

NORTH CAROLINA
COOPERATIVE EXTENSION
MAJOR PROGRAM
ACCOMPLISHMENTS

OVERVIEW

1998



NORTH CAROLINA COOPERATIVE EXTENSION 1998 PROGRAM ACCOMPLISHMENT REPORT

Program Overview

North Carolina State University and North Carolina A&T State University deliver coordinated Extension educational programs to all people in North Carolina to improve the quality of their lives.

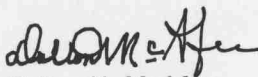
In 1998, North Carolina Cooperative Extension completed the third year of its long range plan, *Foundations For The Future*, consisting of twenty Cooperative Extension Major Programs, which address priority needs of the state's citizens within the construct of Extension's mission.

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 its 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.



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4-H PROGRAMS

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 1998 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 Cooperative Extension Major Programs (CEMP):

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

Participation Demographics

In 1998 a total of 212,563 youths participated in one or more of 4-H's basic programs. Of these 30,546 were active in 1,426 4-H clubs, 106,862 were active in the 3,518 short term or special interest programs. Ninety-six thousand, six hundred and twenty-two (96,622) youth participated in the 2,947 (K- 12) school enrichment programs offered statewide. Another 33,661 young people were involved in 662 after-school child care designs managed by 4-H.

Seventeen thousand, three hundred and twenty-seven (17,327) kindergarten age youths were active. Every grade was involved including high points at 37,469 third graders and

29,155 fourth graders. Three hundred one (301) post-high school youth were involved. 4-H'ers continue to come from farm: 17,009; small towns: 112,640; big towns: 55,092; suburbs: 7,621; cities: 20,201; to total: 212,563.

Adult volunteers continue to be the heart and legs of 4-H. It would be difficult to estimate the value of the 23,303 adult volunteers involved in 1998. Nineteen thousand, one hundred fifty-eight (19,158) of these were direct youth contact volunteers. Four hundred five (405) were master volunteers in support of volunteer skill development. A total of 20,024 volunteers completed structured training to invest in their friendship groups, families, and communities. Three thousand, nine hundred and ten (3,910) 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. Seven thousand, five hundred and fifty-five (7,555) youths had a 4-H camping experience in 1998.

Over 3,500 youths "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, Challenge Camp, and 4-H Forestry Camp.

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 # 5 - 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-seven counties targeted the first objective: improving the quality of child care. Nine thousand, seven hundred and eighty-eight (9,788) child care providers were trained. Of these, 33 were credentialed, and 205 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 amount of quality child care. Two million, three hundred twenty-seven thousand, five hundred eighty nine dollars (\$2,327,589) worth of new resources were involved at 79 new centers to expand the number of available child care slots by 3,367. There were 337 collaborations increasing awareness by 3,335 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 is becoming far more available in rural areas.

CEMP # 13 - LEADERSHIP AND VOLUNTEER DEVELOPMENT

Thirty-five counties worked to accomplish objective one and three. Fifty-nine counties worked to accomplish objective two.

Objective one is to increase knowledge and application of leadership skills in response to community problems. Seven thousand, three hundred and fifty-four (7,354) participants increased knowledge of leadership skills, while 3,689 of those adopted sound practices. Three thousand, four hundred and thirty-three (3,433) identified community problems, while 2,058 of those implemented action plans. Six hundred eighteen (618) community based projects were completed.

Objective two is to increase knowledge and management for volunteer systems. Nineteen thousand, two hundred and twenty-seven (19,227) participants increased knowledge of volunteer opportunities. Of those, 6,758 adopted volunteer management system practices resulting in the establishment of 702 new volunteer management systems.

Objective three is to actively involve volunteers in the solution of community problems. Two hundred twenty-four community issues were addressed by 2,585 persons involved in leadership training.

Success Stories.....

