Plan of Work

Federal Fiscal Years
2000-2004

Kentucky Cooperative Extension Service

University of Kentucky
C. Oran Little, Dean and Director

Kentucky State University
Harold R. Benson, Director of Land Grant Programs

Table of Contents

Kentucky Cooperative Extension Service (KCES)
University of Kentucky (1862) and Kentucky State University (1890)
FY00-04 Plan of Work

Introduction

The vision statement of the Kentucky Cooperative Extension Service challenges the or ganization to be “the educational resource for all Kentuckians that serves as a catalyst to build better communities and improve quality of life." This vision is to be achieved through the mission of serving as a "link between the counties of the Commonwealth and the state's land grant universities to help people improve their lives through an educational process focused on their issues and needs."

The work of the Cooperative Extension Service is accomplished through the joint outreach efforts of the University of Kentucky College of Agriculture and the Kentucky State University Cooperative Extension Program. These outreach efforts are designed to facilitate the application of research-based knowledge to the process of resolving locally identified problems and issues. A reciprocal flow of information from local citizens helps shape the research agenda of these public institutions.

The work of the Cooperative Extension Service is organized around six strategic goals that were developed in 1997 through input from Extension faculty, staff, agents, administrators, and clientele groups. Interdisciplinary teams monitor progress toward each goal by reviewing data collected for a set of priority outcome indicators they identify. A ll accountability data provided to key stakeholders is organized around the six strategic goals. These six goals are listed below:

1. Improve the capacity of communities to identify and address critical issues that impact the lives of their citizens.

2. Attain sustainability of agricultural and economic development systems that are globally competitive.

3. Foster the development of personal and interpersonal skills, stimulate volunteer leadership, and promote active participation in community problem-solving.

4. Encourage the adoption of healthy lifestyles through a focus on proper nutrition, disease and injury reduction, and comprehensive health maintenance. [1]

5. Stimulate the acquisition of life skills needed by young peo ple and adults in raching their full potential as both individuals and members of families.

6. Improve environmental quality by encouraging the implementation of sound environmental practices and the effective stewardship of natural resources.

Program Matrix

The six strategic goals also serve as the organizing framework for the FY00-04 Plan of Work submitted in accordance with AREERA requirements. The following matrix depicts the correlation between the goals of the CSREES strategic plan and the six strategic goals of the Kentucky Cooperative Extension Service.

Function	CSREES 1	CSREES 2	CSREES 3	CSREES 4	CSREES 5
1862 &1890 Extension	KCES Strategic Goal 2	KCES Strategic Goal 4(a)[1]	KCES Strategic Goal 4(b)[2]	KCES Strategic Goal 6	KCES Strategic Goal 1, 3, 5

[1] Outcome 2 of this goal relates to CSREES Goal 2.

[2] Outcomes 1, 3, and 4 of this goal relate to CSREES Goal 3.

Planned Programs

For the convenience of CSREES reviewers, a single comprehensive Extension plan is being submitted for each CSREES goal. The plan submitted for each CSREES goal represents the planned programmatic efforts for either a single KCES strategic goal, portion of a goal, or multiple goals. Plans present a comprehensive, interdisciplinary strategy which is designed to result in the achievement of the CREEES goal for which it is written. Plans include efforts of both the 1862 and 1890 institutions.

Planned Program for CSREES Goal # 1
FY2000 - 2004

CSREES Goal

An agricultural system that is highly competitive in the global economy. Through research and education, empower the agricultural system with knowledge that will improve competitiveness in domestic production, processing, and marketing.

Statement of the Issue to be Addressed

Growth in the farm-gate value of commodities in Kentucky has approximately paralleled that of growth observed within the U.S. agricultural sector as a whole. The farm value of U.S. consumer food purchases has grown by about 25% over the past 10 years. This growth has barely kept pace with inflation and is less than half of the growth rate observed in the value added to these commodity products through value-adding activities. The marketing bill, which includes processing, packagin g, distribution, storing, merchandising, and other value-adding activities has grown by 55% over this period.

The situation in Kentucky reflects slow growth and gap for commodity farm-gate values and the value added beyond the farm. Cash receipts to farmers for livestock products in Kentucky have moved between $1.5 and $1.7 billion for the last 10 years. Crop receipts have increased during this period, but most of the growth has come from tobacco, which is facing an uncertain future. Efforts to enhance farm incomes in the state will be advanced as programs help farmers to become more competitive producers of commodity products, and also to materially participate in the faster growing value-added activities beyond the farm gate.

The approximately 77,000 farms in the state average less than 150 acres per operation. Many of these farms are major producers of traditional agricultural commodities, such as livestock, tobacco, and grain. Others are operated either on a part-time basis or involve limited res ources. Many rural counties remain significantly dependent on farm income for their economic viability. The successful development of new agricultural enterprises that fit the diversification needs of many of these producers (particularly tobacco) create new opportunities for these communities to enhance their income base while managing some of the increasing risk exposure attending farming in connection with the FAIR legislation of 1996. Successful risk management will play favorably into the relative c ompetitiveness of the state's agricultural economy.

Value-added opportunities in agriculture creates jobs; many of these within rural agricultural communities. It creates expanded demand for local agricultural products. These initiatives often require encouraging local entrepreneurial creativity and risk taking as well as building a network of support resources to enhance chances for their successful development. States like North Dakota, Iowa, and Minnesota have made substantial resource commitments t o support value-adding innovations that utilize

local agricultural products. Kentucky has also made steps toward this end. The Kentucky Department of Agriculture has created three new value-added divisions for livestock, horticulture, and secondary wood products. The strategy is to enhance the competitiveness and scope of marketing opportunities for local farmers as these sectors are better developed.

The Cooperative Extension Service is in a unique position to develop programming in support of these efforts throughout Kentucky. Producers typically approach county offices seeking help as they are considering new business ideas for their farm. The network of county offices in the state is supported by the University human and technical resources that can train, disseminate current product and market information, and initiate research activities that can help local producers translate good business ideas into good businesses. The Cooperative Extension Service can partner with a variety of internal and external partners to help build entrepreneurial capacity locally that moves the agricultural economy toward a more competitive system.

Performance Goal

Attain sustainability of agricultural and economic development systems that are globally competitive (Kentucky Cooperative Extension Service Strategic Goal #2)

Output Indicators

Contacts with clientele related to improving production, processing, and marketing
Development of new curricula, publications, and programs
Number of individuals participating in the programs described below

Outcome Indicators

Number of producers utilizing new marketing opportunities
Number of farmers adopting one or more practices resulting in increased profits
Economic impact of practice changes reported immediately above
Number of producers adopting resource management technologies (IRM, IPM, soil testing, soil fertility management)
Number of individuals reporting changes in knowledge, opinions, skills, or aspirations related to the impact of public policies on agriculture and the environment

Key Program Components

The driving forces behind an increasingly competitive agricultural sector are tied to the relative productivity of the assets employed. These assets are defined both in terms of human capital and technical capital. While the development of these assets should be at the core of an Extension program, it is also important to create an institutional environment where these assets can both develop and be employed.

The transfer of technical resource progress is a critical dimension of a strategy to enhance the competitiveness of the state's agricultural economy. Field days, demonstration programs, commodity expositions, and subject matter training by specialists will continue to be important med ia for disseminating technical research. Printed material, audio and electronic communications, and other means of communication will be employed to bring the latest research findings to bear on producers decision making.

1. Youth Entrepreneurship

Human capital development will be primarily addressed through training and education that will be provided to Extension staff, producers, and other key individuals within the state's ag economy. Current continuing programs include entrepreneurial and coop erative education for youth in the **American Private Enterprise System** training. This program has been developing leadership and business decision making skills among top high school students in Kentucky through training administered through the University of Kentucky. Sponsorship by the Kentucky Cooperatives Council has been instrumental in both promotion and implementation of this program.

2. Farmer Leadership Program

The **Philip Morris Leadership Institute** is another continuing program that provides intensive training of Kentucky producers in the area of agricultural policy, marketing, and trade. Producer education in this program leads to not only better individual decision making by participating producers, but raises the awareness of policy needs and issues most pertinent to Kentucky, facilitates participation of producers in the political process, and creates an expanding resource base of producers that can provide important leadership for the agricultural community in the state. Meetings with s tate and federal political leaders, travel to Washington, and intensive classroom training and debate on current ag issues are at the core of this training. Again, while the program is administered by the University of Kentucky, the sponsorship by the Philip Morris Company will continue to be central to its continuing success.

3. Integrated Pest Management

Integrated Pest Management encourages the balanced use of cultural, biological and chemical measures that are most appropriate to a particular situat ion in light of economic, social, and environmental factors. Because of this, IPM is an important means for both achieving sustainable agriculture and for maintaining food safety. Yield and/or quality of agronomic and horticultural crops grown in Kentucky can be adversely affected by insects, weeds, pathogens, and inappropriate cultural and pest control practices. County extension agents, producers of agricultural and horticultural crops, and persons who recommend, sell or apply agricultural participate in training sessions to acquire a working knowledge of IPM concepts and processes.

4. Weed Control Programs

Weeds are one of the most significant pests that impact crop production each year. Therefore, herbicides and other weed management strategies are frequently employed to combat the complex array of non-native and other invasive weedy plants that impact crop production. Extension and research weed scientists cooperate together to evaluate best management options for problem weed species associated with crop production practices for Kentucky. On-farm field research trials are conducted to evaluate economically feasible and environmentally friendly weed management tools. Weed control recommendations are disseminated through written bulletins and fact sheets, and by conducting annual meetings and field days with crop producers, crop consultants, and other agri-chemical applicators. A computerized herbicide selection program is also available in the state as a aid for making weed management decisions.

5. Controlled Fertilizer Application Program

Several partners collaborate to provides a soil testing service for all Kentuckians, including farmers. County Extension offices receive samples and send them to the College of Agriculture's Division of Regulatory Services to be analyzed. Test results are transmitted electronically to the county Extension office where agents present results and recommendations to clientele. The program is widely used by Kentucky's farmers in determining site specific needs so that they can purchase custom blended fertilizers to meet those specific needs. This program is a major educational component of all county programs, and clientele are made aware of the service by timely publication of local news articles and radio broadcasts that highlight the need for taking soil samples. Video tapes have been made available to all counties, showing the proper way for the collection and handling of soil samples.

6. Management Training

Management training is also a core element to producer training provided by Extension. The Southern Ag Economics award winning farm management training program will continue to build management capacity among Kentucky producers. These skills will enable improved decision making with respect to enterprise choices, resource management, and whole farm planning. Programs such as the **FmHA management training** for borrowers will continue to be directed through the University of Kentucky. The **tax school** will continue to be provided, as well. This specialized program supports the management training effort as participants are able to improve their resource acquisition and use management in the context of tax planning. Both of these programs ideally will lead to improving farm incomes as farmers become better decision makers. Additionally, new management and marketing curricula have been developed for producers and agents, including **Management First**.

7. Marketing Training

Grain marketing, cattle marketing, commodity outlook and market planning, and horticultural product marketing are among the core efforts through the University of Kentucky and Kentucky State

CES systems that build commodity marketing skills for agents and producers. Additional programs, such as **Ideas to Enterprise**, and **PRIMER** focus on product marketing and marketing new enterprises.

8. Applied Business Economics Training

A variety of in-service training activities will help county Extension agents develop their own capacity to support farm decisions at the local level. Training in developing business plans, such as with **Ideas to Enterprise**, practical economic training, economic subject matter and commodity outlook, and commodity and differentiated product marketing, are among the many applied economics training opportunities that Extension specialists will be providing throughout the state. The continual training and skill development of agents within the extensive network of county Extension offices establishes a valuable resource to local farmers that greatly facilitates information and technology transfer as they seek to become more competitive.

9. Small Farm Programs

The ongoing Small Farm Program works with limited resource small farmers in seven counties in the areas of new enterprise development and marketing and in marketing education for traditional enterprises. More than 500 farm families will receive information in these areas.
Currently, there are two short-term marketing initiatives of the Small Farm Program. The first involves the development of a production and marketing toolbox for small pastured poultry producers. The second is a major marketing effort for fresh market poultry.

