health fair, co-sponsored with the Triangle Parks Chapter of Links. 173 children and their parents attended. 137 children were screened for dental problems; 33 of these were referred for additional treatment (1 child was found to have an abscessed tooth). 94 children were screened for hearing, with 14 children referred for additional screening. 92 children were screened for vision problems, with 12 children referred for professional eye care follow-up. New winter coats were provided to all 173 children.

Two-hundred eighty-seven participants at local churches improved their diets through maintaining healthier eating habits and some form of exercise (walking, jogging, etc.). Twenty percent lowered their blood pressure, high blood cholesterol and reduced stress. Thirty-five participants had an excellent physical exam after gaining knowledge of and practicing preventative health behaviors. 100 twelve participants increased their awareness of exercising and eating properly in Give Your Heart A Healthy Beat Class. 500 lower their cholesterol, 350 lowered their fat intake to 30% maximum.

CEMP CONTACT PERSONS:

Judy Mock, Department Extension Leader
Sarah Kirby, Extension Specialist - Housing

Mitch Smith, County Extension Director

TEAM MEMBERS:

Margaret Bullock
Barbara Garland
Wilma Hammett
Sandy Kirby, Co-chair
Steve Lilley
Judy Mock, Co-chair
Nolo Martinez
Robert McLymore
Donna Mull
Sharon Roland
Mitch Smith, Co-chair
Ellen Smoak
Julia Storm
Sandy Wiggins
Fred Yelverton

CEMP 13 - LEADERSHIP AND VOLUNTEER DEVELOPMENT

CEMP Focus:

The focus of CEMP#13 is to help build the capacity of individuals, groups and organizations to resolve community issues. Volunteer development is intended to develop individual and group potential for community service.

Primary audiences served: limited resource individuals-adults and youth, non-traditional leaders-adults and youth, community organizations, local agencies and organizations, volunteers, community development groups, Extension homemakers

Objectives:

Objective 1: Limited resource and other non-traditional participants in public decision making will identify, investigate and resolve problems in their community and county that impact the well-being of self, family and community.

Number of counties reporting: 36

Measures of Progress:

Number of participants who increased knowledge and awareness of leadership skills - 8269

Number of participants who adopted sound leadership and decision making practices - 3447

Number of participants who demonstrated proper application of leadership skills and problem solving techniques learned - 3401

Number of participants who identified community problems - 5112

Number of participants who developed and implemented action plans to resolve problems - 2762

Number of projects completed/problems resolved - 2762

Impact:

Increase in the number of limited resource and non-traditional individuals with the capacity to provide valuable service to the community - 2941

Dollars saved by increased involvement in addressing community concerns by limited resource and non-traditional leaders - \$584712

Dollars of economic value to community/county for community projects/solving community problems - \$2756835

Community organizations developed to continue resolving community problems - 104

Volunteers:

Number: 3085

Hours: 26587

Dollar value at \$10/hr: \$265870

Value to target audience: \$5087052

Number reporting: 20

Value to society: \$11368066

Number reporting: 20

Program cost: \$622823

Number reporting: 22

Narrative:

A number of counties successfully implemented programs that involved limited resource and non-traditional leaders in the development of leadership skills and skills they can use to facilitate the resolution of community issues. Their involvement reduced the cost burden on community, government, non-profit and for profit organizations. One hundred and four (104) organizations were developed to resolve community issues. A total of 8269 individuals participated in leadership training. The projects completed benefited communities to the tune of \$2756835. Also the movement by citizens to solve their own community problems has resulted in a savings to government, state and local agencies of \$584712.

Objective 2: Paid staff and volunteers working in partnership will design and manage volunteer systems where manager volunteers involve other volunteers to help accomplish goals.

Number of counties reporting: 58

Measures of Progress:

Increased knowledge of opportunities for volunteers to contribute - 23930

Adoption of volunteer management system practices - 6512

Number of volunteer management systems established - 1073

Impact:

Empowerment of volunteer systems - 1324

Economic value of volunteer intervention - \$1730383

Volunteers:

Number: 15585

Hours: 178702

Dollar value at \$10/hr: \$1787020

Value to target audience: \$1475813

Number reporting: 35

Value to society: \$12123803

Number reporting: 27

Program cost: \$1032582

Narrative:

Many volunteers gained skills which assisted them in contributing valuable

service to their community. Volunteer management system training led to the adoption of volunteer management systems by 6512 individuals. The individuals involved represented advisory boards, homemaker clubs, youth groups and other local agencies. The participants put this training to work in the community resulting in the establishment of 1073 volunteer management systems. The involvement of volunteers in the community yielded an economic value of \$1730383.

Objective 3: Citizens/leaders will increase knowledge of the community, public policy decision making processes and help citizens to successfully participate in these processes.

Number reporting: 36

Measures of Progress:

Number of persons who demonstrated improved leadership and problems-solving skills - 9035

Number of persons demonstrated acquired/improved facilitation knowledge and skills - 4619

Number of persons who participated in a community collaborative problem solving process - 6174

Number of persons who participated in community/public policy process as a result of leadership training experience - 2990

Number of community issues addressed - 386

Volunteers:

Number: 4724

Hours: 42210

Dollar Value at \$10/hr: \$422100

Value to targeted audience : \$4244810

Number reporting: 15

Value to society: \$2508800

Number reporting: 13

Estimated program cost: \$337195

Number reporting: 16

Narrative:

Citizens across the state are resolving issues in their communities. Trained

citizens and leaders addressed 386 community issues using conflict resolution and facilitation skills gained during workshops. As a result of training, 2990 persons participated in the community/public policy process. These citizens helped resolve issues such as: waste management, community beautification, community improvement, juvenile delinquency and economic development.

Success Stories:

In Bertie County, a volunteer coordinated 4-H camp allowing the 4-H Agent to remain at home to train a new Program Assistant. The volunteer coordinator did the marketing, recruiting of campers and chaperoning of the 26 youth involved.

Columbus County provided training for the County Advisory Council for the first time. One member said that he learned more about Extension and his role in the training than in the past ten years of being involved with Extension. The trained members are contacting inactive members and recruiting replacements for both inactive members and those who rotated off the council.

Currituck County's Master Gardeners have conducted training programs with youth and have provided leadership for several community beautification projects.

In Edgecombe County one Extension Homemaker club is mentoring another new EH club in the community.

Lincoln County is finding success with new 4-H leaders serving as apprentices to veteran leaders. After a year of being mentored and participating in orientation training, the agent reports they are ready to start an independent 4-H club.

A leadership development program in Nash County involving 25 individuals led to the establishment of three new Family Resource Centers.

Richmond County is doing leadership training for Extension Homemakers to encourage involvement in officer roles of the organization. Out of 104 members who were trained, twenty-one (21) assumed leadership roles in their club or county and one member accepted the presidency of a local civic group.

Granville County's leadership development program led four members to seek higher level leadership roles in their organizations.

Brunswick County - Rural community strives to make a vision a reality. A core group of Community Voices graduates, in the newly incorporated town of Northwest, spearheaded efforts to see their community progress. Since completing leadership training where the creation of a future vision of their community was developed, the group has formed action teams and developed action plans to begin community development activities. The group successfully secured a mini-grant of \$10,000.00 to help them achieve their goals.

CEMP Contacts:

Claudette L. Smith, Co-chair

Team Members

Bob Williamson

Shirley Rouse

Judy Groff

John Gibson

Rodney Sawyer

Dick Peterson

Si Garber

Leon Danielson

Doug Clement

Richard Liles

CEMP 14 - MARKETING AND PRODUCTION OF ALTERNATIVE INCOME OPPORTUNITIES AND ENTERPRISES

PROGRAM DESCRIPTION:

The goal of the program is to assist commercial (objective #1), and small, part time and limited resource producers (objective #2), to select among and implement alternative opportunities so as to increase their income. Program efforts have been made in commercial horticultural production and marketing, specialty crops and niche markets (herbs, organic), livestock (goats, sheep, ratites, range fed poultry), small scale agriculture (management and direct marketing), natural resources. The SMP team has focused on risk management issues in the past year. These issues have been discussed and addressed with a program in farm business management which assists participants to set business goals and develop a business plan.

UNITS REPORTING ACCOMPLISHMENTS:

Objective #1: Burke, Cherokee, Cumberland, Currituck, Davie, Halifax, Hertford, Johnston, Jones, Lee, Lenoir, Madison, Onslow, Orange, Randolph, Sampson, Surry, Warren. (18)

No accomplishments: Caswell, Harnett, Iredell, Pitt. (4)

Objective #2: Alleghany, Avery, Bladen, Chatham, Columbus, Cumberland, Guilford, Halifax, Haywood, Hertford, Jackson, Iredell, Onslow, Robeson, Stanly, Swain, Vance, Wake, Warren, Watauga. (20)

No accomplishments: Cherokee, Pitt. (2)

STATEWIDE MEASURES OF PROGRESS TOTALS

Objective #1

1. *Producers indicating interest in developing alternative enterprises
NUMBER: 1127
2. *Number of producers who try alternative enterprises, methods and practices
NUMBER: 256

Objective #2

1. *Number of producers interested
NUMBER: 819
2. *Number of producers who try alternative enterprises, methods and practices
NUMBER: 342

STATEWIDE IMPACTS TOTALS

Objective #1

1. *Dollars of new investment in production and marketing of alternative enterprises.
DOLLARS: \$632,250.
2. *Dollars of gross income resulting from new investment and marketing of alternative enterprises.
DOLLARS: \$1,216,650.
3. *Number of producers who gain knowledge about alternative production and marketing practices.
NUMBER: 2611.

Objective #2

1. *Number of producers who gain knowledge about alternative production and market practices.

NUMBER: 1218

2. *Funding support obtained

DOLLARS: \$31,600

3. *Dollars of gross income resulting from use of an integrated approach to implementing alternative agricultural opportunities and enterprises.

DOLLARS: \$715,228.

VOLUNTEERS- NUMBER HOURS SERVED- VALUE

Objective 1:

128 volunteers provided 485 hours of volunteer assistance valued at \$4850.00. (9 counties reporting)
C-B Value to Targeted Audience- \$605,750. (9 counties reporting)
C-B Value to Society- \$245,880. (9 counties reporting)
Estimated Program Cost- \$36,590. (9 counties reporting)

Narrative:

Counties reported goats and beef (Burke and Madison Counties), 4-H club lambs in Currituck County. Many vegetable production and demonstrations were reported (Lenoir, Halifax, Hertford, Johnston, Jones, Lee and Onslow. Direct marketing also involved in several of those counties and a market coop in Surry County. Onslow conducted a survey of consumers to identify potential fresh market products. Burke county and Lee Counties reported helping with diseases and mites. Pick your own (PYO) expansion was mentioned in Orange and Cherokee. Organic production was developed with in Randolph and Surry. Forest products and poinsettias were other successful specialty crops (Randolph and Sampson Counties). Herbs were mentioned in Cherokee and Surry counties. Alternative use of tobacco greenhouses was explored in Warren County (for strawberry production).

Objective 2:

141 volunteers provided 914 hours of volunteer assistance valued at \$9140.00. (15 counties reporting)
C-B Value to Targeted Audience- \$373,590. (15 counties reporting)
C-B Value to Society- \$351,800. (15 counties reporting)
Estimated Program Cost- \$62,410. (15 counties reporting)

Narrative

The marketing and production of alternative agricultural opportunities shows wide diversity across the state. Marketing- especially direct marketing is an important element in the program as producers are finding that local direct marketing is supported. There are examples from Onslow and Columbus to these markets. The organic niche market was mentioned in Guilford, Iredell, Wake and Warren Counties. Specialty crops such as pumpkins, strawberries, cut flowers, fruit trees and herbs were mentioned in Alleghany, Iredell, Swain, Jackson and Vance Counties. Business management especially in terms of risk and farming in distress was the focus of programs in Halifax, Stanly and Wake. Value added (making wreaths) were mentioned in Avery and Watauga Counties. Forest products, trout and turf were mentioned in Jackson and Swain. Livestock mentioned included pastured poultry (Swain).

SUCCESS STORIES:

1. With assistance of the Chatham County Extension Center, 28 local farmers have developed a new farmers' market in the town of Pittsboro. Apparently, the timing was right, as there was a good turnout of growers, as well as customers. Many growers are reporting sales at the Pittsboro market that exceed their sales at other established markets in the area. The market is enjoying strong support from the community, as indicated by letters and favorable comments from both the town and county managers and participation in the market by one of the county commissioners. Estimated gross sales for the market in the first twelve weeks is approximately \$40,000.

2. Twenty-six small, part-time, and limited resource producers have continued to evaluate various income opportunities to achieve the highest return on the dollar invested. 9 of the 26 producers has started new operations, expanded, or selected new enterprises. I would estimate that these decisions have grossed \$129,000 dollars profit for these individuals. As urban areas continue to consume farm land more opportunities exist for growers to embark on new enterprises and new crops. Limited resource audiences are understanding the education through our efforts on Alternative Agricultural Opportunities and Enterprises. Examples of this is a new business called New Seeds Garden Learning Resources for Children, and 2 new vegetable operations.