Madison County: The need for public exercise facilities has been identified by several

communities during some phase of Environmental Scanning, including Community Voices leadership training in 1997. A \$14,000 grant was awarded and used to construct three walking trails about 1/4 mile in length in three isolated rural communities. Additional funds are being sought to complete a fourth trail. Data from previously reported community leadership development activities was used to provide the impetus for securing the \$14,000 grant from Mission Hospital Foundation to the Madison County Health Consortium. These trails will provide citizens with a safer place to walk for exercise and support other extension programs, such as "Fit for Life." This is a collaborative effort with Extension and the Hot Springs Health Program and Madison County Recreation Department.

Wake County: One of the communities targeted for The Community Voices Leadership training in Wake County was South Park, which is located in inner city Raleigh. This group of Community Voices graduates now called "South Park Outreach" recruited two young women to participate in a GED Program. One of the ladies is now a mother and better equipped to handle the role of motherhood as a result of the support system and parenting resources made available to her from this group formed as a result of the Community Voices training program provided by Wake County Cooperative Extension. One of the community leaders and graduates of Community Voices, who has helped provide a great deal of outreach assistance to the women, is blind.

Partnering with the North Carolina Cooperative Extension Service, the North Carolina Extension Homemakers' efforts to strengthening families and communities through leadership development, educational support, volunteer network and research based information resulted in 1,116,689 contacts and 456,486 hours volunteered.

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 practioners 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.

Thirty-eight counties report 17,786 youths with: increased communicating, decision making, working in groups, understanding self, and relating to significant adult life skills; 9,873 with increased literacy; 12,432 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 (10,586) demonstrated increased life skills;

5,341 improved academic performance; 1,416 reduced use of drugs and alcohol; 631 reduced judicial involvement; 1,153 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.

Fourteen counties report 1,153 family money management plans made, while 3,658 increased communication skills, and 3,606 increased coping and nurturing practices for a savings of \$13,207 through effective money management. Three thousand, five hundred and thirteen (3,513) 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.

Eighteen Extension Centers mobilized citizens and their communities to create environments which strengthen families and provide for risk reduction for youth. Six hundred and fifty eight (658) were actively involved in leading 49 economic/ community development programs, 60 new family support programs, and 55 new prevention programs.

CEMP # 20 - YOUTH DEVELOPMENT

CEMP 20 - Youth Development focuses on three major aspects of the 4-H program that contribute to the life skill and asset development of young people; the long term 4-H Unit/Club, 4-H School Enrichment Program and the 4-H Diverse Housing Program. Four major factors have been identified that contribute to the successful development of a child: social competence, problem solving, autonomy and sense of purpose and future. Those factors along with Search Institute's developmental assets are incorporated into 4-H experiences. Four-H club activities, presentation, record keeping, judging teams, school enrichment experiences, peer helper programs, community service projects and recognition programs are designed to give the participants an opportunity to develop the life skills/assets that any child will need to succeed in life.

A major goal of 4-H Youth Development Program is to help young people participating in 4-H programs to develop life skills and assets that will allow them to become competent, caring, and responsible human beings. In 1998 emphasis was placed on helping young people improve their life skills/assets in the areas of communication skills, cooperation, empathy and caring, critical thinking and planning, and goal setting.

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. Ninety-one counties reported: \$424,884 dollars saved by the community from 4-H Community Service Projects;

\$668,557 scholarship dollars received by 4-H'ers; \$756,737 dollars earned by 4-H'ers as a result of their 4-H project work.

Life skills provide a measure of increased competency in youth as illustrated by the following areas: 27,095 managing relationship; 41,685 communication skills; 44,628 making decisions; and 45,160 self-confidence.

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

Forty-seven percent of the 48,000 students demonstrated some change or a great change in their class attendance. Fifty-one percent of the 36,487 students reported some or a great change in homework completed. Forty percent of the 39,847 students demonstrated some or a great change in the quality of their homework. Fifty-four percent of the 40,191 students demonstrated some or a great change in their science grades.

Objective three states: Limited income youth residing in Diverse/Public Housing will increase life skills development.