The Small Farm Outreach Training and Technical Assistance Program (SFOTTAP) uses soft money from the USDA-National Office of Outreach to work primarily with limited resource, minority, small farmers in thirteen counties in not only farm production but also financial management. About 30% of these farmers have loans from Farm Service Agency (FSA). SFOTTAP farmers need technical assistance to help avoid/alleviate financial problems. Group trainings are conducted in the form of workshops, lectures, and field days.

Internal and External Linkages

There are many important partners that share the similar goal of Extension in enhancing the competitive position of farmers in the state. While it is untenable to propose a comprehensive listing of all the individuals and organizations that can favorably partner with the university on this effort, several selected major joint efforts can be mentioned. The Kentucky Farm Bureau continues to represent important policy and trade issues to key governing bodies on behalf of Kentucky farmers. Commodity councils and trade associations also provide important feedback on research and Extension needs specific to the continual advancement of their commodities. The Kentucky Department of Agriculture is becoming an important partner, particularly in the area of commodity and value-added marketing, as well as marketing infrastructure development efforts.

Other partners are committed to rural development, which can enhance the infrastructure and thus competitiveness of agriculture in the rural communities of the state.

Internal partnerships have been recently formed with the Small Business Administration (Small Business Development Centers) to cooperate on providing support for entrepreneurial training, particularly for small concerns utilizing agricultural products.

Multi-disciplinary efforts will continue to be an important focus for both training and technology transfer. Economic components will continue to be added to technical demonstration programs and research priority discussions within the college.

External linkages include coll aborators from the Southern Extension Farm Management Committee, the Southern Extension Marketing Committee, and the Southern Extension Public Affairs Committee. These organizations include Extension professionals from other states around the South working on similar programs and developing joint programs. These groups meet annually to advance various joint programs.

Programs with other universities and institutions are continuing to be developed in dairy management (University of Tennessee), entrepreneurship (University of Tennessee, University of Tennessee-Martin, University of Arkansas-Pine Bluff), cooperative management and development (Ohio State University, Michigan State University, Purdue University), and cattle marketing information systems (12-15 different states cooperating).

The KSU Small Farm Program works collaboratively with The Partnership for Family Farms, Heifer Project International, Morehead State University, Berea College, Alabama A&M University, Southern University, ATTRA, and USD A Sustainable Agriculture Research and Education.

Target Audience

Several audiences are targeted in the current and planned Extension activities related to this objective. While training is as inclusive as possible, there is special attention paid in certain programs on cultivating leadership and entrepreneurship amongst individuals demonstrating promise for making significant local impact. Location of trai ning will continue to emphasize high need areas, such as lower income and lesser diversified counties. Limited resource farmers, therefore, will continue to merit significant attention in consideration of this objective. Programs addressing the needs of tobacco, livestock, and grain producers will continue to be central, proportionate to their importance to the agricultural economy in the state, although programs in support of enterprise diversification will also be emphasized to facilitate the viability of the whole farm or local agricultural community.

Significant progress toward the goal of enhancing overall competitiveness is anticipated with programs targeted to youth and agricultural leaders in the state. Similarly, entrepreneurs seeking to

develop new enterprises for diversification or are seeking to innovate with either a new product or process will also be focused upon in this program thrust.

The individuals targeted for training will be identified by county Extension agents and past participants. Vocational ag teachers and civic leaders will also be important resources, particularly for identifying selected youth for the APES program.

Program Duration

Each of the ten major program components can be categorized as being of at least intermediate-term in duration. Most of the programs listed are intended to be continue for greater than five years as they demonstrate the expected success.

Allocated Resources

	Federal	State	Local	Other
FY00	$2,050,000	$3,050,000	$0	$0
FY01	$2,050,000	$3,050,000	$0	$0
FY02	$2,050,000	$3,050,000	$0	$0
FY03	$2,050,000	$3,050,000	$0	$0
FY04	$2,050,000	$3,050,000	$0	$0

	Professional FTEs		Paraprofessional FTEs	
	1862	1890	1862	1890
FY00	94	0.5	0	0
FY01	94	0.5	0	0
FY02	94	0.5	0	0
FY03	94	0.5	0	0
FY04	94	0.5	0	0

CSREES Goal

A safe, secure, food & fiber system. To ensure an adequate food and fiber supply and food safety through improved science based detection, surveillance, prevention and education.

Statement of the Issue to be Addressed

Although there is a general agreement among Americans on the need for safe food, there is no consensus on how to secure safe food. But for a food safety system to be effective it should focus on and integrate the many varied needs and responsibilities of all stakeholders. Safe food is defined as wholesome, within an acceptable level of risk associated with pathogenic orga nisms or chemical and physical hazards, and whose supply is the result of the combined activities of all concerned government agencies, educational facilities, private industries and consumers. The Committee to Ensure Safe Food from Production to Consumption (1999) states, "The mission of an effective food safety system is to protect and improve the public health by ensuring that foods meet science-based safety standards through the integrated activities of the public and private sectors."

Changes in the risk of foodborne disease are due primarily to changes in diet; increasing use of commercial food service and in food eaten or prepared away from home; new methods of producing and distributing food; new or re-emerging foodborne pathogens; and the growing number of at-risk individuals, such as the elderly and immuno-compromised. Chemical hazards associated with the food supply are also changing due to the increased use of dietary and herbal supplements that have no required safety standards; new food components that mimic attributes of traditional food components; introduction of new food technologies and processes; and changes in presence of food toxins and additives.

The incidence of foodborne illness is increasing in the United States. Although estimates as high as 84 million cases of foodborne illness per year have been suggested, many cases go undetected because the consumer is unaware that many intestinal upsets a re caused by foodborne pathogens or their toxins. The annual cost of foodborne illness to the American economy is estimated at over $10 billion.

Over 50% of all foodborne illness can be attributed to mistakes made in foodservice establishments and resta urants, while 20% are traceable to consumers in their own home. The National Restaurant Association estimates that up to 57% of all meals may be consumed away from home. This includes the elderly and school-age children, who are at greater risk of being susceptible to foodborne pathogens. Careless foodhandling habits may be more common among the elderly and children, increasing the hazards of pathogenic bacteria.

Educational training on the safe preparation and handling of food for at-risk groups and other consumers would be the best methods of decreasing the risks of foodborne illness. The most critical concepts of food safety include personal hygiene, with an emphasis on hand washing; preventing cross-

contamination; cooking food thoroughly by paying particular attention to time and temperature; and refrigerating food promptly.

In addition, educational training can enhance the safety of our food supply by improving production and processing practices. Hands-on training in developing and implementing Hazard Analysis Critical Control Point (HACCP) plans will be an invaluable tool for Kentucky processors. HACCP can be applied to home and restaurant kitchens as well.

Cooperative Extension Service Agents for Agriculture, 4-H and Family & Consumer Sciences will provide these educational experiences in partnership with industry, health officials, educational facilities and community leaders and members using a variety of methods. As an on-going process, basic principles of safe food handling will be introduced and built upon. Food safety should be incorporated into a variety of related topics, such as food productions, culturally diverse food preparation, nutrition and health. A new attitude will also be communicated to empower consumers to actually act on the information by making necessary behavioral changes to reduce the risk of foodborne illness.

Performance Goal

Attain sustainability of agricultural and economic development systems that are globally competitive. (Kentucky Cooperative Extension Service Strategic Goal #2)

Output Indicators

Contacts with clientele related to food safety, preservation and preparation.
Development of new curricula, publications and packaged programs.
Number of individuals participating in related programs.

Outcome Indicators

Number of individuals adopting practices that ensure safe handling of food.
Number of individuals adopting safe practices concerning herbal and vitamin supplementation.
Number of processors (meat, vegetable or fruit) developing HACCP plans.

Key Program Components

1. Food Safety First

Food Safety First is a certification program for foodservice personnel which emphasizes safe food preparation, holding, receiving, storage and service.

2. Food Safety & Sanitation

Food Safety & Sanitation covers food safety and sanitation procedures for foodservice personnel and homemakers.

3. Occasional Cooking for a Crowd

Occasional Cooking for a Crowd emphasizes safe food handling practices for preparing food away from home.

4. Herbal Remedies

Herbal Remedies is an educational program emphasizing the safe use of herbal products and other supplements.

5. Wildcat Way to Wellness

Wildcat Way to Wellness incorporates food safety in the kitchen during food preparation into a program for overall wellness.

6. Food Processors Training

Food Processors Training shows producers (meat, fruit or vegetable) HACCP plan development.

7. Food Safety & Pesticides

Food Safety & Pesticides goal will be to educate Kentucky citizens about the potential exposures to pesticide residues and how to reduce or eliminate them.

8. Kentucky Gets FoodWise

Kentucky Gets FoodWise is a USDA-state funded project designed to teach low-income families about nutrition, food preparation and food safety.

Internal Linkages

University of Kentucky Cooperative Extension Service (1,2,3,4,5,6,7,8)
Kentucky State University Cooperative Extension Program (2,8)
University of Kentucky Department of Animal Sciences (6)
University of Kentucky Department of Entomology (7)
University of Kentucky Department of Agricultural Communications (1,2,3,4,5,6,7,8)
University of Kentucky Wellness Program (5)
University of Kentucky Partnership for Food Safety & Quality Assurance (6,7)
Kentucky 4-H Programs (2,5)
Kentucky Extension Homemakers Association (1,2,3,4,5,7)
Expanded Food & Nutrition Education Program (2,5)

External Linkages

Louisiana State University Agricultural Center (2)
University of Tennessee Food Science Department (6)
Central States Meat Association (6)
American Association of Meat Processors (6)
Kentucky State Horticulture Society (6)
Food Safety and Inspection Service (6)
National Restaurant Association (1,2)
Kentucky Restaurant Association (1,2)
American Culinary Federation Bluegrass Chapter of Chefs and Cooks (1,2)
American Dietetic Association (1,2,5)
Kentucky Dietetic Association (1,2,5)
Food and Drug Administration (6)
United States Department of Agriculture (6,7,8)
Kentucky Pest Control Association (7)
Kentucky Department of Agriculture Division of Pesticides (7)
Kentucky Department of Health Services, Division of Environmental Health and Community Safety, Food Branch (1,2,3,4,6)
Kentucky Cabinet for Family and Children (8)
County-level Community Action Groups (1,2,5,7,8)
Agricultural Commodity Groups (3,5,6,7)

Target Audiences

Agricultural Producers (6,7)
Agricultural Processors (2,6)
Cooperative Extension Service County Agents (1,2,3,4,5,6,7,8)
Kentucky Extension Homemakers (1,2,3,4,5,6,7)

Foodservice/Restaurant Personnel (1,2,6)
Small Business Owners (1,2,6)
Low-income Families (2,7,8)
Food Stamp Recipients (2,8)
Consumers (1,2,3,4,5,6,7)
EFNEP Families (2,5)

Program Duration

Short-Term (7)
Intermediate-Term (4,6,8)
Long-Term (1,2,3,5)

Allocated Resources

	Federal	State	Local	Other
FY00	$648,000	$700,000	0	0
FY01	$648,000	$700,000	0	0
FY02	$648,000	$700,000	0	0
FY03	$648,000	$700,000	0	0
FY04	$648,000	$700,000	0	0

	Professional FTEs		Paraprofessional FTEs	
	1862	1890	1862	1890
FY00	26	0	0	0.25
FY01	26	0	0	0.25
FY02	26	0	0	0.25
FY03	26	0	0	0.25
FY04	26	0	0	0.25

Kentucky Cooperative Extension Service
Planned Program for CSREES Goal #3
FY 2000 - 2004

CSREES Goal #3

A healthy, well-nourished population. Through research and education on nutrition and development of more nutritious foods, enable people to make health promoting choices.