3. Onslow Horticulture Agent, Jeff Morton, and Area Farm Management Agent Jim Daughtry helped an interested group of farmers start a Jacksonville-Onslow Farmers Market. After working for over one and one half years, the market finally came to reality. Involving about 32 volunteers, representing the local community and military base, helped strengthen the local support for the market. Twelve local farmers are utilizing the market to increase their income and local families have a location to get farm fresh vegetables. In seven months, according to a grower survey, a total of \$10,500 worth of WIC produce vouchers have been redeemed, representing 10-25 percent of their sales for the season. Growers have sold well over \$42,000 of fresh vegetables to a market area that has been asking for these farm fresh goods. Plans are to reopen in March of 1998.

4. In Jan of 1997 the first ever Alternative Agriculture Seminar in Madison County was held. The purpose of the seminar was to expose farmers to a large variety of possible alternative enterprises to Burley tobacco. A dozen speakers shared talks on everything from cultural practices to marketing techniques on crops like organic vegetables, medicinal herbs, bee keeping, and nursery production. Over 100 individuals participated; out of which a known 72 tried a new enterprise during the 1997 season.

LIST OF CEMP COMMITTEE AND CO-CHAIRS:

John M. OSullivan, Bill Jester (Co-chairs)

Jeanine Davis, Morris Dunn, Bob Edwards, Ed Estes, Rick Hamilton, Ray McKinnie, Matt Poore, Gwynn Riddick, Doug Sanders.

CEMP 15 - NATURAL RESOURCES CONSERVATION AND MANAGEMENT

Educational programs dedicated to increasing value to society and private landowners from natural resources produced an estimated \$8,795,035 value by increasing environmental awareness among youth, increasing the involvement and quality of decision making by citizens, increasing the market sale of timber and recreational leases on private lands, and increasing the fisheries and wildlife value accruing to landowners and lease holders. In all, 1,064 volunteers joined with North Carolina Cooperative Extension Agents and Extension Specialists to deliver targeted Programs to over 45,000 citizens. A total of 21,371 acres of forested land was entered into the North Carolina Forest Stewardship program, and 1,086,850 acres of private lands were leased for wildlife recreational purposes as a result of extension educational programs.

In 1997, several special projects were undertaken and completed in this CEMP, as follows: (1) a 28-page publication was made available in hard copy and electronically entitled "1997 Natural Resources Inventory of North Carolina (AG-559); (2) a Spanish version of "School Yard Environmental Projects: A Planning Primer was published and distributed; (3) English and Spanish Versions of student activity sheets for School Yard Environmental Projects were published and distributed; and (4) a World Wide Web page for the Forestry and Wildlife Extension Program was completed and maintained. Other projects, including incorporating video clips into the web presentation of the farm pond educational video and a landscape scale demonstration of managing field border systems for wildlife and water quality are continuing.

OBJECTIVE 1: ECOLOGICAL AWARENESS THROUGH ENVIRONMENTAL EDUCATION

Program Description: Participants, particularly youth, will increase their appreciation for and knowledge of biological diversity and ecosystem management. Educational programs presented by Extension agents to teachers of youth included Project Learning Tree, Project WILD, Aquatic WILD, Catch Clinics, and Wildlife Habitat Judging.

Units Reporting Accomplishments: 18

Statewide Measures of Progress:

Participation in environmental education program: Number 11,451

Number demonstrating increased knowledge: 9,192

Demand for educational program: 397

Impacts

Number of people who demonstrated positive change in awareness of society's

actions on the environment : 9,089

Volunteers

Number: 684
Hours: 3,306
Value: \$33,060

Cost/Benefit Analysis

Value to targeted audience: \$32,595 (18 reports)
Value to society: \$65,570 (18 reports)
Estimated Cost: \$13,350 (18 reports)

Narrative:

Through the training of volunteers and direct leadership, North Carolina Cooperative Extension Service Extension Agents provided educational programs to youth audiences that stimulated growth in ecological understanding and appreciation of the benefits of natural resource stewardship. Many of these programs were conducted as part of the 4-H Program, particularly the 4-H Summer Camping Programs. The majority of the programs involved partnerships between North Carolina Cooperative Extension Service and state natural resource management agencies, particularly the North Carolina Wildlife Resources Commission and the North Carolina Division of Forestry. The North Carolina Forest Stewardship Program incorporates environmental education through Project Learning Tree, with significant leadership of the program emanating from the Forestry Extension Program. New materials were produced in Spanish and English to enhance the growing Hispanic culture's acceptance of environmental responsibility.

Success Story:

From Extension Agent Mary Smith of Lenoir County, the following report was submitted. The 4-H Neuse River Project was established to increase awareness and educate against pollution in the Neuse River Basin. Our mascot, "Messie," the Loch Neuse Monster, introduced the project in the Kinston Christmas Parade to an audience of 25,000 - 30,000 people. Twenty-six youth and 5 adults carried posters bearing pollution solution messages, and a moving Chinese dragon-like Messie got audience attention. Of 35 youth involved, all of them retained 75% or more of the information they were taught about 15 pollution solutions in their 4th and 5th grade teacher. Because of the parade's success, 32 teens voted unanimously to create an environment skit, using the parade poster display and Messie at the Southeast Regional Episcopal Youth Conference before an audience of 150 youth and adults.

OBJECTIVE 2: NATURAL RESOURCE DECISION MAKING

Program description: People confronted with a wide range of viewpoints on natural resources and environmental management issues will gain knowledge, awareness, understanding, and skills to develop plans for overcoming barriers that prevent them from realizing the link between informed decision making and the capacity to sustain natural resources.

Units Reporting: 12

Measures of Progress

Number of people demonstrating increased awareness: 14,901

Number of participants in educational programs: 9,093

Impacts

Number of people who adopted sustainable ecological technology:

2,130

Number of who attended forums to express their support for sustainable systems: 504

Volunteers:

Number: 216

Hours: 214

Value @ \$10/hour: \$21,410

Cost/Benefit Analysis (12 units reported on all below)

Value to targeted audience: \$441,500

Value to society at large: \$381,000

Estimated cost: \$26,950

Narrative:

This objective involves education of youth and adult audiences about sustainable development and environmental quality. Youth audiences were reached through publication of "School Yard Environmental Projects: A Planning Primer", used by school teachers and other 4-H volunteer leaders.

OBJECTIVE 3: FOREST STEWARDSHIP

Program Description: Participants will maintain or improve the long-term sustainability of North Carolina's forests.

Units Reporting: 23

Measures of Progress:

Number of people educated: 3,372
Number of stewardship plans prepared: 164
Number of acres planned: 21,371
Number of acres leased for hunting: 1,086,850

Impacts:

Number of landowners adopting plans: 1,260
Dollars from leases: \$153,705
Dollars from timber sales: \$3,040,583
Increased values from timber and leasing: \$2,063,226

Volunteers:

Number: 161
Hours: \$2,087
Value @ \$10/hr: \$20,870

Cost/Benefit: (22 units reported on all categories)

\$ value to targeted audience: \$4,360,125
\$ value to society at large: \$3,434,675
estimated program cost: \$118,165

Narrative:

The Forest Stewardship Program is the leading example of how the North Carolina Cooperative Extension Service adds value to North Carolina through working with the North Carolina Division of Forestry. The program is comprehensive, involving all phases of forestry from education of youth (reported above in objective 1) to educating private landowners in planning and utilization of natural resources on their forested land.

Success Story:

Edgecombe Extension County Director James Pearce reported the following story: A lady called who had inherited a tract of land in Edgecombe County. She and her husband were considering selling their timber. The called a local buyer and that person offered \$13,000. They were impressed and about to enter into an agreement, when they had a recommendation from a neighbor to call the County Extension Center for further advice. She was advised to get a professional forester to cruise the timber and handle the sale via sealed bids. She followed that advice and received a bid of \$34,000 for the timber. The additional profit of \$21,000 made for a very pleased and impressed landowner and a strong, new supporter for the North Carolina Cooperative

Extension Service.

OBJECTIVE 5: WILDLIFE AND FISHERIES MANAGEMENT

Participants will improve management of fishery and wildlife resources.

Units Reporting: 5

Measures of Progress:

Number of people who demonstrated gains in knowledge: 190

Number of people who implemented new practices: 103

Impacts:

Acres managed for fisheries and wildlife: 42,523

Acres impacted by f&W practices: 56,616

Acres leased for hunting and fishing: 275,000

Volunteers (unit reporting)

Number of volunteers: 3

Number of hours: 50

Dollar value: \$500

Cost/Benefit Analysis (1 unit reporting for each)

Dollar value to targeted audience: \$7,000

Dollar value to society: \$7,000

Cost: \$1,000

Narrative:

The wildlife and fisheries program provides landowners with specialized information on fisheries and wildlife habitat management. Many of the participants in the Forest Stewardship Program receive wildlife management information and technical guidance when their forest stewardship plans are prepared and implemented. The quantitative reports in this section do not fairly indicate the above fact. In addition to the information reported above, there is a continuing landscape scale applied research project underway in the Upper and Lower Coastal Plains of North Carolina and the Piedmont of Virginia dedicated to understanding and demonstrating the wildlife and water quality values that can be expected from installation of a field border system in association with rowcrop agriculture. This applied research program is mid-way through its course, however in the following year a series of Farmland Wildlife Stewardship fact sheets should be produced to assist Extension Agents deliver significant new ideas to interested landowners.

CEMP 15 TEAM MEMBERS

Peter T. Bromley, Zoology Department Extension Leader (Co-Chair)
James Pearce, County Extension Director, Edgecomb County (Co-Chair)
Clare-Marie Hannon, 4-H Center Director, Riedsville
Ed Jones, Forestry Department Extension Leader
Bill Gardern, Forestry Extension Specialist
Rick Hamilton, Forestry Extension Specialist
Mark Megalos, Forestry Extension Specialist
Scott Payne, Forestry Extension Specialist
Jim Rice, Zoology Extension Specialist (Fisheries)
Bob Williamson, Natural Resources Extension Specialist
Bill Lord, Neuse River Environmental Education Extension Specialist
Janine Rywak, 4-H Agent, Anson County

CEMP 16 - NUTRITION AND WELLNESS

Description:

The Nutrition and Wellness CEMP promotes optimum nutrition and healthy lifestyle management for positive outcomes for all North Carolinians throughout the life continuum. Nutrition needs change throughout life and have a direct impact upon health, quality of life and the ability to achieve physical and mental potential. Diet-related risks involved in chronic diseases can be lowered through improved (healthful) behaviors and positive pregnancy outcomes can result from better prenatal nutrition. Program objectives include changes in knowledge, attitudes, skills and aspirations, as well as the adoption of behaviors that promote optimal nutrition, health and wellness. The impacts expected include reduced risk of chronic diseases, increased quality of life, and healthier pregnancy outcomes.

Primary Audiences served: All people in North Carolina, throughout the life continuum.

Objective 1: Participants will adopt behaviors to promote a healthier diet.

Units Reporting Accomplishments: 75

Measures of Progress:

1. Participants increased awareness of need to have good nutrition habits
Number of participants demonstrating: 75,048
2. Participants increased knowledge that promotes health
Number of participants demonstrating: 48,490
3. Participants increased attitudes and aspirations that are indicative of need for good health
Number of participants demonstrating: 35,849

Impacts

1. Participants adopted diets consistent with dietary guidelines for

good health

Number of participants adopting: 18,082

Volunteers Involved:

Number: 2,145

Hours: 16,924

Dollar Value at \$1 0/hr: \$169,240

C-B Value to Targeted Audience: \$2,064,945

C-B Value to Society: \$3,380,921

C-B Program Cost: \$190,562

General food and nutrition information is needed by all people and at all stages of the life cycle. Programming in this area equips individuals with tools needed to evaluate their own diets and make changes as necessary. Consumers learn how to use the Dietary Guidelines for Americans, Nutrition Facts Label and the Food Guide Pyramid to guide them in their food choices. Consumers learn where to find reliable sources of food and nutrition information and distinguish truth from nutrition quackery.

Objective 2: Participants at risk for chronic disease/condition will change behavior resulting in reduced risk.