Thirty counties reported: 3,188 youths improving their resistance to peer pressure; 1,044 youths defining aspirations; 3,821 youths acquired decision making skills; and 1,252 youths acquired conflict resolution skills.

4-H Summary

The North Carolina 4-H Program created helping relationships to enable youth to become responsible, productive citizens during the 1998 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.

1998 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 212,563 youths and 23,303 adult volunteers worked to involve 30,596 youths in 1,426 4-H Clubs; 106,862 youths in 3,518 special interest programs; 96,622 youth in 2,947 (K-12) school enrichment designs; and 33,061 young people in 662 after-school, child care settings. Over 3,500 youths "discovered the world" during 20 unit weeks of junior camping and 14 weeks of 4-H specialty camps.

Fifty-seven counties targeted child care to train 9,788 child care providers and license 205 different sites. Two million, three hundred twenty-seven thousand, five hundred eighty-nine dollars (\$2,327,589) in new resources was invested at 79 new centers to expand available child care slots by 3,367.

Thirty-five counties worked to expand Leadership and Volunteer Development by involving 7,354 participants to plan and implement 618 community based projects.

Thirty-eight counties focused on Resilient Youth, Families and Communities.

Resilience programs report 10,586 youths with increased life skills; 9,873 improved academic performance, 1,416 reduced drug and alcohol use, 631 reduced judicial involvement, and 1,153 reduced violence. Four hundred thirty-two (432) collaborations were established; and 103 prevention programs were developed.

Ninety-one counties targeted youth development and increased life skills in 158,568 youths while investing \$424,884 in community savings, youth scholarships, project work earnings, and project work savings. Studies representative of 4-H school enrichment programs indicated that 47% of the 48,000 students improved attendance; 51% of 36,487 students improved completing homework; and 54% of 40,191 students received better science grades. Teachers reported these results plus savings to school systems.

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 1998, that treasure blazed brightly across the state of North Carolina.

AGRICULTURE, NATURAL RESOURCES, ENVIRONMENT, AND COMMUNITY AND RURAL DEVELOPMENT PROGRAMS

CEMP # 2 - AGRICULTURAL AND NATURAL RESOURCES POLICY

Agricultural and Natural Resources Policy programs are directed toward improving the efficiency and effectiveness of policies through better informed stakeholders, decision-makers and citizens. Educational programs on policy development and decision-making were related to the technical education programs of many of the other CEMPS. Specific programs focused on environmental protection, water quality, waste management, land use management, pesticide regulations, and agricultural policies. More than 6,800 people participated in Extension programs, learning about specific policies, the process by which policies are developed, and conflict resolution techniques. Extension programs involved over 300 volunteers contributing over 4,700 hours valued at over \$47,000.

Extension continues to work to train its 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.

The Natural Resources Leadership Institute continues to have an impact in North Carolina, with its participants involved in a variety of local and state-wide natural resource policy issues.

Extension has been instrumental in addressing environmental issues throughout the state. Examples include water quality management in the Neuse River Basin, shellfish habitat protection in Coastal areas, air quality concerns in the mountains, and land use management conflicts in urbanizing Piedmont communities. Lessons learned from these programs are being taught to Extension and cooperating agency personnel and other customers involved in similar efforts around the state.

CEMP # 3 - AGRICULTURE AND THE ENVIRONMENT

Agriculture and the Environment Programs educate customers on the relationships between agricultural systems and the environment. These focus on applying economically and environmentally sound techniques to protect natural resource quality. Specific programs address land, air, and water quality, waste management, soil, nutrients, pesticides, and petroleum products. Many cooperating organizations play a part in successful education programs, including USDA-NRCS, NC DENR, NCDACS, and local Soil and Water Conservation Districts.

More than 17,000 people participated in Extension programs, learning about best management practices for protecting the environment. Program impacts included training of 5,500 certified animal waste operators and 14,500 certified pesticide applicators. Extension programs involved over 4,000 volunteers contributing over 23,000 hours valued at over \$230,000. More than 230 media stories were produced describing the relationship between agriculture and the environment.