Statement of the Issues to be Addressed

Dietary habits can influence the risk of developing chronic diseases and our ability to control them. Three of the leading causes of morbidity and mortality in Kentucky are cardiovascular disease, cancer and diabetes. These chronic diseases have strong nutrition and physical activity components in the recommendations for their prevention and treatment. A recent report, *Years of Healthy Life-Selected States, U.S. 1993-1995*, assessed an index of health-related quality of life in 16 states (Centers for Disease Control and Prevention, 1998). Kentucky was among those states, and was ranked lowest of the 16 on a "health-related quality of life index". This index varied directly with life expectancy, with Kentuckians having fewer years of healthy life at ages 25 and 65 than the residents of the other 15 states.

Early diagnosis of cancer, diabetes or cardiovascular disease is associated with an improved outcome, including improved quality of life and longevity. Prevention, detection and treatment of chronic disease in Kentucky is particularly important in today's changing health care environment. People with chronic diseases require skills for self-care. Without these self-care skills, people with diabetes or heart disease often require costly acute care. The prevention of chronic diseases through better self-care also requires skills. Diet, nutrition and exercise are some of the most effective tools for self-care and prevention of chronic diseases.

Research shows that maintaining a healthy weight, lowering fat intake, and participating in regular physical activity dramatically decrease risk for type 2 diabetes. With early diagnosis, this disease can often be controlled with diet and exercise. Good blood glucose control has been shown to decrease the complications of diabetes, and thus the toll of the disease, by a significant margin Unfortunately, approximately half those with the disease remain undiagnosed. The statewide rate of diabetes diagnoses is about 5%, comparable to that of the U.S. rate. But in Southeastern Kentucky prevalence of diabetes is 10% or nearly double the average rate. Risk of type 2 diabetes increases with age and for Kentuckians over age 65, the rate of diabetes is nearly 12 percent. As we approach the 21st Century, we can expect that diabetes will affect an increasing portion of Kentucky's aging population.

As a cause of death in Kentucky, cancer is second only to coronary heart disease. And, unlike the United States as a whole, Kentucky is not seeing encouraging trends in cancer rates. Currently, the number of new cancer cases and cancer deaths is on the decline in the United States for the first time since the 1930's. This promising national trend, first reported in 1996, has been largely attributed to changes in health related behaviors. In Kentucky, however, cancer rates are not declining. The Kentucky Cancer Registry shows the state's overall cancer rate remained level for the 1990-1996 period, with increased rates for some types of cancer in women and minorities.

Obesity is a contributing factor in the development of type 2 diabetes, cardiovascular disease and cancer. In Kentucky, the prevalence of overweight in adults has escalated over the last seven years, rising from 23 percent in 1989 to 32 percent in 1996. At the current rate of a one percent annual increase, we would estimate that over one-third of Kentuckians will be overweight by the year 2000. To reverse this trend, we must aim for diets lower in fat and calories and increased physical activity levels.

Diets rich in fat and low in fiber contribute to obesity, diabetes, heart disease, stro ke and cancer. Nutrition programs like the National Cancer Institute's 5-A-Day and USDA's Food Guide Pyramid can have a profound effect on Kentucky citizens and communities. Translation of current national nutrition recommendations into a consumer-friendly format is needed to promote a healthy, well-nourished population in Kentucky. In some rural areas of the state, Extension is the primary, reliable source of behavioral and technical information regarding diet and health. For example, poor intake of fruits and vegetables is associated with increased risk certain chronic diseases. Fewer than 1 in 5 Kentucky adults achieve the goal of 5-A-Day servings of fruits and vegetables (Ky. Dept. for Public Health, 1997). In rural areas of Kentucky, including Appala chian and western regions, food consumers may not have ready access to a variety of fresh fruits and vegetables at reasonable prices (Kurzynske, 1998). Younger generations are less familiar with managing and preparing food at home, with particular respect to food acquisition and cooking skills. A return to traditional fruit, vegetable, and grain consumption would benefit individual and family health, as well as local economies which supply fresh produce or local food products.

In 1997, over 50% of Kentuckians with incomes just below poverty level were overweight (Ky. Dept. for Public Health, 1997). A comprehensive approach is needed to address the many socioeconomic factors and health behaviors associated with diet, health, stress and obesity among Kentuckians. A disproportionately high incidence of overweight among those living in poverty perpetuates low self-esteem and increased risk for diabetes, heart disease, and certain types of cancer. Poor mental health, lack of health insurance and the cost of chronic disease care may also be issues facing those who are poor and overweight. Recent studies of U.S. adults confirmed that those living in poverty do not live as long as their counterparts with higher levels of education and income (National Center for Health Statistics,1998; Lantz et al.,1998). These findings suggest that both health behaviors and socioeconomic factors are important determinants of mortality. During these times of economic transition, we must be cognizant of the relationship among th e health of people, and their families and

communities.

We seek to identify gaps in public health nutrition in Kentucky and to design programs to meet those needs in conjunction with other national, state and local agencies in both the public and p rivate sectors. Data from the Kentucky Behavioral Risk Factor Surveillance System serves as a primary source of state-level data about diet and health behaviors. National and international research on effective nutrition education and population interventi on strategies help shape our programs, but state and local data are needed for targeted populations. State surveys of food and nutrition needs have been conducted annually since 1997 to assess critical issues to be addressed by Extension programming. Counties rely on input from the Kentucky Extension Homemakers Association, County Extension Advisory Councils, Interagency Councils, evaluation of previous programs, and local health care providers to assess local stakeholder needs and requests. .

The need to improve the health and quality of life for citizens in the Commonwealth is evident. As we approach the 21st century and become older in greater numbers than ever before, the incidence of chronic diseases can be expected to increase. We also speculate that these times of economic transition for agriculture and welfare assistance programs will impact the health of Kentucky people and communities.

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Performance Goal

Encourage the adoption of healthy lifestyles through a focus on proper nutrition, disease and injury reduction, and comprehensive health maintenance (Kentucky Cooperative Extension Service Strategic Goal #4).

Output Indicators

Contacts with clientele related to diet and health.
Development of new programs and materials related to diet and health.
Multi-agency activities related to diet and health.
Multi-disciplinary programs aimed at strengthening local food systems.

Outcome Indicators

Number of individuals who experience a change in knowledge, opinions, skills, or aspirations regarding lifestyle changes (diet, physical activity, etc.) that improve personal health.
Number of individuals who make lifestyle changes toward improved health.
Number of individuals implementing personal health protection practices appropriate for their life cycle stage (preventive health practices, participation in screening and detection opportunities, immunizations, etc.).

Key Program Components

University of Kentucky Cooperative Extension Service programs in food and nutrition are designed to help realize the vision described in "Shaping Our Future: A Strategic Plan for Nutrition, Diet and Health". This 1994 USDA mission statement is that , "Through education, the Nutrition, Diet and Health Program empowers individuals, families, and communities to make informed choices about food and lifestyles that support their physiological health and economic and social well -being".

1. Food and Agriculture: Consumer Trends and Opportunities

This multi-disciplinary program highlights food consumption and economic trends to inform consumers, producers and policy makers about dietary trends and agricultural opportunities. Organized around the Food Guide Pyramid, this program uses data from USDA Economic Research Service to examine food consumption from 1970 to 1995.

2. Kentucky Partnership for Food Safety and Quality

This multi-disciplinary, multi–functional program is led by a faculty team from the University of Kentucky College of Agriculture. This program is assessing food quality issues of importance on local, state, and national levels. By encouraging teams of research and Extension faculty to address common critical issues, we will achieve a more integrated approach to ensure food safety and quality.

3. Kentucky 4-H Food and Nutrition Programs

Our highly successful 4-H foods programs continue to educate young Kentuckians about food and nutrition basics.

4. Expanded Food and Nutrition Education Program

This highly successful program serves limited resource families with children in approximately 65

of the 120 Kentucky counties.

5. Children, Youth, and Families at Risk

This multi-disciplinary program includes information about diet and health for at risk populations throughout Kentucky and is a major initiative in six counties.

6. Kentucky Gets FoodWise

The Food Stamp Nutrition Education Plan for Kentucky provides community nutrition education programs for a limited-resource audience. The program concentrates on behavioral changes to encourage consumption of a healthy diet. This program has been active in approximately 105 of the 120 counties in Kentucky since 1997.

7. Agriculture Communication Services

Food and Nutrition Specialists produce news releases and radio spots for local, state and national audiences on matters of diet and health.

8. Kentucky Kitchens

This multi-disciplinary program is conducted in conjunction with Kentucky Extension Homemakers Association and Specialists in Agricultural Economics and Rural Economic Development. This program encourages the development of local food and nutrition leaders in Kentucky communities to foster mentoring through food and nutrition skills and to increase public awareness about the importance of local food economies. A community service component, Kentucky Kitchen Kits, provides needed kitchen utensils to limited-resource cooks.

9. Kids in the Kitchen

This nutrition education program is designed to teach preschool to third grade students about diet and health with lessons to increase math, science, and literacy skills.

10. Nutrition 2000

This program translates the latest nutrition research for adults into action plans tailored to the needs of Kentucky men and women. A segment on successful aging provides an overview of the biological process of aging and how nutrients can help maintain good health in later years. A guide to "Foods for the 21st Century" is included to help food consumers choose nutrient-rich foods. This program provides practical advice to help participants eat a diet to decrease risk of obesity, cardiovascular disease, cancer and diabetes.

11. Heart Health

A program to teach Kentucky adults about the latest dietary recommendations to maintain cardiovascular health.

12. The Wildcat Way to Wellness

This multi-disciplinary program, initiated in 1999, will conduct annual statewide trainings for County Extension Agents on a wide variety of issues related to the health and well-being of Kentucky citizens. Participant self-assessment data on diet and physical activity will be collected to help assess the needs of our clientele. We will produce a cookbook promoting use of Kentucky-grown foods, explore "Wildcat Way to Wellness" weekends at Kentucky State Parks, and other novel approaches to promote the good of Kentucky people and communities.

13. Program Planning, Evaluation and Reporting

UK CES Food and Nutrition Programs work closely with our Program and Staff Development unit to provide tools and training to all personnel involved in conducting meaningful program evaluations and collecting data to meet reporting requirements and program planning needs.

14. Assessing the Diet and Health Needs of Kentuckians

We are working closely with the Kentucky Behavioral Risk Factor Surveillance System to further analyze their data to assess the nutrition and health education needs of Kentucky adults and children. The results of these analyses will be informative for many agencies and organizations in Kentucky.

Internal Linkages

University of Kentucky College of Agriculture
- Agricultural Economics
- County Extension Agents
- Agriculture Communications
- Research, Extension, & Teaching Faculty
- Rural Sociology
- Cooperative Extension Service

University of Kentucky College of Human Environmental Sciences
University of Kentucky College of Medicine
University of Kentucky Wellness Center

Kentucky Cancer Program
Kentucky State University
    Cooperative Extension Program
    Food Stamp Nutrition Education Plan
    Family Development and Management Program

External Linkages

Kentucky Extension Homemakers Association
Kentucky Area Development Districts
Kentucky Council on Aging
American Heart Association - Kentucky Affiliate
Kentucky Dietetic Association
Kentucky Public Health Association
Kentucky Association for Family and Consumer Sciences
National Extension Association for Family and Consumer Sciences
Kentucky Cabinet for Health Services
Kentucky Cabinet for Families and Children
Kentucky Department of Agriculture
Kentucky Department of Education
Kentucky Commodity Growers Association
American Dietetic Association
Society for Nutrition Education
Centers for Disease Control and Prevention
Department of Health and Human Services

Target Audiences

Food producers, growers, retailers, consumers and policymakers (1, 2, 8)
Kentucky children (3, 9)
Limited resource individuals and families (4, 5, 6, 8)
General public (7)
Kentucky adults (10, 11, 12)

Program Duration

Short-term (< 1 year)
Intermediate-term (1-5 years) (8, 9, 10, 11, 12)
Long-term (> 5 years) (1, 2, 3, 4, 5, 6, 7)

Allocated Resources

	Federal	State	Local	Other
FY00	1,400,000	1,400,000	500,000	0
FY01	1,400,000	1,400,000	500,000	0
FY02	1,400,000	1,400,000	500,000	0
FY03	1,400,000	1,400,000	500,000	0
FY04	1,400,000	1,400,000	500,000	0

	Professional FTEs		Paraprofessional FTEs	
	1862	1890	1862	1890
FY00	60.0	1.0	0.0	2.0
FY01	60.0	1.0	0.0	2.0
FY02	60.0	1.0	0.0	2.0
FY03	60.0	1.0	0.0	2.0
FY04	60.0	1.0	0.0	2.0
FY05	60.0	1.0	0.0	2.0

Kentucky Cooperative Extension Service
Planned Program for CSREES Goal #4
FY2000 - 2004

CSREES Goal

Greater harmony between agriculture and the environment. Enhance the quality of the environment through better understanding of and building on agriculture's and forestry's links with soil, water, air, and biotic resources. (Goal #4)

Statement of the Issue to be Addressed

Kentucky's natural biological wealth and beauty has drawn the attention of people for centuries. More than 3,000 vascular plant, 230 fish, 103 mussel, 105 amphibian and reptile, 350 bird, 75 mammal, and 12,000 insect species call Kentucky home. Of this number, 11% of the plants, 36% of the freshwater bivalves, 31% of the fishes, 23% of the reptiles & amphibians, 15% of the birds, and 33% of the mammals are listed as rare, threatened or endangered.