Units Reporting Accomplishments: 43

Measures of Progress:

1. Participants adopted practices such as decreased fat intake.
Number of participants adopting: 12,032
2. Participants adopted practices such as decreased sodium intake.
Number of participants adopting: 6,736
3. Participants adopted practices such as increased fruit and vegetable intake.
Number of participants adopting: 8,042
4. Participants adopted practices such as increased calcium intake.
Number of participants adopting: 2,895
5. Participants adopted positive attitudes and aspirations for improved health.
Number of participants adopting: 14,081
6. Participants gained knowledge that leads to reduced risk for chronic disease.
Number of participants adopting: 19,229
7. Participants increased skills that lead to reduced risk for chronic diseases.
Number of participants adopting: 12,877

Impacts:

1. Physiological changes such as high blood cholesterol decreased.
Number showing decrease: 723
2. Physiological changes such as high blood pressure decreased.
Number showing decrease: 663
3. Physiological changes such as high blood sugar decreased.
Number showing decrease: 292
4. Physiological changes such as excess weight decreased.
Number showing decrease: 1,000

Volunteers Involved:

Numbers: 988

Hours: 6,749

Dollar value at \$10/hr: \$67,490

C-B Value to Targeted audience: \$11,902,032

C-B Value to Society: \$11489097

C-B Program Cost: \$70,330

Chronic diseases such as heart disease, cancer, stroke and diabetes are the top leading causes of death. For example, a person dies from cardiovascular disease every 20 minutes and even more survive but are disabled. Research has identified certain risk factors for chronic disease and has shown that by changing behaviors one can reduce many of the risk factors, save lives, and save money. All people are at some level of risk from the chronic diseases. CES educational programming give participants the knowledge and skills to make healthful behavior changes to lower their blood cholesterol levels, blood pressure levels, weight, and increase their exercise and healthful food consumption patterns.

Objective 3: Participants in nutrition and wellness programs for parents or care givers and/or children will improve knowledge and adopt behaviors to promote a healthy diet.

Units Reporting Accomplishments: 24

Measures of Progress

1. Parents increase awareness and knowledge of importance of good nutrition for children.

Number of parents demonstrating: 4637

2. Parents increase knowledge about good eating habits for children.

Number of parents demonstrating: 3878

3. Parents and children participating in food and nutrition activities together.

Number participating together: 2625

Impacts

1. Parents adopt food behaviors consistent with the Dietary Guideline and Food Guide Pyramid.

Number adopting: 2538

2. Children adopt food behaviors consistent with the Dietary Guidelines and Food Guide Pyramid.

Number adopting: 1753

Volunteers Involved

Numbers: 368

Hours: 1,856

Dollar value at \$10/hr: \$18,560

C-B Value to Targeted audiences: \$185,385

C-B Value to Society: \$327,973

C-B Program Cost: \$55,801

No time is more important than childhood to promote healthy eating practices. Children in North Carolina need quality nutrition education to help positively influence their food choices. For nutrition education efforts to be effective they must also include parents and care givers. Helping families make informed decisions about their nutrition will help insure that North Carolina's children grow to reach their full mental and physical potential.

Objective 4: Limited resource audience will adopt behaviors that improve the nutritional quality of their diets.

Units Reporting Accomplishments: 41

Measures of Progress:

1. Participants increased knowledge of nutrition and diet.
Number of participants adopting: 15,853
2. Participants increased awareness of available programs such as Food Stamps, AC, free/reduced school meals which lead to improved health.
Increase in number of participants participating: 3,222

Impacts:

1. Adoption of practices that lead to appropriate diets.
Number adopting: 10,217
2. Adoption of behaviors such as seeking prenatal care.
Number adopting: 1,529
3. Adoption of behaviors that reduce low-weight births.
Number adopting: 1,556

Volunteers Involved:

Numbers: 1,494

Hours: 17,350

Dollar Value at \$10/hr: \$173,500

C-B Value to Targeted Audience: \$2,577,163

C-B Value to Society: \$1,912,365

Estimated Program Cost: \$1,352,619

Many young families receiving food stamps do not make wise consumer choices to purchase the most nutritious foods for their families. Typically, their food selection and preparation skills are limited further limiting their ability to feed their families well. CES programming targeted to this audience helps them gain self efficacy by giving them the knowledge and skills to feed their families well.

Success Stories:

At the state level CES collaborated with the Medical Review Board of NC and the School of Medicine at UNC-CH to supply 22 counties with \$1000.00 each to conduct chronic disease prevention activities, specifically in the area of stroke prevention. Stroke, the third leading cause of death, is so prevalent in NC that we are listed as part of the Stroke Belt. Counties were encouraged to collaborate with their local health departments, hospitals, senior resource center and others, as available. Examples of the stroke prevention efforts include the following health fair where 75 adults were screened for total cholesterol, HDL, LDL, atrial fibrillation and blood pressure. Ten individuals were diagnosed with high blood pressure that did not know that they had it and 19 had very high cholesterol levels. Follow-up showed that all followed the referral to see their doctors for further help. Education programming, available to all, helped over 100 participants lower risk (lower weight, lose inches, lower blood cholesterol, lower blood pressure, stop smoking and eat more healthful meals). With an estimated \$100,000 saved per patient per year if cardiovascular disease is avoided there is a potential savings of over \$10,000,000. Specific

examples of the impact of the educational programming include: One participant who has improved her eating habits so much that she has been taken off her high blood pressure medicine. She received the motivation and enthusiasm from being part of the group. She lost a total of 15 pounds and is excited about her health, how she feels and how she looks. Another participant lowered her cholesterol from 308 to 262 in just two months by using the information she learned in the classes. Another who had already experienced a ministroke, lowered her cholesterol from 223 to 135. She was ecstatic to receive a personal congratulatory phone call from her doctor. One man improved so much over 11 months of working on his diet and lifestyle that his cholesterol lowered from 260 to 180, he lost 25 pounds, and his physicians are no longer talking about surgery. Another man even commented, "I think you have probably saved my life."

The Family Nutrition Program supported by the USDA Food and Nutrition Service was conducted in 40 counties with a focus on food stamp eligible families with three to five year-old children. One agent's comment after finishing the 4 sessions was, "Family Nutrition Program participants have 'hands on' learning experiences-the ultimate transfer of education. Many of the participants do not want the sessions to end. We now have the challenge to provide more for an audience that we formerly thought was hard to reach. Participants' enthusiasm is seen by one pregnant mother who began the class one month from delivery, delivered on the Tuesday before the last class and came to the last class (graduation) with her 3-day old son. Volunteers in the pre-three room cared for the baby while the mother completed the last session. Family Nutrition participants have been hired as EFNEP program assistants while others come back as volunteers. In a letter with \$1436 of support from The United Way for a county, the grantor stated, 'You are really making a difference in the lives of many women and children in our community'.

Data from one county's graduates showed 95% making positive dietary changes in food group servings, 95% improving other dietary practices, 75% improving one or more food resource management practices, and 75% adopting one or more food safety practices. One class composed of 20 young Hispanic mothers and their children resulted in the children learning English names for fruits and vegetables and tasting different fruits and vegetables.

Noonliting Weight Control series taught basics of weight control and development of life-long healthful eating habits. In one class 17 individuals completing the 15 week series lost an average of 8-1/2 pounds. A participant stated, 'I came to Noonliting because of a problem with my spine which causes a great deal of pain in my legs. My Spine Specialists told me that I must lose weight to help relieve this pain. I could not have lost this weight without Noonliting. I needed both the nutrition education and the group encouragement. I've lost 21 pounds. Noonliting taught me that I needed to make a lifestyle change and I did'. Another participant reported that prior to participating in Noonliting that she was fatigued and had an overall unhealthy lifestyle. After losing 20 pounds her blood pressure and cholesterol level were lower, and she had increased her activity level. Her doctor complimented her on lifestyle changes and said, 'Whatever it is you're doing, keep it up!'

Noonliting began in one county in 1988. To date 1,160 individuals have

participated with a 69% completion rate, which is excellent for weight control programs. Over 8,156 pounds have been lost and over 8,000 miles walked. Volunteers and the health department now collaborate with extension on teaching classes.

Nutrition Program Assistants are working with children in day care centers and homes as well as day care providers and individual families and groups. Children are learning to try new foods, the importance of washing hands and how and why it is important to eat healthy. One child even got his mother to enroll in the program. Day care providers are pleased to receive educational credit for taking the classes. Participants are learning the importance of good nutrition and are making dietary changes. Pregnant teens and new moms are learning the importance of good nutrition, how to prepare nutritious meals and how to economize by preparing food instead of buying fast food.

Thirty Head Start parents received nutrition education through programs provided by The FCS agent. Child Development newsletters were sent to 250 parents of preschool parents through child care centers and the health department. These have had a very positive impact evidenced by the positive feedback from child care providers and parents. Seventy children were taught to identify foods, their place in the Food Guide Pyramid and the number of servings they should be eating each day for optimal nutritional health.

EFNEP Program Assistants worked with 123 homemakers, 35 graduated. Pre and post tests indicate that of the graduates 97% improved at least 1 food resource management practice; 97% improved at least 1 nutrition practice; and 91% improved at least 1 food safety practice. Also, 46% experienced other benefits as indicated by improvement in their other family needs (health, money management, parenting, etc) being met. As a result of EFNEP, these families have healthier children which means lower medical costs as well as cost savings at the grocery store.

Counties reporting evaluation results for the low income audience, in general, indicated an improvement in food resource management practices for 75% to 97% of participants; an improvement in nutrition practices of 88% to 97%; and 50% to 91% of participants reported improved food safety practices.

Seniors are another audience of CES. The senior nutrition hot lunch program brings participants together in a pleasant atmosphere for nutritious meals. It also provides an opportunity for social interaction and for educational sessions. In one county 272 seniors in county hot lunch programs assessed their fiber, fat and fluid intake as part of the FCS class. 259 increased knowledge and 184 indicated a change in attitude that would promote a healthier diet. In a second round of Cooking with Pizzazz! taught to seniors in another county hot lunch series 47 seniors took part in the classes and food demonstrations. In the final evaluation 55% of them stated that they had been trying to eat more fruits and vegetables and 21% had actually eaten 5 or more servings the day before the evaluation.

CEMP contact persons (co-chairs): Jackie McClelland, NCSU
Nancy Smith, Gaston Co.

Team Members: County Faculty: NCSU Faculty:

Geissler Baker, Guilford Co.
Betty Howe, Caldwell Co.
Sherry Farless, Chowan Co.
Candace Murray, Wilson Co.

Carolyn Lackey
Carolyn Dunn
Angela Fraser
Ann Frazier
Susan Baker

CEMP 17 - RESIDENTIAL AND COMMUNITY HORTICULTURE, TURF, FORESTRY AND PEST MANAGEMENT

PROGRAM DESCRIPTION. The demand for county programs in the area of noncommercial horticulture and forestry and residential pest management have increased significantly. Both urban and traditionally rural counties have experienced increased demand for educational information in these areas. The greater awareness of more diverse publics of the economic as well as environmental importance of landscape stewardship has emerged. Emphasis on reduced pesticide use has also increased the need for additional chemical and alternative pest control education. These clientele are aware of the educational programs of the Cooperative Extension Service and have begun to expect assistance in these relatively new program areas. Numerous requests are received for very specific and focused information. This has created a large demand.

Programs in support of this Cooperative Extension Major Program seek to educate target audiences so they adopt best management practices for residential and public facility pests. Programs also educate target audiences about proper selection and management of plants for residential landscapes, including turf, edible plants, ornamental plants and trees.

Primary Audience(s): residence owners and renters, community and public grounds managers

OBJECTIVE 1: Target audiences will adopt best management practices for residential and public facility pests.

36 Counties reported accomplishments.

Statewide Totals of Measure of Progress:

1. 50,358 Increased knowledge of IPM practices.
2. 17,808 Increased awareness and knowledge on the part of the public and professionals concerning the current state and federal guidelines governing wildlife control/depredation.
3. 33,670 Adopted IPM practice, including improved decision making abilities in determining the need to spray and/or obtain the assistance of a pest control professional.

Statewide Totals of Impact Indicators:

2. \$ 398,079 saved through reduced pesticide related contamination problems (e.g. runoff into municipal sewer systems, and container disposal problems).
3. 31,137 demonstrated reduced risk of people (and pets) being exposed to insecticides through reduced and/or targeted insecticide use.
4. 37,581 demonstrated a better understanding about the use of IPM as a means of enhancing their ability to be good environmental stewards.

853 Volunteered 16,839 hours valued at \$168,390.

Value to targeted audience \$1,111,668.

Value to society \$1,202,180

Estimated Program Cost \$124,319

The primary focus for addressing this objective remains the delivery of pertinent information through several delivery systems:

"Proactive"

- a) Distribution of printed information produced at NCSU or at the county directly to the public or else to the public through retail centers where pesticides are sold (e.g. lawn and garden centers)
- b) Local (county) meetings that target specific topics and groups, e.g., moisture control around homes, and wildlife damage control
- c) Participation in state/regional presentations in collaboration with specialists at NCSU.
- d) Timely delivery of information through articles in newspapers, magazines, radio/TV appearances. In some cases, the information is developed from press releases produced by Agricultural Communications or from electronic news postings by specialists at NCSU.