More than 300,000 tons of soil erosion was reduced because of conservation practices applied to approximately half the state's cropland. In addition, 200,000 acres of cropland. Using bioengineered genetic material, growers reduced pesticide use by over 200,000 pounds. State-wide, producers saved an estimated \$5 million by application of integrated pest management and other practices and technologies designed to reduce reliance on pesticides. Wildlife habitat was established on more than 10,000 acres.

CEMP # 4 - ANIMAL PRODUCTION AND MARKETING SYSTEMS

Producers of livestock, poultry and aquatic species have selected, adopted and implemented practices or enterprises that achieve business, individual and family goals of profitability and quality of life. Reports indicated that 26,635 producers increased knowledge of improved production practices. Of these, over 9,750 adopted practices to optimize income, and 2,576 improved financial planning and management procedures. Collectively, improved nutrition, breeding, marketing, buildings and facilities, and general management practices adopted were estimated to be worth \$11,943,200 in 1998. Over

5,000 farmers and 102,000 non-farm citizens received information about animal agriculture issues and animal food quality standards. Nearly 1,000 farms adopted appropriate standards and procedures to address industry issues such as waste management. In addition, numerous animal related educational activities reached several thousand school aged children with information on animal agriculture and its contribution to the state's economy. In conducting these programs, agents and specialists engaged 2,868 volunteers, who committed 31,987 hours valued at \$319,870, to deliver these programs.

The following sampling of success stories describe some of the specific outcomes and impacts that these programs have had on individual producers, youth and other stakeholders.

- *Beef producers in Cabarrus County working with Extension feed bakery byproducts, saving themselves \$50,000 in purchased feed costs and saving the commercial bakery \$35,000 in landfill fees.

- *Extension worked with a group of four Edgecombe County beef producers to coordinate their breeding, feeding, management and marketing programs and netted them an additional \$5,112 above traditional approaches of selling individually at graded calf sales. In another case, Catawba County producers enhanced mineral supplementation of their cattle, and through group purchasing, saved \$3,600 in supplement costs. In another county (Rutherford County), six producers coordinated their production and marketing of feeder cattle and increased income among them by \$13,200.

- *Through collaborative educational programs, turkey growers learned about biosecurity and implemented disease prevention and control measures. Four turkey companies were involved, and all reported improvements in disease control and bird performance. One company, with production of over 350 million pounds, reported medication cost savings of \$2.1 million.

- *On dairy farms, Extension programs have reduced losses to mastitis and mycotoxins. On one Stanly County farm, a team of professionals (veterinarians, farm staff and specialist) worked together to reduce monthly losses of \$3,000, save the farmer \$5,000 sampling fees to determine infectious cows, and resulting in increased gross returns of 25%. On another dairy (Yadkin), milk production was improved and cow health and reproduction were improved by properly managing mycotoxins in the herd, resulting in increased milk production over a two-month period of \$12,000.

- *In Franklin County, 600 third graders learned directly from 12 livestock producers about various aspects of animal production. Support was provided by United Way, and a local TV farm news program and local radio station partnered to publicize and broadcast the event.

- *In Swain County, consumers learned about factors affecting meat quality and meat safety considerations. Through a pre- and post-test, participants' knowledge increased 20% units and several have indicated principles learned in the workshop are used in shopping for and preparing meats.