Kentucky is home to eleven rare ecological communities, two of which are globally rare. The bluegrass savanna, unique to central Kentucky, is now extinct and more than 80% of the state's wetlands have been destroyed. More than 2 million acres of tall grass prairies and barrens have been reduced to less than 200 acres in scattered remnants.

While Kentucky's forests are floristically and faunistically diverse, they are in various conditions of quality and less than 3,000 acres of old growth forests are currently found in the Commonwealt h. Overall, less than 1% of Kentucky is classified ecologically in a "pre -European" condition.

Kentucky's biological wealth may continue to be threatened in the future unless comprehensive and sustainable approaches are utilized for harvesting the frui ts of the land through logging, mining, and agricultural production.

Concern over forest ecosystem issues by the general public and the forest products industry has generated both national and state recognition of the need for educational programs targ eting timber harvesting professionals. Recent survey data indicate only 16% of the timber harvesting operations in Kentucky are being completed with the assistance of resource professionals, and only 28% are being

completed with the proper implementation of Best Management Practices for water quality protection. In addition to timber harvesting activity, much of this same land is impacted by coal production. An average of 16,000 acres of land per year since 1975 is impacted by mining activity concentrated in Kentucky's primary forest producing areas.

Many Kentucky farms are located on highly erodible land or near water sources. In 1988, the only information of the impact of agriculture on the water resources in Kentucky was found in the biennial 305B Kentucky Report to Congress on Water Quality. In those reports, agriculture was listed as a significant contaminant source for nearly 25% of the assessed Kentucky streams and lakes not meeting designated use criteria.

Runoff pollution, also known as nonpoint source pollution, is the number one contributor to water pollution in Kentucky. Runoff pollution is caused by numerous activities such as mining, farming, logging and construction. Nonpoint source pollution can also come from activities around the home such as using lawn care products, dumping used motor oil, anti-freeze and other chemicals into ditches or down storm drains and improperly treating household waste water.

Most soils in Kentucky are deficient in one or more of the major nutrients required for sustainable crop production: many are too acid, some are deficient in certain micronutrients, and some have adequate to excessive levels of all these. In most cases, there is great variability among fields on individual farms. Since the native content of soil nitrogen (N) is insufficient for sustainable production of corn, tobacco, and small grains in most Kentucky soils, use of supplemental N from fertilizers or animal manures is necessary. Without use of some kinds and amounts of fertilizers, crop yields from most soils in Kentucky would be non-sustainable.

Performance Goal

Improve environmental quality by encouraging the implementation of sound environmental practices and the effective stewardship of natural resources. (Kentucky Cooperative Extension Service Strategic Goal #6)

Output Indicators

Contacts with clientele related to harmony between agriculture and the environment
Development of new curricula, publications, and programs
Number of individuals participating in programs described below.

Outcome Indicators

Number of individuals adopting practices that ensure safe water.
Number of individuals using forest management practices.

Number of acres upon which new or additional conservation practices are used.
Number of individuals adopting one or more practices related to conserving, sustaining, and/or protecting soil resources.

Key Program Components

The University of Kentucky College of Agriculture and Kentucky State University are engaged in a wide range of programs geared towards achieving greater harmony between agriculture and the environment. In all, twenty-four program components focus on the broader goal of practicing agriculture and related disciplines in a manner consistent with improving sustainability of resources and protecting ecosystem integrity.

1. Environment & Natural Resource Issues (ENRI) Task Force

The Environment & Natural Resource Issues (ENRI) Task Force coordinates the environmental and natural resources education efforts of the Kentucky Cooperative Extension Service. Working under the leadership of the this umbrella group, a set of small working pods (referred to as focus groups) conducts the actual work of the task force. The focus groups are organized around issues, special topics, or needs. Each focus group has the opportunity to more clearly define the issue(s) given them, and carry out activities and educational efforts related to the specific topic. Focus Groups active in 1999 provide leadership to program efforts related to Animal Waste, Water Education, and the Kentucky Water Awareness Program.

The Kentucky Water Awareness Program expands on the USDA "Blue Thumb" packet distributed to county offices for the observance of National Drinking Water Week. One agent from each of the fourteen Extension is responsible for coordinating and working with county teams on promotion and evaluation of programs in their eight to ten county area.

2. Programming in Biodiversity Education.

Anthropogenic disturbances have fragmented and destroyed naturally occurring ecosystems and produced increased edge. These disturbances have resulted in serious population declines of forest and grassland-interior neotropical birds. Other anthropogenic impacts have resulted in declining reptile, amphibian, and bat populations throughout the Commonweal th. Furthermore, the widespread impact of invasive exotic organisms continues to degrade natural communities. The main strategies used in this program include individual contact, seminars and workshops, and the development and distribution of publications.

3. Logging Education in Sustaining Forest Ecosystems

The Kentucky Master Logger Program (KML) was initiated in the fall of 1992 to provide broad-based statewide training for loggers. The primary training involves a three-day course for first time participants

and four, one-day courses provided as continuing training opportunities for primary training graduates. Training and education in forest ecology and logging impacts on forest ecosystems, biodiversity, and sustainability are featured. Classroom lectures and outdoor demonstrations are used in the 3-day primary program. Classroom lecture and distance learning technologies are used in the continuing programs.

4. Integrated Pest Management

Integrated Pest Management encourages the balanced use of cultural, biological and chemical measures that are most appropriate to a particular situation in light of economic, social, and environmental factors. Because of this, IPM is an important means for both achieving sustainable agriculture and for maintaining food safety. Yield and/or quality of agronomic and horticultural crops grown in Kentucky can be adversely affected by insects, weeds, pathogens, and inappropriate cultural and pest control practices. County extension agents, producers of agricultural a nd horticultural crops, and persons who recommend, sell or apply agricultural participate in training sessions to acquire a working knowledge of IPM concepts and processes.

5. Pesticide Impact Assessment

The use of pesticides has come under serious national scrutiny over the past several years, leading to activities, often at state level, focusing on pesticide usage and re-registration as well as investigations into viable alternatives. The Kentucky Agric ultural Pesticide Impact Assessment Program (KAPIAP) concentrates its activities towards groups of pesticide applicators, employing pesticide use surveys as a primary tool to gain information on types and amounts of pesticides applied in specific situations. Pesticide use survey databases are stored in electronic format and are available to the public as special reports. KAPIAP is participating in a project to share and combine Kentucky pesticide use data with other states to provide a uniform database facilitating national summaries. KAPIAP funds have supported diagnostic and research activities in the Entomology and Plant Pathology Departments as well as pesticide applicator training activities. Examples of studies supported by these funds are evaluati ons of environmental effects and efficacy of conventional versus novel turfgrass insecticides.

6. Weed Control and Pesticide Management Programs

Weeds are one of the most significant pests that impact crop production each year. Therefore, herbicides and other weed management strategies are frequently employed to combat the complex array of non-native and other invasive weedy plants that impact crop production. Extension and research weed scientists cooperate together to evaluate best management options for problem weed species associated with crop production practices for Kentucky. On-farm field research trials are conducted to evaluate economically feasible and environmentally friendly weed management tools. Weed control recommendations are disseminated through written bulletins and fact sheets, and by conducting annual meetings and field days with crop producers, crop consultants, and other agri-chemical applicators. A computerized herbicide selection program is also available in the state as a aid for making weed

management decisions.

7. Controlled Fertilizer Application Program

Several partners collaborate to provides a soil testing service for all Kentuckians, including farmers. County Extension offices receive samples and send them to the College of Agriculture's Division of Regulatory Services to be analyzed. Test results are transmitted electronically to the county Extension office where agents present results and recommendations to clientele. The program is widely used by Kentucky's farmers in determining site specific needs so that they can purchase custom blended fertilizers to meet those specific needs. This program is a major educational component of all county programs, and clientele are made aware of the service by timely publication of local news articles and radio broadcasts that highlight the need for taking soil samples. Video tapes have been made available to all counties, showing the proper way for the collection and handling of soil samples.

8. Pesticide Applicator Training

Competency of the approximately 60,000 private and 13,000 licensed or certified commercial pesticide applicators is essential to the continued safe use of pesticides in the Commonwealth. Certification of persons using Restricted Use pesticides is required by Federal and State statutes. Initial and continuing education programs provided to these groups help applicators learn the proper steps to take to protect groundwater and endangered species, as well as non-target sites and organisms. Private applicators attend a 2.5 hour training session at the county Extension office to become certified. The certification is valid for 5 years, at that time the applicator must attend another training meeting. Commercial applicators must pass a competency test administered by the Division of Pesticides, Kentucky Department of Agriculture and attend two continuing education meetings during a 5-year period to maintain certification.

9. Extension Homemaker Education

The Kentucky Extension Homemakers Association (KEHA) have made environmental issues a high priority in recent years. The Association's current plan of work (1998-2000) places a high level of emphasis on water quality. Each year, a special chairman's training is conducted at the KEHA annual meeting to review the plan of work and to set program emphases for the coming year. Area KEHA Environmental Chairpersons return their area and train the County Environmental Chairpersons. This technique resulted in a 30 percent increase in environmental lessons requested at the local level.

10. Surface Mine Inspector Training and Research Programs

Since February 1996, 12 training sessions have been conducted for more than 400 surface mine inspectors and permitting personnel to introduce them to a new new spoil placement system that enhances the establishment of high value tress on reclaimed surface mines. These efforts are supplemented by working group that has been formed to develop new practice guidelines for

establishment of more conducive planting areas for tree establishment. If this effort eventually results in one-quarter of the yearly area disturbed being returned to forests and that an equal area of previously reclaimed areas were returned to productivity, it would result in the addition of 8,000 acres to the timber base annually in Kentucky. Using Virginia Tech's present value of $2400 per acre for white pine, it would result in a compounding resource base addition of $19,200,000 per year after 30 years, not accounting for inflation and resource value increase for high value species price differences. These programs will continue into the future.

11. Aquaculture Programs

The objective of the Extension Aquaculture Program is to educate fish farmers in all areas of fish production. The goal is to increase production and profits while implementing practices which provide for maintenance of natural ecosystems. All production methods taught to clients are based on sound research results and are environmentally safe (only recommendations approved by EPA and FDA are made). Additionally, increased production of fish crops on farms relieves fishing pressures on our wild fish populations, thus helping to conserve this valuable resource. Education methods used include farm visits, workshops, and a variety of publications.

12. Apiculture Programs

The Apiculture Extension Program is designed to assist beekeepers and others with concerns about honey bees, including fruit and vegetable growers who depend on pollination by honey bees. The effort is primarily devoted to severe, statewide problems with two parasitic mites which were first detected in Kentucky in 1989 and 1990. Since that time, both mites have destroyed a large fraction of the bees kept by beekeepers and nearly all of the feral honey bees. The cost and time involved to sustain beekeeping have increased dramatically. Fruit and vegetable growers often must make a concerted effort to ensure that hives of bees are available and placed in their fields and orchards during bloom times.