"Reactive"

- a) Responses to calls to CES offices about pest problems.
- b) Identification of pest brought to CES office (identifications done locally or at the NCSU Plant Disease and Insect Clinic).
- c) Onsite visits to troubleshoot existing problems or make recommendations to prevent future pest problems (which is proactive to a large extent).

Homeowners who can afford to hire all pest control services call CES offices infrequently unless they experience a control failure or question what they are being told by the company. Most other callers want quick responses (and quick solutions) to pest problems. Therefore these calls represent an attempt to manage a pest problem and protect an investment by the property owner. Most calls will not require over \$10 in additional purchases but save about \$75 in professional fees. There is also the satisfaction of doing it yourself and, by doing so, being able to do it again, should the need arise. Important education points include proper pest identification, pesticide selection, rate of pesticide used and safe use of pesticides for yourself, pets, family, environment and neighborhood.

The encroachment of wildlife on suburban areas of the state continues to be a major concern to the general public, particularly with regard to the issue of rabies. When a county is suddenly and unexpectedly confronted with a rabies problem, there is resulting confusion about how to address the issue and coordinate the efforts of

different county agencies that are best suited to provide educational and logistical assistance to the public. In Forsyth County, the Cooperative Extension Service office combined efforts with the Health Dept., Wildlife Commission, Veterinary Assoc. and County Animal Control to address the problem of animal incident complaints in Forsyth County. Together a booklet to be utilized by those receiving animal calls to direct callers to the appropriate agency was developed and a training held. More than 20 county and city departments are utilizing the booklet with more than 80 individuals attending the training. With the implementation of this program, there was an overall 50% decrease in phone calls being misdirected to the wrong agency. Increasing the efficiency of handling such problems saves public money (by not wasting the incorrect agencies time and efforts), and decreases public frustration often experienced when trying to find the correct agency to assist a caller.

Yadkin County reported that miscellaneous requests from homeowners and home gardeners continue to be the largest single type of agricultural call. Nuisance pests, including problem animals, snakes, and insects lead the list of requests for control recommendations. As we see continued urbanization across our state, we can expect similar trends in calls and requests to our county centers, particularly in our major population centers.

With the increasing public awareness of safety issues pertaining to pesticide use and wildlife encroachment in and around homes and public areas, we will continue to expand our proactive approach to providing information to the public, allowing them to develop their own strategies for dealing with these issues before they become a serious economic or health problem.

Objective 2: Target audience will adopt tree, shrub, turf and ornamental plant selection and management practices in residential and community landscapes to improve the economic and aesthetic value of the property while ensuring environmental stewardship and urban ecosystem protection.

55 counties reported accomplishments

Statewide Measures of Progress Totals:

1. Increased knowledge and awareness of proper plant selection, proper plant management and proper plant pest management practices in residential and community landscapes.

Number demonstrating = 108,517

2. Increased awareness, improvement of attitude, and increased skills of private citizens and municipal workers for the role that they play in protection of the environment and the urban ecosystem through best management practices and proper pesticide use.

Number demonstrating = 42,286

3. Increase in skills of private citizens and municipal workers in tree, shrub, turf and ornamental plant care. Number demonstrating = 65,593

4. Increase in citizen satisfaction (change in attitude) with aesthetic appearance of and ecological protection of their residential and community landscapes. Number demonstrating = 41,711

Statewide Totals of Impact Indicators:

1. Increased value of property through adoption of landscaping practices, such as planning, design, establishment and maintenance. Dollar value = \$4,245,801

2. Increased protection of the environment and the urban ecosystem through proper plant growth, plant health care, and integrated pest management.
Number implementing practices = 103,774

3. Increased citizen satisfaction with improved aesthetic appearance of residential and community landscapes. Number of citizens with increased satisfaction = 47,262

1844 Volunteered 85,321 hours valued at \$853,210.

Value to targeted audience \$5,031,935

Value to society \$6,173,284

Estimated Program Cost \$334,806

A wide variety of classes were conducted to teach cultural practices that enhance ornamental plant performance while limiting inputs and protecting natural resources. A WaterWise program that promotes wise use of pesticides, fertilizer, water, and proper soil care was offered in several counties. Haywood County conducted a "Plant Safe" program for day care centers that included an on-site inventory of toxic plants to improve child safety. Ninety nine percent of class participants in Randolph and Davidson Counties learned at least one new practice. A class in Guilford County to newcomers saved participants several thousand dollars on incorrect planting, fertilizing, spraying, and pruning. A survey of participants in Gaston County indicates 27 percent plan to make changes in lawn care practices. Participants in a Columbus County pruning class were able to reduce pruning injuries by 25 percent. Follow-up to classes in Granville County indicated more than half the participants applied fertilizer more carefully and 40 percent were better able to monitor for insect and disease problems. Participants in a landscape maintenance class in Rowan County reported saving over \$50 each.

Newsletters and news articles continue to be an effective method to reach larger numbers of gardeners on BMPs. Garden Notes is a regional newsletter distribute to 2,500 families through 31 garden centers. The 600 people receiving a newsletter in Macon County saved over \$19,000 by adopting new practices. Cabarrus County published 48 news articles with 1,225,000 potential contacts. A survey of newsletter recipients in Haywood County indicated 98 percent changed at least one cultural practice, 66 percent reported an increase in their ability to select pesticides, and 35 percent reported a decrease in pesticide usage. They reported savings of \$64 per year for a total of \$12,864. A random survey of participants in Iredell County reported an increase of \$1,000 in their landscape value through the adoption of recommended practices.

Many agents utilized radio and television programs to provide timely cultural and pest management information. Radio programs range from five minute spots to a two-hour call in show every week. A soil testing campaign in Catawba County resulted in a 300 percent increase in soil tests conducted by home gardeners. For the first time,

Extension agents in four counties participated in the South Carolina "Make it Grow" television show which is viewed in 16 NC counties. Total contacts from radio and television programs in Guilford County alone exceed 12,939,000 per year. If only two percent of the listeners saved \$10 each, the savings would be over \$2,500,000.

Extension agents continue to be involved in community beautification efforts. Examples include, downtown beautification projects for six towns in western NC, 10 school beautification projects in Cumberland County, Richmond County Courthouse, a Boulevard in Kill Devil Hills, and an alternative school in Northhampton County. Two new businesses opened after a downtown beautification program in Mocksville.

Questions and assistance on tree care and replacements as a result of hurricanes in 1996 continue to be addressed. Carteret and Craven counties conducted workshops on assessment of hazard trees. Forsyth residents saved over \$5,000 in on-site tree evaluations. Tree projects such as the "Love-a-Tree" and "Treasure Tree" projects have been utilized to promote the importance of trees and to improve maintenance practices.

Programs to teach protection of ocean front property from storm damage by using plants were conducted in Onslow, Dare, and Pender counties. Participates in the Pender County programs purchased enough Beachgrass to provide erosion control for 6 miles of property valued at \$102,000,000. Regional revegetation demonstrations are underway at four public access sites.

As much as 70 percent of the phone calls received by some county Extension center are seeking horticultural information. A survey in Guilford County indicates 80 percent of callers utilized the information received and had an average savings of \$50 per call. One caller was able to save \$4,000 in irrigations costs by deciding not to install an irrigation system after learning sound lawn installation and maintenance practices. Several potentially devastating poisonous plant calls were handled by agents. In several cases, emergency room visits were avoided when plants were properly identified.

The training and utilization of a Master Gardener Volunteer staff continues to be an economical way to educate the garden public. In 1997, 670 new volunteers were trained. The 1,649 volunteers donated 85,321 hours (value = \$853,210) and assisted 430,460 gardeners (excluding mass media contacts). Activities included: answering 47,883 phone calls, diagnosing 10,783 plant samples, manning 175 exhibits for 177,382 people, 97 television shows, writing 178 news articles, 174 radio programs, giving programs to 596 groups with 14,143 in attendance, conducting 213 school programs for 13,910 youth, developing 55 school gardens for 4,267 youth, sharing information with 12,182 friends and neighbors, and maintaining 107 demonstration gardens viewed by 149,910 gardeners. Volunteers contributed over \$33,484 out-of-pocket expenses, drove over 447,052 miles (valued at \$143,056), and raised \$58,436 for a total contribution of \$1,088,186.

Objective 3: Target audience will adopt best management practices for residential and community edible landscapes to improve economic feasibility while practicing environmental stewardship.

32 counties reported accomplishments

Statewide Measures of Progress Totals:

1. Increase knowledge of Best Management Practices for gardening.
Number demonstrating = 34,807
2. Adopt Best Management Practices for growing fruits and vegetables.
Number demonstrating = 17,525
3. Increased awareness and knowledge of gardening practices which have a detrimental impact on water quality. Number demonstrating = 9,950
4. Adopt gardening Best Management Practices that minimize water pollution and maximize water conservation. Number demonstrating = 7,080

Statewide Impact Indicator Totals:

1. Cost avoided (dollars saved) by adopting Best Management Practices.
Dollar value = \$152,639
2. Total square feet of gardens grown by program participants.
Square feet of garden = 4,535,903
3. Reduced water usage through implementation of Best Management Practices.
Gallons reduced = 135,065

968 Volunteered 5755 hours valued at \$57,550.

Value to targeted audience \$575,039.

Value to society \$1,117,003

Estimated Program Cost \$94,085

Gardening seminars and classes were conducted emphasizing best management practices (BMPs) to reduce inputs, increase productivity, and decrease potential harm to the environment. Most counties provided instruction on all BMPs, while some counties conducted specialized programs on targeted management practices, such as, mulching, use of drip and trickle irrigation, raised beds, and soil sampling. Counties in the Neuse River watershed concentrated on increasing the awareness level of home gardeners on how their gardening practices affect water quality. A survey of class participants in Iredell County indicated a \$385 savings per participant. In Mecklenburg County participants were able to save an average of \$10 by using trickle irrigation and were able to reduce pesticide use and cost. Several new fruit demonstration orchards have been established. Fruit tree pruning demonstrations continue to be an effective method of changing consumers' growing practices. In Guilford County, 90 percent of participants in a pruning demonstration changed their pruning practices and were able to improve fruit quality while reducing the amount of time and money spent. Results were similar in Buncombe County.

An increasing number of counties have created demonstration gardens to show environmental and cost effective gardening practices such as: mulching, composting,

and cultivar selection. Examples include, Mecklenburg County's compost garden at "Compost Central," the herb garden at Wake County's Oakview Plantation, and Craven County's vegetable garden that concentrates on vegetable cultivars and planting techniques.

Increasing efforts are being made to reach targeted clientele, such as minorities, low income citizens, and individuals with disabilities. Pasquotank and Onslow counties offered training to members of minority churches. One of the church gardens was 54,400 square feet. Produce from this community garden was shared with low income members of the community. In Buncombe County a vegetable garden was installed at the local food bank. In Forsyth and Lee counties programs were targeted to residents of neighborhood housing projects, demonstrating how to build and grow vegetables utilizing raised beds. Participants in the Lee County program grew enough produce to feed their families two meals per week for 40 weeks. A community garden project in Wake County utilized an integrated approach to teach food safety, diet, nutrition, and community involvement.

A number of counties work with local schools to provide hands-on science education by installing vegetable gardens. Most of the schools utilize the gardens to incorporate lessons on science, math, social studies, and language arts. Some of the youth have become involved in 4-H activities and have undertaken landscape projects. Over 1,000 hours of volunteer time was given to Charles Street 4-H garden to educate inner-city youth in Union County. Rowan County combined efforts with the City of Salisbury and local Boy Scouts to develop a youth garden project at an inner city housing project. Participants in the projects demonstrated an increased interest in health, nutrition, and community pride.

Success stories

1. Lee County - An outbreak of millipedes prompted many calls and office visits by homeowners to the Extension Center. Through newspaper articles, mailings, phone calls, and pest identification, hysteria to the presence of millipedes was lessened, pesticide use was discouraged and/or directed from indoor reactive treatment to more targeted outdoor preventative treatment. Individuals learned to deal with the problem by evaluating millipede habitats near their foundations and treat the problem in an environmental fashion, which included removing mulch from foundations, directing water from downspouts away from foundations, pruning foundation shrubbery, etc.
2. Forsyth Co. - A rabies epidemic in NC has moved into most regions of NC. Forsyth county has yet to have a reported case but county officials want to address the problem proactively. A committee made up of Cooperative Extension, County Health Dept, Animal Control, Veterinary Assoc., Humane Society and volunteers developed a plan to hold quarterly rabies vaccination clinics at the local fair grounds. A well publicized effort to target low income neighborhoods was well received as over 750 cats and dogs were vaccinated at the first of these clinics.
3. Buncombe Co. - The Buncombe CES Center assists the distribution warehouse of a major grocery store chain in identifying various insects/pests that are found on their

premises. The warehouse supervisor has stated that he does not know what they would do without Extension's assistance and cooperation in this area. Our identifying the insects and recommending how to eradicate the various pests has kept them from making numerous calls to the extermination company, resulting in saving the business money on both service calls and treatments.