CEMP # 6 - COMMUNITY AND ECONOMIC DEVELOPMENT

The effort in community and economic development programs has centered around bringing more resources and enterprises to communities and rural areas, assessing community needs and assets, developing and sustaining local leadership. Twenty-two counties reported efforts in Community and Economic Development in 1998. Many more conducted programs and had impacts. Particularly effective programs have been the development of tourism educational efforts. The western area of North Carolina has held two major tourism related workshops with a third in the planning. These efforts have reached over 300 people interested in establishing, enhancing, or supporting tourism enterprises. Already, extension faculty in western North Carolina are considered leaders in tourism within the state, and creating new partnerships with other organizations and agencies. In 1999, North Carolina Cooperative Extension reaffirmed its commitment to community development through renewed agreements with long-time partners and the development of new partnerships. Extension efforts through educational programs continue to build the number of communities with trained leaders, twelve more were organized in 1998 and 68 new projects were initiated. Communities were also assisted in securing grants and other resources. Extension efforts partnering with community groups has led to the acquisition of \$100,000 for park and urban forest development in one location alone. New enterprises are being founded in rural western North Carolina as well as the development of skills to meet market demands in urban areas. Home-based businesses resulting from educational programs in 1998 was 20 with a payroll over \$150,000. Overall, at least 10,000 people participated in community development programs with an economic impact of over \$500,000 to themselves or their communities.

CEMP # 7 - CROP PRODUCTION AND MARKETING SYSTEMS

Seventy counties reported accomplishments under one or more of the seven objectives in Crop Production and Marketing Systems. The following outcomes and impacts were associated with delivery of these programs.

Tobacco farmers have rapidly adopted the practice of baling flue cured. With a premium of \$0.05/pound for baled tobacco, 10 counties reported more than \$2 million added revenue for tobacco farmers who sold baled tobacco.

Peanut farmers in three counties used weather-based monitoring to determine the need for fungicide applications for leaf diseases. Farmers eliminated one spray by using the system, reducing pesticide use of 8,620 pounds and saving \$243,900. In two other counties, growers saved about \$550,000, using the same strategy.

More than 270 part-time and limited resource farmers in 24 counties added new crops to their enterprise mix, affecting 6,500 acres and increasing income by more than \$1 million.

In addition, 852 farmers in this audience adopted variety selection, no-till systems, and IPM strategies on about 14,400 acres, generating 1.2 million in added income.

Two floriculture growers were experiencing disease problems in their crops. After consulting with extension agents, the disease problems were solved, generating additional income of about \$50,000.

Almost 8,000 growers implementing IPM, nutrient management strategies, variety selection, and disease resistant varieties, resulting in increased profits of \$13 million. IPM practices were implemented by over 3,500 growers on 368,780 acres, reducing pesticide use by 346,000 pounds and saving farmers about \$6 million.

An estimated 2,400 growers reached through extension programs adopted bioengineered plant genetic material on 208,000 acres, saving an estimated \$1 million in pesticide costs.

Crop farmers adopting practices influencing marketing and farm product prices netted an additional \$1.8 million.

CEMP # 10 - FOOD AND FOREST PRODUCTS MANUFACTURING

This Cooperative Extension Major Program has two distinct components: Food Processing Industry and the Forest Products Industry. Both are important to the economy of North Carolina and warrant major efforts by extension faculty. In 1998 over 220 requests for assistance were received from small businesses and entrepreneurs, 25 new companies were started. Seven hundred people participated in food processor training programs to ensure compliance with regulations governing the food processing industry. Primary efforts have been to prepare seafood and large meat processors to comply with the new HACCP based regulations and Pathogen Reduction rules. Other efforts related to the rapid cooling of eggs with substantially reduce consumer's risks and improve shelf life. This could be a significant health, safety, and economic factor for North Carolina citizens State, national, and international programs on HACCP will continue to be an important component of Food Science Extension Programs.

In the forest or wood products industries, over \$2,000,000 has been saved through improved utilization, productivity, efficiency, or marketing as a result of extension programs. One firm experienced a savings of \$220,000 alone. Eighty-eight manufacturing firms have adopted recommended practices to improve their business, additionally 130 consumers have adopted practices related to selection, utilization, and maintenance of wood products. Through all wood products programs over 1,100 individuals were reached. The continued improvement in efficiency in the wood products industry is a focus of the extension programs for the coming year.