13. Ground and Well Water Protection Programs

Two programs have been initiated by the College of Agriculture to assess the impacts of production agriculture on both groundwater and surface water resources. The first was the Groundwater Education and Well Water Testing Program. As a part of the program over 4800 water sources were tested through a subsidized low-cost testing program. The second program was the Agricultural Chemical Use Impacts on Kentucky Groundwater Resources Program funded by the Kentucky Legislature and conducted by a multidisciplinary team of researchers and extension specialists at the University of Kentucky. This program identified eleven study sites around Kentucky to assess the impacts of both crop and animal production systems on groundwater and surface water resources. The results from these two programs identified factors of animal and crop production that contributed to water resource degradation of the shallow groundwater system while no impacts were found in the deeper water system. These

results were used as part of the background information that resulted in the 1994 Kentucky Agriculture Water Quality Act that affects all agriculture operations. Today a broad array of Extension programs educate agricultural operators about those BMPs that protect Kentucky water resources.

14. KY-A-SYST: Farm and Woodland Water Quality Evaluation Program

KY-A-Syst was developed from the national Farm*A* Syst program by a state interagency advisory committee to help Kentuckians reduce the risk of nonpoint source pollution related to agricultural and silvicultural activities. This interagency committee is made up of personnel from the University of Kentucky, other state and federal government agencies, livestock as sociations, Kentucky Farm Bureau Federation, and independent producers. KY-A-Syst helps Kentucky landowners self evaluate their farm and home practices and structures which may impact water quality and offers suggestions how to reduce the risk of pollution. KY-A-Syst is a series of publications that are located in each County Cooperative Extension Office throughout the state. County Extension Agents assist their local clientele in selecting and using the appropriate KY-A-Syst publications. KY-A-Syst has application for the larger farm operations as well as the smaller limited resource farmer. Protecting water resources, while improving productivity of Kentucky agriculture, is being accomplished with programs like KY-A-Syst.

15. Timber and Water Training Program

The Timber and Water Training Program is conducted as a series of workshops for natural resource professionals throughout the state. The program provides two days of training at Robinson Forest, the University of Kentucky's teaching and research forest in eastern Kentucky. Permanent outdoor demonstration sites are maintained to support the Timber and Water Training. While the workshops provide a basic level of core information for all participants, each program was tailored to fit the needs of the agency represented.

16. Small Farm Programs

The ongoing Small Farm Program uses hard money to work primarily with limited resource small farmers located in seven counties in the following subject matter areas: farm management, crop and livestock production, sustainable agriculture, marketing, and decision-making. Farmers are enrolled in the program for five years. The Sustainable Agriculture monthly workshops held at the Kentucky State University Research Farm provide hands-on education to between 45 - 400 small farmers on various sustainable agriculture methods and farming practices, marketing, record-keeping, and farm management. Handout materials include workbooks, Extension publications, and numerous other information.

17. Kentucky Conservation Tillage Program

Kentucky has an outstanding reputation and track record in no-tillage and soil conservation. It leads the nation in no-tillage. In each of the last 3 years, it has the highest percentage of crops planted

using the no-tillage method of any state in the nation. Soil losses during this time have been reduced to about one-half of what they were 15 years ago. Much
of this advancement can be attributed to a concentrated effort by the University of Kentucky which involved research and Extension programs. The University has worked closely with government agencies such as NRCS, Producer commodity groups, and Agribusiness to accomplish these goals. Current efforts involve the release of Conservation Reserve Program (CRP) acres and no-till wheat. The CRP is expiring on many acres in Kentucky allowing these acres to be released for crop production. These are highly erodible acres that would be best planted using no-tillage. The University of Kentucky has coordinated a state effort of research and education with the cooperation of many other groups to convince and prove to the producer
the benefits of using no-tillage planting methods on these acres. No-till wheat is only used on 25% of the wheat acres in Kentucky. It is the goal of the University of Kentucky and other cooperating groups to bring this to 75% of the acreage by 2005. Techniques and cooperative efforts similar to those employed in the CRP program will be used.

18. Turfgrass Management

With over one million acres of turfgrass in KY and increased pressure by homeowners, sport field managers, golf superintendents, sod producers and park managers to improve turf quality, the need for better management education is necessary in order to decrease the dependence upon pesticides, irrigation and other resources. Current and planned educational efforts relate to an extensive field testing program in which our results are highlighted at several field days and workshops, and at two statewide conferences. Each of these activities are supported by specific publications and utilization of successful manager presentations or testimonials. Major cooperative efforts between departments of Agronomy , Entomology, and Plant Pathology have helped to improve turf quality whi le utilizing major IPM practices.

19. Forage Management and Grazing

Forages either as pasture, hay, or as cover crops are a dominant part of Kentucky's agricultural landscape. Most of Kentucky's non-forested land is covered by grassland. Efficient util ization of this resource by farmers will keep the family farm economically viable and will also prevent erosion of available topsoil. Forage and grazing management training has been the focus of an intensive Grazing School' that has impacted Cooperative Extension and NRCS personnel as well as farmers. After training the trainers', the school's focus has become the Kentucky livestock producer. The school is a cooperative effort between the Kentucky Forage and Grassland Council, the Kentucky Cattleman's Association, the Natural Resources Conservation Service, and the UK College of Agriculture. The school emphasizes a combination of classroom teaching followed by hands-on reinforcement of main points in an intensive field grazing exercise.

20. Agricultural Leadership Development

The Philip Morris Agricultural Leadership Development Program is designed to develop the leadership skills of active burley tobacco farmers and agribusiness persons in the burley producing states. The issue of developing effective leaders in the agricultural complex is critical given the leadership responsibilities associated with a dynamic industry and also given the many changes occurring in factors external to production, including changes in government policy, increased governme nt regulations, and changes in the global economy. Strategies for achieving the programs objectives include more than thirty days of training over a two year period. In addition, participants will have a one week domestic study tour to Washington D.C. and a two week international study tour to South America. Techniques used in the training seminars focus on active learning techniques such as role playing and discussion groups rather than utilizing the traditional lecture technique.

21. Natural Resource Leadership Institute

The Natural Resource Leadership Institute (NRLI) is designed to help reduce some of the natural resource and environmental conflicts which face Kentucky. Arising as a direct response to major conflicts over forest lands, endangered spe cies, rural water quality, and other environmental issues, NRLI is now in its fourth year of training adults from state agencies, environmental groups, the university, and public education. Special recruiting and scholarships are used to attract representa tives from ethnic groups and citizens with modest financial resources. Participants engage in active learning seminars for six months (2 days training per session) on understanding leadership, developing public communication skills, group facilitation, and conflict resolution. This training is then utilized in participant - designed environmental projects in their locale or agency over the next year.

22. Project Learning Tree

Project Learning Tree is a comprehensive environmental education curriculum workbook used to stimulate creative and critical thinking increasing all students understanding of our complex environment. It also provides the student the ability to make informe d decisions on these issues. The activities are action-oriented and can be used in any order and require little or no equipment. The program is targeted for classroom K - 12. Individuals learning how to use these materials, as well as those that teach Project Learning Tree, are mainly from the professional teachers of the classroom but additional users will come from state agencies, business nature centers and youth programs.

23. Kentucky Forest Leadership Program

The Kentucky Forest Leadership Program utilizes the forest as a "window of the world" increasing the student's better understanding of Kentucky's integrated natural resources. The program will provide the emerging leaders of tomorrow insight on how to make informed decisions on natural resource topics and to enhance their ability in creative thinking and goal setting. The students, both male and female, attending the program are in high school from across the state and represent both rural and urban areas. Teaching staff from various natural re source agencies from Kentucky provide the students hands-on opportunities to survey, investigate and make decisions on various aspects dealing with

resource issues.

24. Environmental Training for Educators

Project WET is a nationally known Environmental Education curriculum which has been developed for educators to assist them in teaching young people about the vital connections between water resources and our lives. The Project WET Curriculum and Activity Guide is a collection of over ninety hands-on, water-related activities organized around a conceptual framework with seven major components. The activities are interdisciplinary and geared for grades K-12. Each state which uses the curriculum is responsible for designating a lead agency responsible for conducting the training sessions to certify Project WET Facilitators. 4-H serves as the lead agency in Kentucky with support from the Kentucky Division of Water and the Kentucky Environmental Education Council.

Internal Linkages

Kentucky State University Cooperative Extension Program
University of Kentucky Cooperative Extension Service
University of Kentucky Department of Entomology (4,5)
University of Kentucky Department of Plant Pathology (4,5)
University of Kentucky Department of Agronomy (4)
University of Kentucky Department of Horticulture (4)
University of Kentucky Department of Biosystems and Agricultural Engineering (4)
University of Kentucky College of Agriculture Agricultural Weather Center (4)
University of Kentucky Department of Agricultural Communications (4)
University of Kentucky College of Agriculture Division of Regulatory Services (7)
Kentucky Extension Homemakers Association (9)
Kentucky 4-H Programs (9, 24)
Kentucky State University Cooperative Extension Program Fish Disease Diagnostic Lab (11)
University of Kentucky College of Business and Economics (20)
University of Kentucky School of Communications (20)

External Linkages

Kentucky Department of Fish and Wildlife Resources (2,15,16)
The Kentucky Nature Preserves Commissions (2,21)
Kentucky Chapter of the Nature Conservancy (2)
The Kentucky Cabinet for Natural Resources Division of Water (2,3,17,24)
The Kentucky Cabinet for Natural Resources Divison of Forestry (2,3,15,16)
The Kentucky Cabinet for Natural Resources Division of Surface Mining (2)
Fish and Wildlife Service (2)
USDA Forest Service (2,15)

National Park Service (2)
Kentucky Forest Industries Association (3)
Natural Resource and Conservation Service (4,15,16,17,19)
Kentucky Certified Seed Program (4)
Southern Region Cooperative Extension Service Partners (4)
North Central Region Cooperative Extension Service Partners (4)
USDA Animal and Plant Inspection Service (4)
Kentucky Department of Agriculture Division of Pesticides (5,6,8)
Kentucky Certified Crop Advisor Program (8)
Kentucky Ferilizer Association (8)
Kentucky Agricultural Chemical Association (8)
Kentucky Pest Control Association (8)
Vegetation Management Association of Kentucky (8)
Kentucky Environmental Quality Commission (10)
Kentucky Farm Bureau Federation (14)
Conservation Reserve Program (17)
Kentucky Forage and Grasslands Council (19)
Kentucky Cattleman's Association (19)
Kentucky Environmental Education Council (24)

Target Audiences

Agricultural Producers (4,5,6,7,8,11,12,13,17,19,20)
Natural Resource Managers (2,21)
County Extension Agents (2,4,6,7,8,13,14,21,24)
Vocational Agriculture Teachers (2,8)
Public (2,13,15,16,21)
Commercial Loggers (3)
Farm Supply Dealers (4)
Crop Consultants (6)
Agricultural Chemical Applicators (4,5,6,8)
Extension Homemakers (9)
Educators (9,22,24)
Coal Operators (10)
Surface Mine Inspectors (10)
Landowners (14,15)
Youth (16,22,23,24)
Forest Industry Personnel (15)
Natural Resource Agency Personnel (15,24)
Limited Resources Farmers (16)
Minority Farmers (16)
Commodity Groups (17)

Agribusiness (17,20)
Homeowners (18)
Golf Course Superintendents (18)
Sod Producers (18)
Park Managers (18)
Environmental Educators (24)

Program Duration

Short-Term (less than one year)
Intermediate-Term (one to five years) (10,13,14,15,16,21,23,24)
Long-Term (more than five years) (1,2,3,4,5,6,7,8,9,11,12,17,18,19,20,22)

Allocated Resources

	Federal	State	Local	Other
FY00	$1,120,000.00	$1,120,000.00	$0.00	$0.00
FY01	$1,120,000.00	$1,120,000.00	$0.00	$0.00
FY02	$1,120,000.00	$1,120,000.00	$0.00	$0.00
FY03	$1,120,000.00	$1,120,000.00	$0.00	$0.00
FY04	$1,120,000.00	$1,120,000.00	$0.00	$0.00