4. Randolph Co. - Local school officials asked the county extension office for assistance in making principals aware of an IPM approach to solving pest problems in their schools. A special program was held for 26 county public school principals & administrators and a representative of the pest control company contracted to do pest control in the schools. The program included presentations by extension agent Gwynn Riddick and extension specialist Mike Waldvogel, and concluded with a walking tour of a local elementary school to point out common pest problems and pest areas, as well as methods of monitoring and correcting these problems in a school situation.

5. Moore Co. - About 175 callers wanted to know "what to spray" for such "pests" as millipedes and ladybugs in the home. After phone consultation approximately half indicated that they will use a vacuum or broom and just "grin and bear it."

6. Caldwell Co. - The CES office, working in conjunction with a specialist from the NCSU Entomology Department and with NCSU's Industrial Extension Service, visited a large manufacturing facility that produces pharmaceutical-grade glass products. The plant's pest control procedures were reviewed and a written report was provided on establishing a proactive control program that would minimize the potential for product contamination which could cost the company \$10,000-\$50,000 if a shipment was rejected by a customer.

7. NCSU - Entomology Extension and Research faculty at NCSU assisted the NC Zoological Park with a severe cockroach infestation in areas where conventional pest control measures were not possible because of possible harm to the animals, visitors and workers. An inhouse control program was designed and cockroach populations were decreased by over 95% in under three months. The veterinary staff at the park did not report any injuries or accidental poisonings to the animals during the program. Cost and savings for this program are still being calculated.

8. Entomology extension specialists assisted a carton manufacturing plant in western NC that was being held partially responsible for insect contamination in a product being shipped through Canada. Other parties involved included a bottle manufacturer in Georgia and the product manufacturer in Canada. Cost of the product embargoed (held as unsaleable) at that time was estimated at \$240,000. The problem and likely source was determined and the remaining uncontaminated material was released. All parties were made aware of the problem and provided with recommendations on correcting/preventing it.

9. An Entomology extension specialist worked with employees of a pest control company and staff at a local hospital concerning a serious problem with ants in numerous areas throughout the facility, including offices and patients' rooms. Control measures are extremely limited because of the nature of the facility and the need to avoid exposing patients and staff to pesticides unnecessarily. Information was provided to the hospital management about cooperating with the pest control company and new control tactics are being introduced. These efforts resulted in improved ant control at the facility (greater customer satisfaction), as well as

monetary savings to the pest control company who were in the position to lose the contract if "satisfactory" control was not obtained.

10. An Entomology extension specialist assisted a local pest control operator with an unusual house infestation with termites. A control strategy was developed and executed by the PCO, saving the homeowner approximately \$4500 that might have been spent on a fumigation.

11. Extension specialists from Entomology and Family & Consumer Sciences provided technical advice to the pest control operator and homeowner concerning a moisture problem at the residence. Implementing the recommended actions saved the homeowner over \$5500 compared to the cost of measures proposed by a moisture-control firm.

David Curtis and Katie Perry, SMP Team Co-Chairs

Team Members:

Charles Apperson

Toby Bost

Art Bruneau, Turf Action Team Leader

Erv Evans, Edible Landscapes Team Leader

Lewis Howe

Karen Neill

Carl Matyac

Alice Russell, Ornamental Landscapes Team Leader

Bill Skelton

Mike Waldvogel, Structural Pest Team Leader

Bruce Williams

CEMP 18 - RESIDENTIAL AND COMMUNITY WATER AND WASTE MANAGEMENT

Description: Residential and Community Water and Waste Management has environmental and economic impact on both private and public sectors in NC. Water quality, wastewater management, watershed management, and waste management are the key elements. Proper management of waste, wastewater, and watersheds ultimately affect water quality.

Primary Audiences: Elected officials, community well owners, environmental health specialists, homeowners, planners public works staffs, watershed residents, businesses, government officials, industries, consumers, youth, educators, and solid waste managers.

Objective 1: Water Quality

19 counties reported accomplishment

9969 people increased their knowledge and awareness of best management practices

to protect and improve water quality
6045 less cases of water contamination resulted because people adopted best management practices to protect and improve water quality
\$118,000 healthcare costs were avoided through detection and treatment of contaminated water
\$311,500 in well replacement costs were avoided through best management practices
496 volunteers provided 1918 hours for a dollar value of \$19,180
Cost-Benefit to targeted audience \$23,800 (6 counties)
Cost-benefit to Society \$1,931,800 (6 counties)
Estimated Program Cost \$4800 (7 counties)

Citizens are beginning to understand water regulations and options for remedial actions to improve surface and groundwater quality. 10189 persons increased their knowledge and awareness of quality water best management practices to prevent contamination of water. 1765 persons increased adoption of quality water best management practices to prevent contamination of water. There was a decrease of 6045 cases of water contamination resulting from adoption of best management practices to detect and treat contaminated water. There was a total of \$541,700 dollars saved through improved water quality, decreased cases of water contamination and detection and treatment of contaminated water. 509 volunteers contributed 2103 hours to this program with a dollar value of their time of \$21,030. There was an estimated program cost of \$4800 with the value of the program to participants estimated at \$23,800 and value to society at \$1,931,800. One of the more important methods to educate about water quality is through water screening. Water screening days were held in 11 counties. There were 613 people who brought 659 samples for lead screening and 463 samples for nitrate screening. Of those samples, no significant detection was seen in approximately 87 percent of the samples. Over 8 percent of the water samples had levels of 5-14 parts per billion (still below water standards) and over 3 percent had levels of 15 or more parts per billion. Persons with samples above the standard were provided more in-depth information. Over 50,000 persons were exposed to information concerning water quality through displays, programs and county fairs.

Objective 2: Wastewater Management

9 counties reported accomplishments
578 people increased their knowledge and awareness of wastewater systems
341 people had their septic tanks pumped
17,261 people adopted best waste management practices
\$103,220 in healthcare costs were avoided through reduced incidences of drinking water contamination
\$56,650 in septic system repair and replacement costs were avoided
14 volunteers contributed 97 hours for a dollar value of \$970
Cost-Benefit to Targeted Audience \$69840(4 counties)
Cost-Benefit to Society \$1,121,700 (4 counties)

Estimated Program Cost\$9,425(4 counties)

The Cooperative Extension Service is recognized as a leader in working with communities and individuals to provide research-based information on alternative septic systems and management and maintenance of conventional systems. Specialist-agent collaboration field tests in the northeast and piedmont have indicated that two types of alternative systems(pressure dosed sand filter and sand lined trench) are environmental sound. As a result, a proposal to use pressure-dosed sand filter systems was approved by the Department of Environmental Health. This will give landowners in Chatham County and other counties in the state some options for using land previously considered unsuitable for housing. In at least 10 counties, educational file folder factsheets developed by Extension are distributed by Environmental Health officials to all homeowners who apply for a well or septic system permit. Septic system management and maintenance programs, exhibits, radio question and answer sessions conducted by agents have reached over 17,000 people. Several industries in the state are managing their waste water more effectively and in a more environmental sound manner as a result of working with Extension.

Objective 3 Watershed Management

12 counties reported accomplishments

6635 people increased their knowledge and awareness of the need for water quality protection and conservation

243 people adopted best management practices to conserve industrial and residential water

\$288,060 costs were avoided through improved residential and industrial water quality

\$89,400 in costs were avoided through decreased use of public and residential water

818 volunteers provided 2649 hours for a dollar value of \$26,490

Cost-Benefit to targeted audience\$483,500(6 counties)

Cost- Benefit to Society\$142,500(5 counties)

Estimated program costs\$19,900(4 counties)

Citizens have begun to adopt and promote effective practices to conserve water and protect surface and ground water quality. 243 persons adopted best management practices to conserve industrial and residential water. 6635 persons have increased their knowledge and awareness of the need for water quality and conservation. \$377,460 has been saved through improved individual water quality, improved residential water quality, decreased use of residential water and decreased use of public water. 818 volunteers gave a total of 2649 hours to this program at a value of \$26,490. The estimated costs of this program was \$19,900 with a value to the audience of \$483,500 and a value to society of \$142,500. Emphasis has been put on education in several watersheds including the Neuse and the Watagua including stream monitoring and best management practices.

Objective 4 Waste Management

24 counties reported accomplishments

48,842 people increased their knowledge and awareness of waste management strategies

107 businesses, industries and institutions adopted waste management practices

35,314 consumers improved their waste management practices

49,001 gallons of used oil was collected for recycling

52,140 pounds of household hazardous material was collected for recycling/reuse

\$251,691 in costs were avoided through reduced waste in landfills

\$298,959 was earned by counties and municipalities through selling of recycling materials

\$154,340 costs were avoided by counties and municipalities through Project HERO

885 volunteers provided 2995 hours at a dollar value of \$29,950

Cost-Benefit to targeted audience (\$393,429(14 counties)

Cost-Benefit to society\$400,536(10 counties)

Estimated program costs\$191,688(15 counties)

Cooperative Extension continues to play a major role in the development and implementation of County Long Range Solid Waste Management Plans. Some county agents have provided leadership or served on committees in the development process. In many counties, Cooperative Extension is the primary unit responsible for the development and implementation of the educational component of the county long range plan. Citizen participation in waste management strategies such as recycling and reuse continues to increase. One county reported recycling tonnage had increased 66% in a 2 ½ year period. Composting has become a popular option as well for municipalities. Household hazardous waste collection has occurred in 14 counties collecting pesticides, pesticide containers, paint, used oil, batteries, tires and white goods. Two counties held paint "drop and swap" days and managed to swap almost all the paint collected. Vermicomposting has become a popular activity for schools and youth reaching 500-1500 youth in each county.

County Success Stories

The CES and Planning Development Department in Guilford County co-sponsored a tire and white goods collection day. Over 180 cubic yards of white goods and 16.6 tons of tires were collected for recycling.

In order to further educate the public about composting and to provide homeowners the opportunity to purchase compost bins at a reduced price, several organizations joined forces. The sponsors of this event were the Durham City Solid Waste Management Department, SunShares, Wal-Mart, and the Durham County Center of the NC Cooperative Extension Service. Master Composters helped educate homeowners about composting, and Master Gardener volunteers were on hand at one

site to answer gardening questions. An estimated 800 pieces of literature on composting and gardening were given out at the two sites. Approximately 400 compost bins were sold for about 50 percent off the normal retail price resulting in a savings to homeowners of about \$14,000.

The Rutherford County Extension Center has continued its networking with Chimney Rock Park's environmental programs. Through this collaboration science-based curricula are promoted to regional youth (Rutherford, Polk, Henderson and Buncombe). A heightened environmental awareness is the primary goal of the program. The development of waste management strategies was implemented with 1,030 youth/teachers during three sessions of "Vermicomposting: Worms Eat Your Garbage" this spring. Initially, five percent of the 17 schools participating had been conducting some form of school recycling. Following the educational sessions, an additional 15 percent began classroom programs relating to waste-stream reduction.

The Cabarrus County Manager asked Extension to develop a position paper on solid waste options available to the County Commissioners when the sanitary landfill closed in late 1997. Extension assembled a task force to research options. Represented on the task force were various Federal and State Ag. Agencies, as well as five other county departments. Within months, a position paper was researched, developed, approved by the County Manager, and presented to the Board of County Commissioners. As a result of Extension's leadership, the Commissioners have details highlighting the pros and cons of some seven landfill property options available to them.

The Save Our Schools (S.O.S.) program was one of the first to participate in the storm drain stenciling program in Lincoln County. Sixty students were taught why it is so important to be conscious of what goes into the storm drains. They were also trained on how to initiate the stenciling program in a community. S.O.S. students stenciled storm drains on four streets and distributed educational information to eighty homes, speaking to the residents whenever possible. The S.O.S. Program director expressed appreciation for the program by sharing a small triumph. One child who is exceptionally quiet took the stenciling project to heart. This student took his parents by each storm drain that he had stenciled and explained the importance of the program. The parents in turn told the director that it was programs like this that make difference in a child's education and that they hoped the program would continue.

The Alexander Cooperative Extension along with NCSU's Water Quality Group has worked with the Deal Cattle Farm and the Sugar Loaf Elementary School in repairing a watershed area. The massive urban storm water flow from the school, fire department, etc. was redirected to a newly constructed wetlands equipped with a level spreader, spreading the excess flow evenly through a forested area. This wetlands was designed with three aquatic plant zones and has begun to be filled with various wetland plants. Several elementary classes are gathering rainfall data and wetland water level data regularly for the educational wetlands. Also automatic storm water samples are being gathered at the source and outflow ends of the wetlands.

With the water flow problem corrected, the Deal Farm eroded stream banks were repaired with numerous best management practices, cost shared through an EPA 319 grant. The stream water samples have been monitored regularly well before and now.