CEMP # 11 - FOOD SAFETY AND QUALITY

The Food Safety and Quality program focuses on increasing knowledge and encouraging the adoption of safe food handling practices of food service workers, consumers, youth and other audiences. These audiences are educated through innovative training, distance education, websites and demonstrations of safe food handling approaches. While the magnitude of the reduction in foodborne illness is difficult to determine, estimates indicate that the average cost of a restaurant foodborne illness outbreak is \$75,000, and the average cost of an individual case of foodborne illness of \$942

This program resulted in the following outcomes:

1. 19,726 consumers increased their knowledge of safe food handling
2. 15,471 consumers improved their attitude about the need to handle food safely
3. 2,571 food service workers increased their knowledge of safe food handling
4. 2,338 food service workers improved their attitudes about handling food safely

Impacts:

1. 10,640 consumers adopted safe food handling practices, increasing the potential to reduce the incidence of foodborne illness.
2. 2,410 food service workers adopted safe food handling practices

Eight hundred twenty people volunteered in this program, contributing 4,449 hours, valued at \$44,990.

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

Twenty eight counties across the state participated in and reported against this program. The reported that farmers who worked with Extension invested a total of \$1.8 million in the production and marketing of alternative enterprises. Gross income from these investments were estimated to be about \$2.4 million. In addition, limited resource producers who integrated production and marketing approaches for alternative enterprises through their work with Extension reported gross income of \$380,000.

As a result of participation in the program, at least four county Farmers Markets were expanded or enhanced. Beekeeping, ornamental proditon, oriental vegetables, herbs, organic Christmas trees, poinsettias, raspberries, and seedless watermelon were enterprises listed among the success stories in the program. A specialty fruit and vegetable cooperative has been established in eastern North Carolina.

One hundred ninety six volunteers contributed to the program. They provided 1,308 hours of service, valued at \$13,080.

CEMP # 15 - NATURAL RESOURCES CONSERVATION AND MANAGEMENT

The Natural Resources Conservation and Management program has as its primary focus the education of adult and youth audiences about the benefits of natural resources and how to management in a sustained and responsible fashion. This program has included nearly 1,300 extension volunteers reaching over 10,000 people. Many of these 10,000 people were youth reached via environmental programs at schools, through Project Learning Tree, Project Wild and others. Successful environmental camps were conducted by county faculty in several counties. One county alone reached over 300 youth.

Natural resources decision-making is an important component of this program. The Natural Resources Leadership Institute continues to receive support, the third class graduated in 1998 and the number and complexity of projects continues to increase. The NRLI is now addressing some of the most controversial issues in the state. Overall at least 6,000 people gained from educational programs in this area with 425 adopting new technologies to solve environmental problems.

The Forest Stewardship Program has continued to have impact in North Carolina. With our partners in the program, an additional 115 stewardship plans were prepared covering 24,471 acres. Benefits from all participants in the Forest Stewardship Program include \$302,799 received for leasing recreational opportunities, \$14,300,000 received from timber sold on stewardship forests, and \$1,878,000 in enhanced value from planning and management.

This program has also been responsible for continuing to educate citizens and landowners about wildlife and fishery management. Overall 276 landowners attained new knowledge while 162 adopted new practices. This increased the acreage managed by 4,150 and an additional 10,400 acres put under lease in 1998. The emerging agriculture-wildlife research demonstration project is beginning to provide educational opportunities on increasing desirable wildlife populations and values on agricultural land in eastern North Carolina. This collaborative project will be the source of agent training and other programs in coming years.

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. Extension 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 35,000 people increased their knowledge of IPM practices, and 21,000 adopted IPM as a practice. This resulted in a savings to consumers of over \$330,000 through reduced insecticide use and related purchases. An additional \$197,000 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 an estimated \$7 million. Over 250,000 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, involving over 2000 volunteers donating over 110,000 hours valued at over \$1 million. These volunteers helped more than 400,000 gardeners statewide save unnecessary expenditures and increase the adoption of proper plant production and pest control techniques.