	Professional FTEs		Paraprofessional FTEs	
	1862	1890	1862	1890
FY00	37	1.5	0	9
FY01	37	1.5	0	9
FY02	37	1.5	0	9
FY03	37	1.5	0	9
FY04	37	1.5	0	9

Kentucky Cooperative Extension Service
Planned Program for CSREES Goal #5
FY2000-2004

CSREES Goal

Enhanced economic opportunity and quality of life for Americans. Empower people and communities, through research-based information and education, to address economic and social challenges facing our youth, families, and communities. (Goal #5)

Statement of the Issue to be Addressed

That the population of Kentucky has economic problems can hardly be understated. These economic problems and conditions impact every aspect of the population and life in the commonwealth, especially Kentucky's children. Below is a look at where Kentucky ranks among the 50 states in a variety of economic and family indicators

On the Farm

4th in the number of farms (91,000 in 1997)
20th in average value of farmland per acre ($1,550 in 1998)
48th in pounds of milk produced per dairy cow (12,264 pounds in 1998)
49th in tobacco sales tax revenue ($5.06 per capita in 1997)

Family Matters

8th in number of live births to women ages 19 years and younger (1997)
44th in number of legal abortions per 1,000 live births in 1995 (143 in 1995)
6th in number of marriages for every 1,000 people (11.4 in 1997)
9th in number of divorces for every 1,000 people (5.6 in 1997)

Crime and Punishment

38th in violent crimes (murder, forcible rape, robbery, and aggravated assault) per 100,000 (1997)
24th in violent crime trends (.05% decrease from 1996 to 1997)
46th in number of police (17 officers for every 10,000 resident in 1996)

Education

47th in school spending ($1,225 per capita in 1995)
39th in books in public libraries for every person (2.1 books in 1996)
30th in percentage of high school graduates (67.3% in 1999)

Money

15th in state tax revenue ($1,744 per capita in taxes in 1997)
12th in poverty rate (15.9% of Kentucky's population in 1997)
5th in public aid (8.6% received public aid in 1996)
40th in personal income ($20,599 in per capita income in 1997)

(Source: 1999 State Rankings: A Statistical View of the 50 United States from How Kentucky compares: Rank and file of our state. (1999, June 13). Lexington Herald-Leader. p. 8.

Family Financial Management

Families continue to be in financial trouble. In general, families are in debt, are not saving any money, and remain on the edge of financial disaster. Rural farm families face financial problems with the low price for farm commodity products. While consumer bankruptcies dropped in the first quarter of 1999 for the first time in three years, there continue to be large numbers of families filing Chapter 7 or Chapter 13 in bankruptcy court. These situations indicate that there is an ongoing need for financial management education at all age and income levels. Families need to learn to live within their income and earning capacity as well as plan for the future. They need to save for financial emergencies. Teaching children to manage money under parental supervision may produce better adult money managers.

Environmental Stewardship

Issues related to solid waste management, natural resource utilization, and land development cannot be solved technological innovation alone. Rather, resolution these issues hinges on the capacity of citizens to devise ethical solutions to problems through effective dialogue. The Kentucky Cooperative Extension Service, through its 4-H Youth Development Program is well positioned to deliver effective programs which help young people acquire life skills needed to become effective stewards of the environment.

Workforce Preparation

While urban areas of Kentucky currently have low unemployment, rural areas of the state are plagued by historical high unemployment and underemployment. Less than 70% of first graders complete high school. Many Kentuckians lack the educational preparation and soft skills needed to secure and maintain employment. With industries relocating in other parts of the country or in

other countries, industry closings have greatly impacted many areas of the state. Passage of the Workforce Investment Act in 1998 has changed the way workforce related government agencies will do business in the future. Throughout life, Kentuckians (youth and adults) need to develop skills which lead toward becoming productive and contributing members of the workforce.

Community Service

Being a productive member of society as an adult requires that young people gain experience as active citizens at an early age. The learning experiences of 4-H community service activities help youth develop life skills needed to be effective in various adult roles in society.

Science

Although science and math scores on the Scholastic Assessment Tests and the Third International Mathematics and Science Study ((TIMSS) were not available from Kentucky, when one consider the low graduation rate of Kentucky's youth, we can assume their abil ities in science are probably quite low. The National Assessment of Educational Progress (NAEP) is the nation's only ongoing survey of what students know and can do in various academic subject areas. Authorized by Congress and administered by the National Center for Education Statistics in the Department of Education, NAEP regularly reports to the public on the educational progress of students in grades 4, 8, and 12. The most recent 1996 summary data indicates that in the science area, the national science score was 864 at the 12th grade level, while Kentucky science score was 444 at the 12th grade level. Regional differences in scale scores indicated fourth-grade students attending schools in the Northeast and Central regions had higher average science scores than their peers in the Southeast and West regions. At grade 8, students attending schools in the Central region had higher average scores than those in the Southeast region. Twelfth-grade students attending schools in the Central region had higher average scores than their peers in the Southeast and West.

Technology

Kentucky ranks 43rd out of 50 states in the number of households with a computer (30.3% in 1997).

Performance Goals

Improve the capacity of communities to identify and address critical issues that impact the li ves of our citizens. (Kentucky Cooperative Extension Service Strategic Goal #1). Foster the development of personal and interpersonal skills, stimulate volunteer leadership, and promote active participation in community problem-solving (Kentucky Cooperati ve Extension Service Strategic Goal #3). Stimulate the acquisition of life skills needed by young people and adults in reaching their ful potential as both individuals and members of families (Kentucky Cooperative Extension Service Strategic Goal #5).

Output Indicators

Number of new publications and curricula developed.
Number of contacts related to building economic opportunities and quality of life.
Number of youth enrolled in non-formal youth development programs conducted by Extension.
Number of youth attending residential camping/environmental sites.
Number of teachers trained in use of environmental curricula.
Number of clean-up campaigns conducted.
Number of school environmental education sites developed.
Number of youth involved in citizenship education and service learning activities.
Number of youth participating in 4-H related science projects.
Number of County Extension Agents trained in science-related projects.
Number of adults (parents/leaders/teachers) trained in science-related 4-H projects.
Number of youth participating in 4-H technology projects.
Number of County Extension Agents trained in technology-related 4-H projects.
Number of adults (parents/leaders/teachers trained in technology-related 4-H projects.
Number of youth participating in National 4-H Technology Corps
Number of youth participating in county/community 4-H Technology Corps
Number of financial management programs offered.

Outcome Indicators

Number of youth or adults who demonstrate informed and effective decision-making.
Number of youth or adults who demonstrate increased practical living skills.
Number of youth reporting the acquisition of one or more life skills as a result of participation in non-formal youth development programs conducted by Extension.
Number of additional people who are ready to enter the workforce.
Number of dependent care providers (adult or child care providers) reporting changes in knowledge, opinions, skills, or aspirations as a result of programs conducted by Extension.
Number of individuals reporting changes in knowledge, opinions, skills, or aspirations related to parenting or personal relationships.
Number of individuals adopting one or more practices to improve their financial wellness.
Number of youth who discovered that the community is a place to learn about work.
Number of youth who developed skills needed to ask workers about their careers.
Number of youth who discovered a relationship between choice of career, education required for that career, and the possible lifestyle the career choice might provide.
Number of youth or adults who demonstrate skills related to getting and keeping a job as a result of participating in Extension programs.

Number of Extension personnel partnering with local communities in addressing workforce issues.

Key Program Components

The University of Kentucky College of Agriculture and Kentucky State University are engaged in a wide range of programs geared towards enhancing economic opportunity and quality of life for youth, families, and children throughout the commonwealth. In all, different programs focus on empowering people and communities through research-based information and education that address economic and social challenges.

1. Home-Based Business Program

Interest in working from home has increased tremendously during the past ten years and that trend is expected to grow during the 21st century. Link Resources Inc. (a New York-based research company) reports a total home worker population of 38.4 million in the United States (more than 30% of the total U.S. workforce). Approximately $427 billion dollars a year are generated by home-based businesses. A 1994 survey conducted at the University of Kentucky Survey Research Center indicated 377,000 or 13.8% of Kentuckians over the age of eighteen operated a business from home. People starting home-based businesses need instruction in:

- planning the business, including federal, state, and local laws and regulations, the legalities involved, and factors influencing the viability of the business.
- managing the business, including basic organizational skills, record keeping, and other business management skills.
- marketing and distribution of products and services.
- opportunities for networking and development of resources.
- topics pertaining to specific types of businesses.

To ascertain that critical needs are addressed in Home-Based Business programs, home-based business owners are surveyed and seminar participants are asked to identify topics of greatest concern. Local officials/leaders are asked to participate in planning programs.

2. The Family Development and Management (FDM) Program

This program is designed to educate limited resource families toward self-sufficiency.

3. Small Farm Program

Kentucky has nearly 79,000 small farms, many of which are operated by limited-resource, part-time, and/or minority farmers. Paraprofessionals and professionals at Kentucky State University

Cooperative Extension Program provide the following training and technical assistance to participating farmers:

- scientific farm management practices
- new farm enterprises and enterprise selection
- alternative farming methods that are more sustainable
- record-keeping skills
- marketing information
- financial management and loan repayment
- housing and housing improvement
- farm planning and resource assessment.

The ongoing Small Farm Program uses hard money to work primarily with limited resource small farmers located in seven counties in the following subject matter areas: farm management, crop and livestock production, sustainable agriculture, marketing, and decision-making. Farmers are enrolled in the program for five years. The Sustainable Agriculture monthly workshops held at the Kentucky State University Research Farm provide hands-on education to between 45 - 400 small farmers on various sustainable agriculture methods and farming practices, marketing, record-keeping, and farm management. Handout materials include workbooks, Extension publications, and numerous other information.

Additionally, the Small Farm Program conducts sustainable agriculture - farm management workshops monthly at the Kentucky State University Research Farm for small farmers to teach sustainable farming methods and to introduce farmers to new crops, enterprises, and alternative farming methods.

The Small Farm Outreach Training and Technical Assistance Program (SFOTTAP) uses soft money from the USDA-National Office of Outreach to work primarily with limited resource, minority, small farmers in thirteen counties in not only farm production but also financial management. About 30% of these farmers have loans from Farm Service Agency (FSA). SFOTTAP farmers need technical assistance to help avoid/alleviate financial problems. Group trainings are conducted in the form of workshops, lectures, and field days.

4. Research and Extension Apprenticeship Program (REAP)

Youth need exposure to career opportunities in the food and agricultural science areas to provide them with career opportunity choices. This exposure acquaints them with interesting agricultural careers that are traditional and non-traditional and acquaints them with opportunities and careers that impact the agricultural economy.

5. Financial Management Program

Money 2000 is an educational program designed to promote saving and the reduction of debt. The program, introduced in 1998, will be continued through the year 2002. Specialists and agents will also provide technical assistance to limited resource and farm families on financial management. A new curriculum will be developed on Children and Money to teach sound financial management to children 2 through 18.

6. 4-H High School Financial Planning (4-H HSFP)

High school students are in need of financial planning training as much if not more so than college students. The younger a person can be taught wise use of money, the less likely they are to incur debts that will lead to financial jeopardy. A major problem facing high school teachers is the lack of high-quality unbiased resource materials in financial planning.

7. Community Development and Leadership

The strategic planning and community issue approach results in local residents, leaders, and officials learning leadership skills and how to determine issues and make decisions impacting their communities.

8. Dependent Care Training

Kentucky is not unlike the other states in the country in that approximately fifty percent of women with children are in the work force. This level of employment is likely to increase as more people are moved from the welfare system into the work force as mandated by legislation. In Kentucky, single parenthood has increased significantly over th e past twenty years. In 1970, 11.6 percent of children lived in a single parent household. This has increased to 18.8 percent in 1990. In addition, it has been determined that in Kentucky a single worker must earn at least ten dollars an hour in a full - time position in order to meet this basic living standard. To obtain this level of income, many families must depend on both partners working. The move to this level of employment is increasing the need of dependent care, not only for children, but also for the elderly. The true impact of welfare reform on the need for dependent care will not be fully realized for several years. Dependent care facilities are required by the state to meet minimum standards, including twelve hours of approved continuing educati on classes each year; however, it is not enough to provide minimum care. The Kentucky Cooperative Extension Service aims to help providers provide quality, available care through learning experiences offered in the providers' counties. The ultimate goal is to enhance the provider network so that children and others requiring care are receiving nurturing, quality care.