In September, the Cherokee County Extension team and 66 volunteers picked up litter around local county waterways. They picked up an estimated 3,620 pounds of litter, over an estimated 13 miles, combined, not including things that were too large to be bagged.

The Long Creek Watershed was identified as an area for water quality improvement by the Quality of Natural Resources Commission. The Gaston County Cooperative Extension Service and 16 Cooperating organizations received EPA funding to institute a demonstration project to reduce non-point source pollution. Over the past two years best management practices were installed in urban and rural areas ranging from constructed wetlands, stream exclusions and crossings, livestock watering systems and stream bank restoration. As a result water quality improvements are being documented through the water sampling program.

With over 125 incidents of groundwater contamination and expenses exceeding \$2 million to provide alternate water supplies, Extension coordinated a Groundwater Guardian program through the Quality of Natural Resources Commission (QNRC). The program encourages citizen involvement in groundwater protection projects in their communities. The QNRC team, partnered with UNC-Charlotte and local government, determined wellhead protection boundaries for all community wells and surveyed for possible contamination sources. The team's efforts gained Gaston County designation for the second year as a Groundwater Guardian Community at the 1997 National Groundwater Guardian Designation Conference held November 24, 1997, in Oak Brook, Illinois.

The leachate management project began in Madison County in late July, 97 and continued through October. More than 200,000 gallons of leachate water has been disposed of thru this system to date. Preliminary calculations indicate that at a cost of \$0.0165 per gallon to dispose of this water through a waste treatment plant, a \$3,300 savings to the operating budget occurred by the end of October. It is estimated that annual savings could be as much as \$20,000 per year in Madison Co. If this research can document that no detrimental environmental effects occur from this pilot project similar savings can be expected at several other sites in N.C.

The Yancey County Christmas tree recycling project was very successful for the fifth season. County employees and community volunteers in cooperation with the Cooperative Extension Service and Yancey County Commissioners turned more than 900 Christmas trees into useful mulch. The chipped mulch created a volume of approximately 120 cubic yards. Most of the mulch was hauled away by county residents within just a few days. Area residents have found several uses for the mulch, including composting, mulching landscape plantings and erosion control on steep slopes.

In response to local interest in reducing water usage, Moore County's Master Gardener Volunteers conceived, designed and installed a xeriscape garden. The garden uses best management practices including soil analysis and preparation, plant selection appropriate to the site, mulch, and careful monitoring of water needs. Locally available plants were chosen to tolerate hot, dry, full sun conditions with a minimum of irrigation. County departments, Moore Water and Sewer Authority, and contributing nurseries cooperated to make the project possible. Through July the irrigation was used only twice for establishing annuals. The garden provided an educational tool used for newsletters, newspaper articles, and direct client contact.

Contact Persons:

Wilma Hammett Co-chair
George Autry Co-chair

Team Members:

Greg Jennings	Will Harman
Frank Humenik	Rhonda Sherman
Sarah Kirby	Sandy Wiggins
Dorothy Miner	Carolyn Mojonnier
Mitch Renkow	Mike Hoover
Robert Rubin	Brenda Morris
Allen Caldwell	Deborah Myatt
Suzanne Rhinehart	Kathy Bunton
Judy Mock	

CEMP 19 - RESILIENT YOUTH, FAMILIES, AND COMMUNITIES

Program Description: The youth, families and communities of North Carolina face challenges which threaten their resiliency. Reduced resiliency in turn threatens the economic, social and environmental well-being of educational, corporate, and governmental systems on which the citizens of North Carolina depend.

The "Resilient Youth, Families, and Communities State Major Program" of the North Carolina Cooperative Extension Service takes action to strengthen the resiliency of youth, families, and communities. Resiliency is the ability to cultivate strengths to positively meet challenges. The program focuses on prevention programming which strengthens "protective factors" and reduces "risk factors." Participants bring together and involve educators, researchers, agency and organizational personnel, youth, families, communities, advocates, and practitioners who share an interest in strengthening the resiliency of North Carolina's youth, families, and communities.

Accomplishments for 1997 are reported in the context of three objectives:

- 1) Youth

- 2) Families
- 3) Communities

Objective No. 1: Youth in high-risk environments will participate in community-based programs - resulting in youth acquiring coping skills, making informed decisions, and developing a sense of purpose and future.

Units Reporting Accomplishments:

46 Counties (see attached)

Statewide Measures of Progress:

- 2) Increased communication, decision-making, working in groups, understanding self, and relating to significant adult life skills.
NUMBER DEMONSTRATING: 19,894
- 3) Increased literacy
NUMBER DEMONSTRATING: 5,214
- 3) Increased community involvement
NUMBER DEMONSTRATING: 6,530
- Increased knowledge and awareness of and alternatives to drugs and alcohol use.
NUMBER DEMONSTRATING: 13,128

Statewide Impact Totals:

- 1) Increased life skills
NUMBER DEMONSTRATING: 10,586
- 2) Improved academic performance
NUMBER DEMONSTRATING: 5,341
- 3) Expanded citizenship involvement
NUMBER DEMONSTRATING: 5,341
- 4) Reduced use of drugs and alcohol
NUMBER DEMONSTRATING: 1,416
- 5) Reduced judicial involvement
NUMBER DEMONSTRATING: 631
- 6) Reduced incidence of violence
NUMBER DEMONSTRATING: 655

Narrative:

46 counties were actively involved in the youth objective. Utilizing a variety of local resources and funding sources, these programs have developed assets and reduced risk factors facing "at-risk" youth.

Selected Success Stories:

Wayne County:

Wayne County 4-H Youth Development conducts an after-school program for students at two inner city schools funded by an SOS (Support Our Students) grant. The program is comprised of 45 to 55 students at each school and is conducted Monday through Thursday on school days. Students are divided into groups and rotate into activities such as: recreation, homework, and a 4-H project activity. During homework time, students are given time to work on class assignments and receive assistance when needed. Students from Mount Olive College and Goldsboro High School volunteered to help the 4-H staff and served as tutors for the students. Teachers were surveyed to measure the impact the 4-H After-School Program was having on the students' school performance. The results were: 76 percent of students increased class participation, 60 percent increased homework completion, 65 percent increased quality of homework, 70 percent increased grades.

Wake County:

The Wake County Cooperative Extension Service's 4-H and Youth Development Program won a competitive bid to manage the 1997 Summer Youth Employment Training Program in Wake County. This program was designed to provide work experience to some of the most economically disadvantaged youth in our county. A total of 101 youth, ages 14-21, were served by this program. Youth worked for seven weeks in jobs that were screened to assure a quality work experience. All youth participated in educational workshops on topics such as safety, communication, and budgeting. Certified teachers provided assistance to students needing help in basic skills. Not only did this program provide many youth with a positive way to stay busy this summer, but it also allowed them to experience the satisfaction of earning a paycheck. These youth have the motivation and confidence that they will need to improve their economic situation in the future.

Chowan County:

The Chowan County 4-H and Youth Committee identified the reduction of crime - a major need for Chowan County youth. As a result, one major program, the 4-H Active Youth and Parents Program Grant (\$75,000) program was developed. Two public housing communities with high crime were identified as critical communities by the Edenton Police Department. Youth ages 5-16 have been participating in bi-monthly 4-H club meetings. Parents have verbally commented on the positive impact 4-H has

had on the youth. According to the Police Department, the youth are readily obeying rules, more willing to participate, and have become more concerned with the community. A special project was developed by the AYAP program director to get the youth more visibly involved in the county. The youth serve in a work crew. As a result, the youth have earned money to participate in 4-H camp.

Forsyth County:

Providing and maintaining a clean, safe, and secure environment is a major concern for youth from high-risk and limited resource communities. In cooperation with "Keep Winston-Salem Beautiful" and the Community Appearance Commission, programs were conducted to clean community waterways, remove trash and debris, and plant trees for area beautification. 140 youth participated, removed over a thousand pounds of trash and saved the county and city of \$5,200 in their clean-up efforts. Three years ago there was only one minority neighborhood involved in this effort. These programs have now been expanded to involve seven new minority neighborhoods due to the efforts of the Forsyth Center of NCCES.

Montgomery County:

Montgomery County 4-H, Candor Elementary School, and Mt. Gilead Elementary School partner to conduct a peer-tutoring program. In 1997, 92 fifth grade students tutored 185 students. Reading coordinators and reading teachers see the value of the program and have indicated that the students being tutored progress more rapidly as a result of the program. The youth being tutored often do not have the help they need in their family situation due to family work schedule or language barriers. Tutors see it as an honor to be selected to be in the program, and upcoming fourth graders inquire about how to be selected. The program received a "Bright Ideas" grant to provide incentives for the tutors.

Craven County:

As a result of the 4-H ASSETS program:

- 20 tickets were donated by the Charlotte Hornets Professional Basketball Team for the participants to attend a game and special pre-game clinic;
- a food pantry was established to provide provisions for families in crisis at one of the middle schools (Donations were secured from local businesses. ASSETS youth are in charge of soliciting donations, stocking shelves, and filling orders on request.);
- in cooperation with Harris Teeter and New Bern Police Department, 68 Thanksgiving dinners (10 to 12-lb. turkeys and all the trimmings) were delivered to needy families who might not otherwise have had a Thanksgiving dinner.

Objective No. 2 Description: Families will participate in educational experiences enabling them to identify problems, determine solutions, and develop skills to cope with adverse family situations.

Counties Reporting Accomplishments: 19

Program Accomplishments

Measures of Progress:

- 1) Number of money management plans made: 822
- 2) Increased knowledge and awareness of effective communication skills: 4,078
- 3) Increased knowledge and awareness of family coping and nurturing practices: 3,606

Impacts:

- 1) Dollars saved/reallocated through effective money management: \$13,207
- 2) Reduced conflict through improved family and interpersonal communication: 4,043

Volunteers Involved:

Number: 716
Hours: 4,595
Dollar Value @ \$10/hr: \$45,950

Program Cost/Benefit Analysis:

\$ Value to target audience: \$125,074 (seven reports)
\$ Value to society: \$1,366,719 (six reports)
Estimated program cost: \$288,685 (nine reports)

Narrative:

Thousands of North Carolinians participated in educational programs to help them develop and refine their parenting and money management skills. County Extension staffs are involved in helping people in the transition from welfare to work. Through collaborations with other county partners, over 800 Extension customers have developed money management skills allowing them to establish personal and family money management plans and to save or reallocate the money they have.

Collectively, Extension customers have saved or reallocated over \$13,000.

Programs such as "Operation Restart" in Halifax County have helped families reduce conflict and improve family interpersonal skills. Parents Helping Children Programs in Currituck County introduced parents to alternative parenting techniques. Participants report adoption of two to three new parenting techniques.

County Extension staffs have presented educational information in a variety of ways, including special-interest workshops, fairs and exhibits, newsletters and other media processes. They work with on-going programs such as Headstart, Daycare Services and Organizations, and Smart Start. One-on-one and peer programs have also proven to be successful methods of delivering educational information.

Success Stories:

Lincoln County: The Child Abuse Prevention Coalition which is coordinated through the Extension Center, collaborates with local school personnel, industry, news media, DSS, mental health, the Health Department, Headstart, retired citizens, parents, and others. Extension plays a major role in the educational programming (parenting sessions), as well as the organizational aspect. Extension took the leadership role this year in planning and implementing a Family Fare. 300 family members attended. Educational booths were set up - many featuring services available to families.

Bertie County: "Empowering to Succeed" is one tool that a Bertie County Work-First client used in her quest for gainful employment and self-sufficiency. This client is a divorced mother with a teenage son and has worked when she could, but had to stop and stay home with a disabled uncle until his death. She baby-sat and was site manager at the public housing complex where she lives. Still, she did not earn enough money to provide for her family. She was selected by Social Services to attend the Extension Empowering to Succeed program. She completed 48 hours of the 97-hour program. She also participated in the "Child Care for Pay" course before finding work at a daycare center. Her goal in life is to own a combination daycare center for children and adults. She said the best part of the experience, in addition to learning, was learning to think positively, learning to communicate better, and to make new friends.

Currituck County: The NCCES has recognized the importance of children's early experiences and development. They have partnered with other agencies, child care providers and parents to meet the needs identified that insure quality child care. Two Daycare Conferences were conducted - reaching 195 providers with intensive educational information based on the eight basic areas addressed in the CDA (Child Development Associate) credentials. Six additional workshops were conducted reaching a total of 90 providers. Participants reported a total value of \$5,650 for attendance at one of the conferences. Participants also reported making 52 changes in safety practices as a result of attendance at Extension-sponsored daycare training.

Objective No. 3

Community groups will take action to strengthen communities by creating environments which reduce youth and family risks through collaborative intervention and prevention programs in high-risk communities.