CEMP # 18 - RESIDENTIAL AND COMMUNITY WATER AND WASTE MANAGEMENT

Residential and community water and waste management programs have environmental and economic impacts on both private and public sectors. Proper management of solid waste, wastewater and watersheds is necessary for optimum environmental and economic health. Through Extension programs, more than 40,000 people increased their knowledge and awareness of best management practices to protect drinking water quality, better manage on-site wastewater systems, recycle household waste, and prevent residential water quality problems. Recycling programs resulted in over 79,000 gallons of used oil collected from farmers and over 620,000 pounds of household hazardous materials collected from homeowners. Extension programs involved over 1,200 volunteers contributing over 8,500 hours valued at over \$85,000.

The value of Extension programs to local communities totaled more than \$10 million through reduced waste in landfills. The value to homeowners totaled more than \$1 million, including over \$200,000 in saved healthcare costs due to early detection of contaminated drinking water; \$360,000 saved in avoiding replacing septic systems through proper maintenance; \$200,000 saved through residential water conservation; and \$180,000 saved through recycling programs.

FAMILY AND CONSUMER SCIENCES PROGRAMS

CEMP # 1 - AGING WITH GUSTO!

Thirty counties reported that 6,568 people increased awareness and knowledge of financial management techniques and consumer issues. Approximately 1,999 people adopted financial management and consumer practices. 1,570 people increased awareness and knowledge of estate planning. Over 500 people adopted estate planning practices. 1,826 people increased awareness and knowledge of retirement planning and savings. 728 people adopted retirement and savings practices. 1,625 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 \$166,720. 6,760 people adopted behaviors to meet the Food Guide Pyramid guidelines. 2,550 people adopted practices which lead to healthy physiological changes, such as decreases in blood cholesterol, blood pressure, blood sugar, and/or excess weight. People reported avoiding \$463,079 of costs through reduced risk of chronic disease. People reported avoiding \$37,895 of costs through improved health status via fewer visits to physicians. 11,299 people improved their health status through adoption of health practices. 1,639 people increased awareness and knowledge of community resources. 416 caregivers reported improved quality of life and decreased stress. 313 people adopted housing technologies that make housing accessible, such as design features, furnishings, and products. Twelve counties reported that 1,497 people increased awareness and knowledge of practices that promote health such as use of medicines. 707 people increased awareness and knowledge of practices that promote food safety. People reported avoiding \$22,470 of costs through adoption of practices that lead to proper food storage and safety. 1,100 volunteers contributed 5,640 hours valued at \$56,400.

CEMP # 8 - FAMILY & CONSUMER ECONOMICS

More than 43,000 people with diversity in age, marital status, gender, education level, income, and type of employment gained knowledge from program activities reported under one or more of the five CEMP#8 objectives. FCE Agents worked closely with other agencies and organizations in teaching working poor audiences to achieve financial self-sufficiency. Other program priorities were: elder health care/insurance; consumer fraud prevention; and selection/care of affordable housing. Other targeted audiences were: military personnel & families. 1585 volunteers gave 14438 hours valued at \$144380 to help Family and Consumer Education Agents deliver effective programs. 4307 people increased awareness and knowledge about money management and the decision-making process; \$40747 dollars of debt were reduced. Limited resource families in 33 counties reported saving or reallocating \$84299 in 1998.

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Six hundred and forty-five individuals reduced their debt load by \$40747. 6335 people increased awareness and knowledge of financial resources. 30 counties reported working with a variety of general and targeted audiences. Young people were reached through: workshops/day camps for the public, 4-H and other groups. 1136 people adopted

practices which led to living independently or living in affordable housing; 1749 people increased awareness and knowledge about housing financial decisions. 1477 people succeeded in budgeting for repair, maintenance &/or remodeling costs. 11536 increased awareness and knowledge of consumer decision making skills in such areas as financial services, insurance, transportation, health care, elder care; 3565 increased awareness and knowledge of public policy issues affecting consumers. \$147356 financial status of individuals and families improved. 40 Counties reported educational programs on consumer decision-making issues of concern to general audiences such as senior citizens, young families, and youth. 3187 increased awareness and knowledge of practices to extend or increase income. In one county consumers spent \$53 billion on home furnishings. A 3-hour workshop was held challenging consumers with practical skills in making wise consumer choices in spending money on home furnishings. They estimated the impact realized by attending the workshop averaged over \$600 per person.