9. Parenting Programs

Most parents desire to be good parents; however, many parents do not have all the tools needed to deal with the variety of situations that arise in parenting. Child abuse and neglect reports and

substantiated reports have nearly doubled between 1983 and 1993. In Kentucky, over sixty percent of child mistreatment is in the form of neglect. This neglect may take the form of inadequate housing, food, or health care. If may also be in the form of mental or emotional neglect, lack of supervision, and abandonment. The Kentucky Cooperative Extension Service will continue to provide parent education programs in order to provide parents with the tools that
they need to raise their children

10. Children, Youth and Families at Risk (CYFAR)

Kentucky's CYFAR project has identified seven sites across the state of Kentucky which partner with local citizens to design and deliver colla borative programs focusing on needs they identify. A state component of the CYFAR project seeks to build the capacity of the Extension System to better serve the needs of children, youth, and families at risk.

11. Environmental Stewardship

Empowering teachers and volunteers by providing certification workshops/in-service trainings so that they can teach with confidence and provide accurate information to the audience. Expand existing programs such as Project WET, Project WILD, and Project LEARNING TREE. Increase the number of youth participating in residential environmental camps that provide hands-on learning experience. Improve the quality of life by involving youth in water quality testing, wildlife habitat development, solid waste cleanup, and reforestation.

12. Leadership and Community Service

County Extension Agents across Kentucky are actively involved in the design and delivery of numerous community leadership programs. They are also instrumental in the facilitation of c ommunity dialogue sessions where community members can talk about relevant issues. They also conduct leadership training sessions for officers and members of affiliated organizations. 4-H projects are used to involve youth in studying their community and conducting individual and/or group activities to meet community needs. Community Service Learning will provide youth with an opportunity to focus on community needs with a special emphasis on reflection and the use of the experiential learning model. Youth will spend time seeing how skills developed in this experience can be transfers to other experiences that may come up in the future. The 4-H Honors Program will involve teens in giving leadership to a group of youth conducting a community service learni ng project.

13. Workforce Preparation

The Kentucky Cooperative Extension Service plays a key role in preparing Kentuckians new or expanded roles in the workforce. Training for adult audiences conducted by Extension focuses on basic job skills, searching for a job, and interview skills. Youth is another focus area for Kentucky's Workforce Preparation efforts. The 4-H WorkBook series is a catalyst for youth to become familiar

with work, employer expectations, preparation for the workforce, and workplace culture. The series is made up of work-based learning activities specifically for youth at 4th-5th grades, middle and high school levels. WorkBook 1 triggers a desire to explore the community, learn about places where people work and begin to ask themselves about the kinds of work they might be interested in. WorkBook 2 encourages youth to develop skills related to exploring jobs through shadowing, interviews and other research, skills which can be used throughout life. It also includes activities which cause youth to see relationships among choice of career, educational preparation required and the potential lifestyle the choice of career might provide. WorkBook 3 helps youth or adults develop the skills related to finding a job, such as how to complete an application, dress for work, and respond during an interview. For adults transitioning from welfare to work and displaced workers, agents will teach skills on how to get a job, managing time and resources while maintaining a job and family, budgeting money earned on the job, and decision making. Actual job training or retraining in the areas of food handling, child care practices and regulations, farm labor, etc. will be conducted in some communities.

14. Science

4-H'ers learn the scientific inquiry through participation in 4-H programs that include animal sciences, physical sciences, life sciences, earth and space science. SERIES and SPACES have been two of the primary science programs agents have been trained on in 4-H. Kentucky 4-H is also involved with the Appalachian Rural Systemic Initiative (ARSI), a six state effort to increase math and science scores in rural Appalachia.

15. Technology

Kentucky 4-H'ers participate in the National 4-H Tech Corp. Former Kentucky participants in the National 4-H Tech Corp have trained and started a Community 4-H Tech Corp in the Bluegrass Area. There seems to be some interested in expanding this idea to the Purchase and Bluegrass Areas. Kentucky 4-H is also involved with the Charting Community Connections projects which trains youth in a community development process using technology as a tool.

16. The Kentucky Economics Expansion Program (KEEP)

The Kentucky Economics Expansion Program (KEEP) has been designed to assist existing and entrepreneurial businesses to save and/or create new jobs.

Internal Linkages

There is a close linkage between the Small Farm Program and the research initiatives of the Kentucky State University Research Farm and Community Research Service. The Small Farm Program staff at the 1890 land grant institution (Kentucky State University) collaborate with the UK College of Agriculture Extension Service and County Extension Agents for Agriculture.

Kentucky State University FDM Program (2)
Kentucky State University Community Research Service and Aquaculture Researchers (2,3,4)
North Central 4-H Camp Environmental Education Director (11,12,13,14,15)
University of Kentucky College of Agriculture (1, 3)
University of Kentucky College of Education (11,12,13,14,15)
University of Kentucky County Extension Agents for Agriculture (1, 3)
University of Kentucky County Agents for 4-H Youth Development (6,11,12,13,14,15)
University of Kentucky County Extension Agents for Development (6,11,12,13,14,15)
University of Kentucky County Extension Agents for Family and Consumer Sciences (2,5,7,8,9,10)
University of Kentucky College of Human Environmental Sciences (1,4,6)
University of Kentucky Department of Rural Sociology (3,11,12,13,14,15,16)
University of Kentucky Department of Forestry (3,16)
University of Kentucky Department of Family and Consumer Sciences (16)
University of Kentucky 4-H Program (16)
Welfare Implementation Team (16)
Workforce Investment Act Team (16)

External Linkages

Agriculture Research and Development (3,4)
America's Promise (11,12,13,14,15)
AmeriCorp (11,12,13,14,15)
Area District Development Offices (16) including Workforce Planning Committees (16)
Bed and Breakfast Association of Kentucky (1)
Bell South and Kentucky Cabinet for Economic Development (1)
Big Help (11,12,13,14,15)
Child Care Resource and Referrals (8,11,12,13,14,15)
Community Ventures (1)
Dependent Care Operators (8,9)
Family Resource and Youth Service Centers (2,8)
Governor's Task Force on Child Development (8,11,12,13,14,15)
Heifer Project, International (3)
High School Teachers (home economics, math, business) (6)
Human Resources Cabinet (1)
Kentucky Commission on Community Volunteerism and Service (11,12,13,14,15)
Kentucky Natural Resources and Environmental Protection Cabinet (3)
Kentucky Credit Union League (5)
Kentucky Department of Education - Vocational Home Economics (6)
Adult Education and Literacy (8,11,12,13,14,15)
Vocational and Technical Education (16)
Kentucky Cabinet for Economic Development (1)

Workforce Development (8,11,12,13,14,15)
Kentucky Cabinet for Families and Children (11,12,13,14,15,16)
Kentucky Department of Agriculture (3,4)
Kentucky Department of Fish and Wildlife (3,11,12,13,14,15)
Kentucky Environmental Education (11,12,13,14,15)
Kentucky Tourism Cabinet (1)
Kentucky Crafts Marketing Program (1)
Land-grant universities in other states, specifically: University of Tennessee, Virginia Tech, Virginia State, University of Idaho, Washington State University, Purdue, The Ohio State University, Mississippi State, Texas A and M, University of Maine, North Carolina State University, Utah State University, Tennessee State University (1,3)
National Home-Based and Micro Business Design Team (1)
National Endorsement for Financial Education (NEFE) (6)
National 4-H Council (11,12,13,14,15)
National Science Foundation (11,12,13,14,15)
National Service Learning Clearinghouse (11,12,13,14,15)
USDA-Natural Resource Conservation Service (3,4)
Office of Training and ReEmployment (16)
Local Businesses (1)
Prudential Youth Leadership Institute (11,12,13,14,15)
REACH (1)
School administrators and teachers (11,12,13,14,15)
Service Corps of Retired Executives (1)
Small Business Development Centers (1)
Small Business Administration (1)
USDA-National Office of Outreach (3)
Kentucky Department of Natural Resources (3,4)
USDA-CSREES (3,11,12,13,14,15,16)
USDA-Farm Service Agency (3)
USDA-Rural Development (3)
USDA-Sustainable Agriculture Research and Education (3)
Women, Infant, and Children (WIC) (2,8,11,12,13,14,15)
Workforce Investment Act Implementation Advisory Committee and Subcommittees (16)

Target Audiences

Adults transitioning from public assistance to employment (2,3,16)
Associations, organization, and agencies that support home-based and micro businesses (1)
Displaced Workers (16)
Elected officials and business leaders (1,16)
Parents, especially those involved with Family Resource and Youth Service Centers (8,11,12,13,14,15)
Home Based Businesses (1,8)

Businesses (16)
Day Care and Dependent Care Providers (8,11,12,13,14,15)
Fathers (10)
Government Officials (16)
Grandparents who are parenting (10)
Youth (4,6,11,12,13,14,15)
Home Based and Micro Business Owners (1)
Limited Resource Families (1,2,3,5,11,12,13,14,15)
Limited Resource Farmers (3)
Minority farmers (3)
Family Farmers (3)
Single Parents (11,12,13,14,15)
Teachers (11,12,13,14,15)
Volunteers, Youth and Adult (11,12,13,14,15)
Youth ages 9-19 and their families (2,10,11,12,13,14,15)
Youth ages 2-18 (5)
Youth/Children at risk (2,10,11,12,13,14,15)

Program Duration

Short-Term (less than one year)
Intermediate-Term (one to five years)
Long-Term (more than five years): (2, 3, 12)

Allocated Resources

	Federal	State	Local	Other
FY00	2,500,000	2,635,000	1,500,000	0
FY01	2,500,000	2,635,000	1,500,000	0
FY02	2,500,000	2,635,000	1,500,000	0
FY03	2,500,000	2,635,000	1,500,000	0
FY04	2,500,000	2,635,000	1,500,000	0

	Professional FTEs		Paraprofessional FTEs	
	1862	1890	1862	1890

FY00	110.0	7.0	10.0	11.0
FY01	110.0	7.0	10.0	11.0
FY02	110.0	7.0	10.0	11.0
FY03	110.0	7.0	10.0	11.0
FY04	110.0	7.0	10.0	11.0

Process for Receiving Stakeholder Input Regarding Program Priorities of the Kentucky Cooperative Extension Service

The Kentucky Cooperative Extension Service prides itself on its reputation as a cutting-edge educational institution relevant to the needs and issues of the people it serves. Innovative programs, emerging technologies, and new partnerships all help to ensure our position on the cutting edge of program delivery. But, without continual high quality input from local citizens and partner organizations relevance to the needs and issues of people cannot be assured.

In Kentucky, local citizens have long been involved in shaping Extension. They are involved in the process of building or securing Extension facilities. They determine the types of Extension staff that are needed at a particular location. They help secure and determine budgets for Cooperative Extension. And most importantly, they help set program priorities. As a result of this involvement, they are the creators and owners of a responsive the type of Extension Service that best meets their needs.

The sections which follow highlight five key channels through which local citizens provide input to determining the program priorities of the Kentucky Cooperative Extension Service. These are:

- Development of Strategic Goals
- Local Program Development Processes
- Extension Council System
- Kentucky Agricultural Advancement Council
- Speak Out on Extension

Development of Strategic Goals

During the summer of 1993 the Kentucky Cooperative Extension Service initiated the first phase of a strategic planning process designed to produce vision and mission statements for the

organization. The process involved more than 3000 members of the general public, Extension advisory council members, and Extension faculty and staff from both land grant institutions. Based on input received from these individuals, a writing team crafted vision and mission statements that were released to the public in the summer of 1994.

The vision statement of the Kentucky Cooperative Extension Service sees the organization as "the educational resource for all Kentuckians that serves as a catalyst to build better communities and improve quality of life." The mission statement describes the nature of Extension's work as providing a "link between the counties of the Commonwealth and the state's land grant universities to help people improve their lives through an educational process focused on their issues and needs."