Counties Reporting Accomplishments: 23

Measures of Progress:

- 1) Number of Collaborations Established 432
- 2) Number of Prevention Programs Developed 103
- 3) Reduction in Criminal Activities in Targeted Communities 229
- 4) Number of Economic and Community Development Programs Established 64
- 5) Number of Support Programs Established for Families 85
- 6) Increased Knowledge and Skills Among Participants About Community Collaborations and Preventions Programs Number Demonstrating 5,750

Impact:

- 1) Value Added to Community Through Economic and Community Development Programs
Dollars: \$ 2,254,527
- 2) Increased Leadership Roles
Number Demonstrating: 1,523
- 3) Money Saved Through Increased Collaborative Efforts
Dollars: \$ 275,350
- 4) Costs Saved Through Reduced Risk Factors
Dollars: \$17,401,590

Volunteers Involved:

Number: 1,377
Hours: 16,872
Dollar Value at \$10/hr: \$168,720

Program Costs/Benefit Analysis:

Dollar Value to Targeted Audience: \$1,559,354
Dollar Value to Society: \$3,585,054
Estimated Program Cost: \$ 801,873

With just under one-fourth of the counties reporting accomplishments under Resilient Youth, Families and Communities, there is significant evidence of the need for support of programming to at-risk audiences. 432 collaborations were established and 103 prevention programs developed during 1997 - impacting this program area alone. Like all Extension programs, Resilient Youth, Families and Communities expands its impact through the use of volunteers. In 1997, \$1,377 volunteers contributed 16,872 hours to this effort. If paid, \$10.00 hour, these efforts would have cost \$168,000. Significant economic contributions were made by Resilient Programming by way of increased collaborative efforts, reduced risk factors, and value added to communities through economic and community development programs supported and created by this Cooperative Extension Major Program.

Success Story

The Child Abuse Prevention Coalition which is coordinated through the Extension Center collaborates with local school personnel, industry, news media, Department of Social Services, County Mental Health and Health Departments, Headstart, retired citizens, parents, and others. Extension plays a major role in the organizational management, as well as the educational programming component of The Child Abuse Prevention Coalition. *A Family Fare*, sponsored by Extension and supported through the Coalition drew 320 family members. Health and wellness checks, along with educational materials was available to the participants. 87 children received child ID's during their attendance at Family Fare. This effort was made possible by the purchase by the Coalition of Child ID equipment for this and other events drawing families with children.

CEMP 19 TEAM:

Jean Baldwin, Co-chair, Millie Bruton, Carolyn High, Steve Lilley, Eddie Locklear, Thearon McKinney, Co-chair, Wayne Mathews, Bettina Odom, Robin Roper, Shirley Rouse, Ellen Smoak, Bob Williamson

CEMP 20 - YOUTH DEVELOPMENT

Program Focus:

North Carolina 4-H focuses on life skills taught through a broad spectrum of subject matters. Life skills are defined as abilities, knowledge, attitudes and behavior that must be learned for success and happiness. Life skills enable people to adapt to and

manage their life situations. They give individuals a frame of reference for perceiving and responding to life situations and enabling them to achieve an inner satisfaction and happiness (National 4-H Curriculum Manual for Youth K-3, 1994). Some skills are more important than others at different ages, however, major emphasis throughout 4-H is to help youth participating in the 4-H program to develop competencies that will allow them to become both independent and interdependent human beings. Participants should be mature, self-reliant and functioning social creatures.

CEMP 20 - Youth Development focuses on three major aspects of the 4-H program that contribute to the life skill development of young people; the long term 4-H Unit/Club, 4-H School Enrichment Program and the 4-H Diverse Housing Program. Four factors have been identified that contribute to the successful development of a child: social competence, problem solving, autonomy and sense of purpose and future. The 4-H experiences such as the club, presentations, plan do and review, camps, judging teams, school enrichment, peer helper programs, and recognition programs are designed to give the participants an opportunity to develop the life skills that any child will need to succeed in life.

Through active participation in 4-H young people have an opportunity to learn communication skills and cooperation; to become empathetic and caring; to learn how to think critically and plan well; to develop a sense of independence, identity and a sense of power; and to develop healthy expectations and goals.

Primary Audiences Served:

Youth ages 5 to 19 that are involved in 4-H long term units.
Youth ages 8 to 15 in 4-H school enrichment programs.
Limited resources youth ages 5 to 19.

Objective 1. Long term support systems will develop competent youth in identified life skill areas.

Counties reporting accomplishments:

Alexander, Anson, Ashe, Avery, Bertie, Bladen, Buncombe, Burke, Cabarrus, Caldwell, Caswell, Catawba, Chatham, Chowan, Cleveland, Columbus, Craven, Cumberland, Cruuituck, Dare, Davidson, Davie, Duplin, Edgecombe, Forsyth, Gaston, Gates, Graham, Granville, Guilford, Halifax, Harnett, Haywood, Henderson, Hertford, Hoke, Hyde, Iredell, Jackson, Johnston, Jones, Lee, Lincoln, Madison, Maritn, McDowell, Mecklenburg, Mitchell, Montgomery, Moore, Nash, New Hanover, Northhampton, Onslow, Orange, Pamlico, Pasquotank, Pender, Perquimans, Pitt, Polk, Randolph, Sampson, Stanly, Stokes, Surry, Swain, Transylvania, Tyrrell, Union, Vance, Wake, Warren, Washington, Watauga, Wayne, Wilkes, Wilson, Yadkin, Yancey

Program Accomplishments:

Measures of Progress:

1. Increased awareness of community service

37,524

2. Increased communication skills 36,037
3. Increased knowledge gained 115,996
4. Increased leadership 35,378
5. Increased decision making skills 36,153
6. Number of new clubs formed - 5 to 8 172
7. Number of families actively involved in 4-H 24,897

Impact:

1. Dollars saved by the community from 4-H Community Service Projects \$429,605
2. Scholarship dollars received by 4-Hers \$374,224
3. Dollars earned by 4-Hers as a result of project work \$603,957
4. Dollars saved by 4-Hers as a result of project work \$257,998
5. Increased competency in youth:
 - managing relationships 36,005
 - communication skills 34,815
 - making decisions 36,042
 - self-confidence 39,211

Volunteers Involved

Number	14,328
Hours	179,557
Dollar Value	\$1,795,570

Program Cost/Benefit Analysis

\$ Value to Targeted Audience	\$1,166,158
\$ Value to Society	\$3,415,908
Estimated Program Cost	\$ 737,805

Objective 2. Youth involved in targeted knowledge transfer development activities will demonstrate improved academic performance.

Counties reporting accomplishments:

Alexander, Anson, Beaufort, Bertie, Buncombe, Caldwell, Catawba, Chatham, Columbus, Cumberland, Currituck, Dare, Davidson, Davie, Durham, Edgecombe, Forsyth, Gaston, Gates, Graham, Granville, Greene, Guilford, Halifax, Haywood, Henderson, Hertford, Hoke, Iredell, Jackson, Johnston, Jones, Lenoir, Lincoln, Madison, Martin, Meckenburg, Mitchell, Montgomery, Nash, Northampton, Onslow, Pamlico, Pasquotank, Pender, Perquimans, Polk, Randolph, Richmond, Robeson, Rockingham, Rowan, Rutherford, Stanly, Stokes, Swain, Transylvania, Tyrrell, Vance, Watauga, Wilkes

Program Accomplishments:

Measures of Progress:

Increased knowledge of teachers 4,616

Impact:

Number of students experiencing improved academic performance:

	No change	Some change	Great change
Class attendance	11,333	18,701	9,415
Homework completed	8,887	13,311	7,129
Quality of Homework	10,280	11,928	7,027
Science Grades	8,456	19,377	9,388

Dollard saved by the school system as a result of using the 4-H school enrichment material. \$485,545

Volunteers involved:

Number: 4,218
 Hours: 70,971
 Dollar Value: \$709,710

Program Cost/Benefit Analysis

\$ Value to targeted audience: \$ 353,370
 \$ Value to society: \$1,070,000
 Estimated program cost \$ 184,921

Objective 3: Not reported on this year.

Objective 4: Limited income youth residing in Diverse/Public Housing will increase life skill development which will ultimately result in making informed decisions about life choices.

Counties reporting accomplishments:

Alleghany, Bertie, Bladen, Buncombe, Cabarrus, Catawba, Cumberland, Davie, Forsyth, Granville, Haywood, Hoke, Iredell, Johnston, Jones, Lee, Martin, Mecklenburg, Nash, Pasquotank, Perquimans, Pitt, Robeson, Rockingham, Sampson, Tyrrell, Wake, Warren, Wilkes, Wilson

Program Accomplishments:

Measure of Progress:

1. Number of clubs formed for the 5 to 8 year olds in diverse housing 46
2. Youth acquiring skills in using the decision making process 1993
3. Youth acquiring skills in saying no to peer pressure 1400
4. Youth writing statements of clearly defined aspirations 797
5. Youth increasing knowledge and skills in conflict resolution 2754
6. Number of you participating in 4-H through programs in diverse housing 19347

Impact:

- | | |
|---|--------|
| 1. Dollars saved as a result of community service | 41,400 |
| 2. Youth improving resistance to peer pressure | 1,428 |
| 3. Youth defining aspiration | 963 |
| 4. Youth (5-8) increasing competency within select topics | 1,346 |

Volunteers Involved:

Number:	475
Hours:	9,231
Dollar value	\$93,310

Program Cost/Benefit Analysis

\$ value to targeted audience:	\$ 151,820
\$ value to society:	\$2,691,425
Estimated program cost \$	\$ 82,413

CEMP 20 Overview and Success Stories:

Strong 4-H clubs, school enrichment programs and diverse housing programs strengthen young people, families and communities. As seen from the measures of progress and impact figures above, 4-H participants in clubs(85 counties reporting) and diverse housing programs (30 counties reporting) are increasing and acquiring skills in the areas of leadership, decision making, self-confidence, and communication. Not only are young people developing important life skills, they are learning to give back to their community. In 1997, 4-H agents reported that their communities saved \$429,605 as a result of 4-H Community Service Projects. Clubs and Diverse Housing Programs provide young people the opportunity to spend time with caring adults in a safe environment thereby increasing their protective factors. For students participating in 4-H school enrichment (61 reporting counties), the benefit of the program was not limited to the information being taught. Teachers reported that about two thirds of the evaluated students experienced some positive change in academic performance while enrolled in the 4-H school enrichment program.

The impact of the 4-H program can be best illustrated by the selected county success stories below:

Community Assets is an initiative that incorporates 4-H into neighborhoods in hopes of reducing juvenile crime and improving community support in public housing and limited resource communities. One club in the project has been innovative in creating opportunities and ideas for their community. This 4-H Club, referred to as "Da Bomb", consists of 9-12 year olds that are eager to make a difference in their neighborhood. These youth have formed a great vision, In less than a years time this club has organized a food pantry and clothing closet of community residents. They are active in generating donations from churches, families and friends. They volunteer weekly at a local retirement home as foster grandchildren.

We often see growth in 4-H'ers as they are involved in the program. One county youth has shown significant growth in self-confidence. At one point, she would only attend events if her sister also attended. This year she has participated in several county, state and national events with sibling support. This increased self-confidence of this young lady is wonderful and she is now pursuing county leadership roles.

The Creekside 4-H Clovers Club has met for 3 years at a mobil home park. The neighborhood is very transit and offers few opportunities for positive recreation and social groups. In interviews, parents report that children felt part of a group and have positive role models through the 4-H club. The principal at the community school was quoted as saying "the program boosted the children's self-esteem and improved reading. This is an opportunity for them to belong to something." Teachers reported 30 of the members, who were in the club throughout the year, improved their decision making skills, and 24 of the youth had an increase in their level of responsibility. Parents, school and community leaders feel 4-H is making a difference in the youth.

Two classes who participated in Embryology School Enrichment Program were selected to attend the 4-H Gala in Charlotte to share the program with key leaders. One of the teachers was so impressed with how well a poor performing student discussed all aspects of the embryology program with adults, she altered his grade to reflect his knowledge increase. The teacher stated' "this student does not do well with written test and homework; however, I feel justified in giving him an A because he really understands the whole process and can verbalize it. The program gave this little boy a chance to shine inside and outside of school.

The Spanish teacher at Mountain View Elementary School, contacted 4-H about the Summer Program for four Hispanic students. These children did not loose their language skills gained during the school year over the summer months as is the usual case. They actually improved more quickly because of their participation in the 4-H summer day camp program.

A need exist for children in limited income housing to experience success and positive reinforcement. Fourteen 4-H'ers in limited income housing are participating in Community Gardening projects. Children have been paired with Master Gardener volunteers who provide them with information and materials for their gardens. Parents have estimated that children are producing about two meals per week for their families and neighbors. Children and leaders have also expanded their gardening project by landscaping around community centers in their neighborhoods. Children have taken pride in their gardens and have demonstrated increases in self-esteem.

Seven afterschool care directors were trained in Talking with TJ, a conflict resolution curriculum for 2-4 grades. Two of the school implemented the curriculum which is a 6 hour program, with thirty youth. The directors stated that over 75% of the children showed improved conflict resolution skills and were using power phrases that they learned.