CEMP # 9 - FAMILY AND PARENT EDUCATION

Thousands of individuals and families across the state were contacted, taught, mentored, encouraged, and impacted by the combined efforts of 65 county partners working on one or more of the objectives in CEMP 09. Utilizing various evaluation techniques including observational, self-reporting questionnaires, pre-post tests, telephone surveys, one-on-one conversation, purposive sampling, and in some cases extrapolation, the awareness and knowledge levels related to one or more content concepts of 64,222 participants were increased. 17,567 persons reported adopting practices as a result of Extension programs that would improve their personal or family context, and 7,144 reported learning new skills that would enhance their ability to deal with the challenges of life. An overall improvement in the quality of life was reported by 8,304 program participants. 4,289 families demonstrated improved family relationships through the resolution of financial conflicts. 4,333 families demonstrated improved responsibility of parents and children. 5,478 families adopted improved quality of family life by adoption of effective parenting through appropriate discipline techniques and critical nurturing practices. 1,207 families demonstrated improved responsibility of parents and children. 1,028 people improved their interpersonal relationships through the adoption of skills in critical thinking, communicating, leadership, managing finances, and managing stress. 992 reported improved self-esteem by implementing suggested strategies for strengthening families.

CEMP # 12 - HEALTH AND HUMAN SAFETY

More than 26,000 Extension customers have improved their quality of life related to health and human safety issues. 850 customers removed safety hazards in their homes such as eliminating raised door thresholds. Sixteen hundred customers learned how to use health care services and facilities in a more appropriate manner. More than 400 medical personnel were educated concerning agricultural related illnesses and injuries. More than \$897,000 was saved due to the reduced need for medical attention. The adoption of practices for better handling and storage of pesticides resulted in about \$400,000 in potential savings for Extension customers. 26,119 participants increased their awareness and knowledge of preventative health behaviors such as eating properly, exercise, and safety in the home. 11,462 participants adopted recommended health care practices such as dietary intake. 1,260 individuals adopted practices to remove safety

hazards in the home and 857 adopted practices to increase home safety. Approximately \$1.6 million in costs have been avoided by program participants such as reduced high risk behavior and preventative health behaviors. \$682,800 was avoided in costs through reduced agricultural illnesses and injuries.

CEMP # 16 - NUTRITION AND WELLNESS

Education programs addressing diet, health, and chronic disease prevention were attended by North Carolinians of diverse income levels, age groups, genders, and/or cultural backgrounds in every county of the state and on the Cherokee Indian Reservation. CEMP members brought in more than 2.5 million dollars in grant and contract funding. Over 76,000 participants increased awareness of their need to have good nutrition habits and over 50,000 changed diet and lifestyle habits, and improved their quality of life and the quality of life of others. Over 8,000 decreased dietary fat consumption, 5,410 decreased dietary sodium consumption, 6,558 increased fruit and vegetable consumption and over 4,000 increased dietary calcium consumption. 1,000 decreased high blood cholesterol levels, over 500 decreased high blood glucose levels, over 1,000 decreased high blood pressure levels, over 2,000 decreased excess body weight and over 2,000 adopted behaviors to improve their chances of delivering a normal weight baby. 50,989 participants improved diets to be more consistent with dietary guidelines for good health and the Food Guide Pyramid.

Program Volunteers and Hours Contributed for Each CEMP for the Year of 1998

CEMP	Number of Volunteers	Hours Served
01	1062	5704
02	302	4740
03	3948	23283
04	2870	32012
05	3004	42491
06	1343	12018
07	2424	20307
08	1619	14525
09	1455	6611
10	not applicable	not applicable
11	820	4499
12	1679	13334
13	20543	216076
14	213	1312
15	1438	7127
16	4224	41256
17	4981	74151
18	1282	8525
19	3316	46711
20	17834	257958
Total	74357	832640

Value @ \$10 per hour = \$8,326,400.