Wilkes County 4-H and Community Health Connections have formed a partnership creating the Peer Tutor Program. This program is designed for high school students interested in being a positive role model for elementary age youth providing mentoring and tutorial services. In 1997, 42 Peer Tutors averaged more than 8 hours per month of tutoring time and homework completion and correctness have increased more than 14% for elementary participants.

CEMP Contact Persons:

Dr. Candace Goode
Diane Gibson

Team Members:

Travis Burke
Eve Kindley
Dr. Ed Maxa
Dr. Lou Otto
Trevella Robinson
Dr. Shirley Rouse
Sharon Rowland
Steve West

NORTH CAROLINA 1997 ANNUAL REPORT:
CIVIL RIGHTS

NARRATIVE SUMMARY OF ACCOMPLISHMENT

GOALS & PROCEDURES: EQUAL OPPORTUNITY EMPLOYMENT

Annual Civil Rights Report - Calendar Year 1996

CR04 - Equal Employment Opportunity

A. Objectives

1. Increase the number of minorities and females in agriculture and administrative positions.
2. Continue to ensure salaries are unaffected by race/sex.
3. Increase the cultural diversity of employees.

B. Indicators of Success and Accomplishments

1. In enlisting the help of all current employees to locate and recruit minorities, we included recruiting segments on video to encourage employees to help in the recruitment process. A great deal of effort was not made on this objective in 1996.

2. We recruited at traditionally black and female institutions in the southern region or at institutions that have a high percentage of minorities in the student body. In 1996, we recruited five (5) times at such institutions. Of the 181 male applicants in 1996, 16% were minority. Of the 255 female applicants, 18% were minority.

3. Leadership positions data reflect minimal changes. Of the 90 County Director filled positions at the end of 1996, 24.4% were female. This is a percentage point increase over last year's 23%. 13 of the County Directors (14%) were minorities; this was unchanged from 1995. The seven member district director team was composed of 2 black males, 2 white females, and 3 white males.

Of 25 promotions in 1996, 11 (44%) were female and 2 (8%) were minority.

4. Employment procedures were regularly monitored to ensure standardized procedures were followed when filling positions.

EPA EMPLOYEES
RACE BY GENDER

Sept. 30, 1995 Dec. 31, 1996 Change

	M	F	Total	M	F	Total	M	F	Total
Black	27	104	131	21	95	116	-6	-9	-15
White	241	271	512	228	251	479	-13	-20	-33

Other 0 12 12 0 8 8 0 -4 -4
 Gender Only

Males 268 249 -19
 Females 387 354 -33

SPA EMPLOYEES
 RACE BY GENDER

	Sept. 30, 1995			Dec. 31, 1996			Change		
	M	F	Total	M	F	Total	M	F	Total
Black	0	33	33	0	30	30	0	-3	-3
White	0	196	196	0	200	200	0	+4	+4
Other	0	2	2	0	1	1	0	-1	-1

Gender Only
 Males 0
 Females 231 231 0 0

GOALS & PROCEDURES: PROGRAM DELIVERY
 Annual Civil Rights Report - Calendar Year 1996

CR05 - Program Delivery

A. Objectives

1. Provide the same level of educational service to all people of the state without regard to race, sex, age, disability, color, national origin, or religion.
2. Advisory system members reflect all groups in the state with regard to race, age, sex, disability, color, national origin, or religion.

B. Indicators of Success and Accomplishments

1. Advisory Leadership membership and program delivery efforts were reported as part of the county annual reports. Each county has goals to ensure proportional representation of citizens.
2. Contact Data (extrapolated from 4 months of actual data).

NCSU Agents

White	Black	A/Akn	A/PI	Hispan	Male	Female
1407495	508605	43653	5394	43539	903660	1105026

NCSU Area Agents

White	Black	A/Akn	A/PI	Hispan	Male	Female
75396	17220	2139	48	579	55428	39954

NCSU Paraprofessionals

White	Black	A/Akn	A/PI	Hispan	Male	Female
59331	56610	3552	333	1887	44226	77487

NC A&T Agents

White	Black	A/Akn	A/PI	Hispan	Male	Female
15594	11364	6168	303	1200	18450	16179
NC A&T Area Agents						
White	Black	A/Akn	A/PI	Hispan	Male	Female
519	786	165	0	3	516	957
NC A&T Paraprofessional						
White	Black	A/Akn	A/PI	Hispan	Male	Female
14211	7098	1623	0	108	11376	11664

GOALS & PROCEDURES: PUBLIC NOTIFICATION
Annual Civil Rights Report - Calendar Year 1996

CR02 - Public Notification

A. Objectives

Overall:

That all people who can benefit from Extension educational programs be aware of their availability.

Specific:

1. Every county be accountable for a public notification plan.
2. Make organizations which request Extension assistance aware of Extension position on non-discrimination.
3. Continue to utilize a common non-discrimination statement on all printed material.

B. Indicators of Success and Accomplishments

Counties display the "And Justice for All" posters prominently in their entry areas.

Ninety (90) individual reports from counties list Extension clubs individually and notes specific plans to increase minority participation if and when it's found deficient.

Most counties regularly use a variety of media to broadcast the availability and accessibility of our educational programs. These includes television, radio, and print media.

C. Implications

The implications are that the public is in no way prevented from learning or participating in Extension programming based on status in a protected class.

GOALS & PROCEDURES: CIVIL RIGHTS TRAINING
Annual Civil Rights Report - Calendar Year 1996

CR01 - Civil Rights Training

A. Objectives

Overall:

All employees of the North Carolina Cooperative Extension Service are expected to be aware of and comply with Civil Rights legislation. This includes the Americans with Disabilities Act.

All employees of the North Carolina Cooperative Extension Service are to understand the human aspects of Civil Rights.

Specific:

1. All employees are expected to be knowledgeable of the principles and laws of our nation regarding Civil Rights.
2. All employees are expected to be knowledgeable of Civil Rights policies and sensitive to equity issues.
3. All employees are expected to assess the quantity and quality of educational programs delivered to minority individuals by comparing benefits delivered to non-minority individuals.

B. Indicators of Success and Accomplishments

There were three (3) video training segments that were copied and sent to each county. Each employee has an opportunity to view these segments as part of the monthly staff meeting held in each county.

There were ninety-nine (99) people both on and off campus received face to face training as part of new faculty training requirements

The reporting system used statewide was designed for the world wide web and counties received training to input the various required data into this new system. Ninety (90) counties of the 101 units reported against their individual plan. This initial response rate was seen as a great success of the plan of work training since having a separate county plan is a new process for all of them. The reporting was done as a composite effort of employees in each reporting unit.

C. Implications

Implications are good that all personnel are more aware of Civil Rights issues as we move into the new reporting system that's a part of the Government Performance and Reporting Act (GPRA).

GOALS & PROCEDURES: ON-SITE COMPLIANCE REVIEWS
CRO3 - On-Site Civil Rights Compliance Review
1996-1999 Plan of Work

* Situation:

The 1992-1995 Plan of Work was the first for North Carolina following a 19-year Civil Rights lawsuit concerning salary inequity and a 1991 Compliance Review by ES-USDA. The review was predominantly positive and provided feedback and guidance in focusing the 1992-1995 efforts. Several efforts were incorporated to address any noted weaknesses. Also during this time period, the Director and the Affirmative Action Officer retired.

The overall intention of this plan is to continue the efforts outlined in the previous plan of work with few modifications.

* Goals:

Overall:

Achieve parity of participation for all clientele served by County Extension offices.

Specific:

1. All counties are expected to determine their baseline level of participation of various groups and set numerical goals for reaching under served/under represented groups.

2. All counties not in compliance are expected to show progress toward compliance within the 4-year period.

* Procedures:

1. Compliance reviews will be conducted as part of the county program reports done biannually. Counties not in compliance will be expected to employ Affirmative Action procedures to reach underserved/under represented groups.

2. Counties will keep records of clientele contacts and make the data available upon request.

REPORTING OPTION SELECTED
Total (100%) Data Collection

ADDITIONAL COMMENTS

CONTACTS

POPULATION AND CLIENTELE PROJECTIONS: 1862 PROFESSIONAL

	White not of Hispanic origin	Black not of Hispanic origin	American Indian/ Alaskan Native	Hispanic	Asian or Pacific Islander	Male	Female
Potential Recipients	3073457 73.0%	2 24.0%	63165 2.0%	45312 1.0%	12123 0.0%	1833180 44.0%	2381212 56.0%
FY93 Participat.	1588864 79.0%	405377 20.0%	21229 1.0%	4585 0.0%	2968 0.0%	676713 34.0%	1346310 66.0%
FY94 Participat.	1662149 78.0%	439578 21.0%	23267 1.0%	4983 0.0%	3645 0.0%	709574 33.0%	1423848 67.0%
FY95 Participat.	1730213 77.0%	478560 21.0%	26496 1.0%	5708 1.0%	3999 0.0%	727902 32.0%	1517074 68.0%
FY96 Participat.	1572000 74.0%	507600 23.9%	28000 1.3%	12000 0.6%	4000 0.2%	1019328 48.0%	1104272 52.0%
FY97 Participat.	1603440 74.0%	517752 23.9%	28560 1.3%	12240 0.6%	4080 0.2%	1039715 48.0%	1126357 52.0%

POPULATION AND CLIENTELE PROJECTIONS: 1890 PROFESSIONAL

	White not of Hispanic origin	Black not of Hispanic origin	American Indian/ Alaskan Native	Hispanic	Asian or Pacific Islander	Male	Female
Potential Recipients	433340 51.0%	385732 46.0%	25140 3.0%	0 0.0%	111 0.0%	355003 42.0%	489320 58.0%
FY93 Participat.	17075 58.0%	10070 34.0%	2350 8.0%	0 0.0%	5 0.0%	6971 24.0%	22480 76.0%
FY94 Participat.	18125 57.0%	11175 35.0%	2670 8.0%	0 0.0%	6 0.0%	7850 25.0%	24126 75.0%
FY95 Participat.	20670 56.0%	13120 36.0%	3160 8.0%	0 0.0%	7 0.0%	9117 25.0%	27840 75.0%
FY96 Participat.	20642 55.9%	13150 35.5%	3200 8.6%	0 0.0%	8 0.0%	9200 24.9%	27800 75.1%
FY97 Participat.	20772 55.8%	13200 35.5%	3220 8.9%	0 0.0%	8 0.0%	9200 24.7%	28000 75.3%

POPULATION AND CLIENTELE PROJECTIONS: 1862 PARAPROFESSIONAL

	White not of Hispanic origin	Black not of Hispanic origin	American Indian/ Alaskan Native	Hispanic	Asian or Pacific Islander	Male	Female
Potential Recipients	2299277 72.0%	795935 25.0%	52965 2.0%	35112 1.0%	19063 0.0%	1485360 46.0%	1716992 54.0%
FY93 Participat.	124898 50.0%	114601 46.0%	6163 3.0%	1466 1.0%	1098 0.0%	78522 32.0%	169704 68.0%
FY94 Participat.	126698 50.0%	118588 47.0%	6438 3.0%	1948 0.0%	1489 0.0%	83082 33.0%	172079 67.0%
FY95 Participat.	129016 49.0%	122443 46.0%	8832 3.0%	2443 1.0%	1824 1.0%	91208 35.0%	173350 65.0%
FY96 Participat.	130929 49.0%	122913 46.0%	8016 3.0%	2672 1.0%	2672 1.0%	93521 35.0%	173681 65.0%
FY97 Participat.	130929 49.0%	122913 46.0%	8016 3.0%	2672 1.0%	2672 1.0%	93521 35.0%	173681 65.0%

POPULATION AND CLIENTELE PROJECTIONS: 1890 PARAPROFESSIONAL

	White not of Hispanic origin	Black not of Hispanic origin	American Indian/ Alaskan Native	Hispanic	Asian or Pacific Islander	Male	Female
Potential Recipients	433340 51.0%	385732 46.0%	25140 3.0%	0 0.0%	111 0.0%	355003 42.0%	489320 58.0%
FY93 Participat.	41275 56.0%	29750 41.0%	2100 3.0%	7 0.0%	10 0.0%	28250 39.0%	44892 61.0%
FY94 Participat.	43630 55.0%	32850 41.0%	3250 4.0%	9 0.0%	12 0.0%	31750 40.0%	48001 60.0%
FY95 Participat.	45116 53.0%	34910 41.0%	4770 6.0%	10 0.0%	13 0.0%	33640 40.0%	51179 60.0%
FY96 Participat.	46196 53.7%	34980 40.7%	4800 5.6%	10 0.0%	14 0.0%	34000 39.5%	52000 60.5%
FY97 Participat.	46326 53.7%	35000 40.7%	4850 5.6%	10 0.0%	14 0.0%	34000 39.5%	52200 60.5%