In July 1996, a decision was made to embark upon a second phase of strategic planning that would produce a set of strategic goals to further define the work of the Kentucky Cooperative Extension Service. A task force was appointed to guide the process of identifying a set of strategic goals for the organization. For each goal that was identified, a team was appointed to develop outcomes and indicators specific to that goal. The work of these groups was presented to the organization at the 1997 State Extension Conference. The six goals are listed below:

- Improve the capacity of communities to identify and address critical issues that impact the lives of their citizens.
- Attain sustainability of agricultural and economic development systems that are globally competitive.
- Foster the development of personal and interpersonal skills, stimulate volunteer leadership, and promote active participation in community problem-solving.
- Encourage the adoption of healthy lifestyles through a focus on proper nutrition, disease and injury reduction, and comprehensive health maintenance.
- Stimulate the acquisition of life skills needed by young people and adults in reaching their full potential as both individuals and members of families.
- Improve environmental quality by encouraging the implementation of sound environmental practices and effective stewardship of natural resources.

Local Program Development Processes

Involving local clientele in program development continues to be emphasized at the county level through a participatory planning process. For the past eight years, the Kentucky Cooperative Extension Service has used an issue-oriented program development model in its 120 counties. Program priorities identified by members of the local County Extension Council emerge as maj or areas of programming (MAPs) that Extension staff in that county work on together as members of interdisciplinary teams. Annual plans of work are prepared for each major area of programming. Agents articulate desired outcomes and indicators of accomplishment for each major area of programming.

Extension Council System

As discussed earlier County Extension Councils play a significant role in determining the nature and focus of Extension work done in a particular county. But such input shapes not only the local Extension program, but area and statewide programming as well. Program priorities identified by an individual County Extension Council are shared wi th representatives of other County Extension Councils at meetings of one of fourteen Area Extension Councils which exist across the state. Area Extension Councils send members of their of their group to participate in meetings of the State Extension Advis ory Council where program priorities of the areas are aggregated into state program priorities to be addressed under the framework of the six strategic goals. These current priorities are:

- Family Stability and Parenting
- Health Care, Wellness, and Safety
- Environment
- Agricultural Profitability
- Economic Development
- Youth at Risk
- Leadership Development
- Diet and Nutrition
- Solid Waste Management

Similar structures for establishing priorities within the 4 -H and Family and Consumer Sciences program areas have also existed for years, but operate under the umbrella provided by the overall Extension Advisory Council system.

Kentucky Agricultural Advancement Council

A relative newcomer to the process of securing stakeholder input is the Kentucky Agricultural Advancement Council. Although Agriculture Advisory Councils have been used in counties for years to help determine the direction of the local agriculture Extension program, there was no system beyond the county level for aggregating information received from these county groups into area and state priorities. Seeing the lack of such a system, the Kentucky Association of County Agricultural Agents recommended that a system of area councils be developed to direct common concerns to a state level agricultural advisory council.

The efforts to build this system of input began in 1996 when a series of five regional agriculture issues conferences were held across the state. The sessions were co-sponsored by the University of Kentucky College of Agriculture, Kentucky Cooperative Extension Service (KCES), Kentucky Agricultural Experiment Station, and Kentucky State University L and Grant Programs. Meetings were coordinated by the Kentucky Leadership in Agricultural and Environmental Sustainabilty (KLAES) project group operating with funding received from the W.K. Kellogg Foundation and the USDA Sustainable Agriculture Research and Education (SARE) program. The intent of the regional conferences was to gain an understanding of the barriers to sustainable agriculture and to help the land grant institutions and state government develop strategic plans to advance agriculture that i ncluded profitable farms and a healthy environment.

More recently, a series of fifteen area meetings was conducted to examine agricultural issues which could not be resolved at the county level or that were of common interest to more than one county. One meeting was held in each Extension area with one additional meeting being held for KSU stakeholders. Representatives from these area meetings were then asked to bring issues and concerns that could not be resolved at the area level or that deserved statewide attention to first meeting of the Kentucky Agricultural Advancement Council held in March of 1999. This state council consists of 45 people; 2 clients and one 1 agent from each area. Membership on the Council is dynamic in nature due to a prescribed system for rotation of members.

Meetings of the council do not focus solely on providing input to traditional land grant programs; rather, they provide a forum to identify issues important to programming in the food and agricultural sciences in the broadest context and the ways those issues affect rural, urban, and suburban audiences.

The Kentucky Agricultural Advancement Council (KAAC) meets at least twice annually for the following purposes:

- To provide leadership, advice, and direction to the Extension, Research and Instruction activities of the University of Kentucky College of Agriculture and the land grant programs of Kentucky State University

- To provide a mode of communication by which the needs of Kentucky's agriculture industry and its citizens can be communicated to the University of Kentucky

- To assist in the identification, coordination and advancement of agriculture development initiatives among all segments of the agriculture industry and citizens of the Commonwealth.

An important output of the March meeting was a comprehensive set of recommendations framed under a 1999 action plan. Elements of that action plan are listed below:

We recommend that the University of Kentucky and Kentucky State University, through the Agricultural Experiment Station and the Cooperative Extension Service/Programs pursue the following actions:

- **Public Relations and Policy**

A. Develop programs that assist agricultural groups in identifying and utilizing media resources.

13. Identify and actively promote the use of meaningful county or area programs that positively promote agriculture and may be adapted for statewide and/or multi-state use.

M. Assemble facts and provide resources that can impact public perception regarding farmer's share of the food dollar. Continue to provide similar information regarding other timely issues as identified by the Kentucky Agriculture Advancement Council.

D. Provide guidance to policy makers and citizens to vaue investments in research and Extension.

- **Livestock Production**

A. Agents and specialists show clientele, through demonstrations, statistics and market information about cattle breeds and develop strategies to improve production in response to consumer demands.

B. Continue to utilize and expand grazing school programs to reach more of the cattle producing areas.

B. Make available to all agents the training and resource material on grazing so they can do day- to-day teaching and programs. More

newsletters, media material sent to agents.

B. Do more cost analysis, dollars and cents, trials, demonstrations, etc.

E. Request more detailed and more accurate feed tag information from UK Regulatory Services. Is there a need for State Government Policy change?

F. Continue and increase research , demonstrations & Extension work on hay storage, wrapping management & harvesting, and plastic disposal.

F. Develop a working beef management guide that agents could use one-on-one to work with producers. Make sure its something that will be a self-learning tool for the farmer that he can do individually and assess his own situation.

F. Continue business management education that is integrated with production through beef production/management meetings, field days, etc.

I. Compile data and information and extend this information to agents and producers via market analysis, multi-county groups, relative to the effectiveness of special sales.

J. Explore market options using the existing market structure through new techniques, programs on hedging futures, etc. in layman's terms .

K. Continue to provide technical support for swine marketing groups and programs.

L. Explore local marketing opportunities for small producers for alternative species. i.e., potential for upgrading slaughter plants lockers, for direct marketing. Source of information might be from other states.

L. Expand media program to encourage more producers to complete Water Quality Plans.

L. Provide sample service at Princeton on Nutrient Management. Recommendations to be based on analysis from Extension Specialist.

■ **Crop Production**

L. Help identify new and existing value-added opportunities and other markets.

M. Provide education to both clientele and agents for developing production/marketing strategies.

N. Relay more information on value-added and existing commodities. Put higher priorities on solving this problem and on additional agent training and agent specialization.

O. Continue the emphasis on nutrient management plans and nutrient management research and water quality planning.

P. Work to improve the public perception about agriculture.

Q. Continue multi-disciplinary emphasis on precision agriculture in Extension programming, on biotech and genetically engineered crops as well as traditional commodities.

R. Continue tobacco disease research.

S. Encourage multi-state/regional efforts toward addressing common problems (i.e., Black Shank, Management Training, Dairy Production.)

■ **Economic Development**

T. Influence policy decisions so that they positively impact farmers and current tobacco producers and protect the economic base associated with tobacco.

U. Develop estate planning strategies to retain land base associated with agriculture.

C. Develop timber and recreational use strategies for Kentucky woodlands.

D. Disseminate decision tools for efficient management of agricultural and small business enterprises. Value advances related to investments in biotechnology.

E. Establish a specialist's position to help producers overcome obstacles of H2A regulations and to help ease the language barrier problem with publications and fact-sheets in Spanish. Time: Immediately

■ **Regional Concerns**

D. Develop and value new strategies for multiple use of lands.

Merit Review Process for Extension Programs

The Kentucky Cooperative Extension Service defines merit review as a process used to judge the degree to which a planned program (1) is relevant to needs expressed by stakeholder groups, (2) draws upon current research and knowledge, (3) is congruent with quality standards and best practice, and (4) is likely to produce anticipated outcomes.

Twenty-seven individuals will serve as reviewers of the Kentucky Cooperative Extension Service Plan of Work for FY00-04. The plan developed for each of the five CSREES goals will be distributed to a team of three to five reviewers who will evaluate the plan using the criteria identified above. Reviewers will have expertise in disciplines germane to the plan they are asked to review. Following this review, five Extension Assistant Directors will review plans relevant to their area of expertise.

Feedback from the review process will be provided to individuals responsible for various program components detailed in the plan.

Smith-Lever Multi-State Extension Activity

The Kentucky Cooperative Extension Service is a collaborating partner on a wide range of projects and programs which transcend the geographical and governmental boundaries of our state. However, to quantify the percentage of formula funds devoted to Multi-State activity we have chosen to apply a rather restrictive, but more easily quantifiable criteria for identifying multi-state activity. A program component described in the plan was classified as multi-state if:

1. The central purpose of the activity described is related to the implementation of a national curriculum resulting from inter-state collaboration (e.g. Character Counts, Project WET)

2. It is directly tied to, or in large part shares common objectives with an established regional work group or information exchange group.

3. It is substantially a part of a documented multi-state cooperative activity (e.g. CYFAR Evaluation Collaboration)

Based on this review of the program components included in this Plan of Work, we have determined that $2,709,400 of the funds received under the provisions of sections 3(b)(1) and (c) of the Smith Lever Act will be expended in FY00 for multi-state Extension activity. That represents **35 percent** of the 7,718,216.00 that Kentucky is scheduled to receive.

Integrated Research and Extension Activity

Research and Extension functions have been, and will continue to be, integrated to a unique extent within in the Kentucky system. The Dean of the College of Agriculture formally serves as Director of both the Kentucky Agricultural Experiment Station and the Kentucky Cooperative Extension Service. Two Associate Directors assigned responsibility for direction of Extension and Research are housed in the same office suite. Extension, Research, and Teaching faculty are housed together within academic subject matter departments and jointly participate in departmental meetings. Many faculty members hold joint Extension-Research appointments. Extension faculty are expected to conduct applied, collaborative research and research faculty are required to participate in Extension and other outreach/service activities. As a result Extension is a co llaborator in a significant number Experiment Station projects. Through an examination of individual research projects, the Kentucky Agricultural Experiment Station concluded that 37.5 percent of Hatch funds received were expended on integrated Research and Extension activity.

While the design and implementation of our integrated Research-Extension structure epitomizes the AREERA mandate for multifunction integration, it ironically has created limitations in quantifying and documenting such integration. To promote integration of Research and Extension we have deliberately minimized differentiating between these activities.

In an effort to better quantify the precise percentage of formula fu nds devoted to integrated Research and Extension activity, we have chosen to apply a rather restrictive, but more easily quantifiable criteria for indentifying multi-function program components. A program component described in the plan was classified as multi-funtion if:

1. A faculty member who serves as an integral member of the leadership team for the program component has at least a partial Research appointment (as reflected in their Distribultion of Effort form).

2. The program component is directly related to dissemination of the findings of Experiment S tation

research projects.

3. The program component falls within the scope of one of the College's formally established initiatives which integrate Research and Extension Activity. (e.g. the UK Weed Science Group, our Food Quality and Safety Task Force, and our Beef Integrated Resource Management Team.)

Based on this review of the program components included in this Plan of Work, we have determined that $2,467,600.00 of the funds received under the provisions of sections 3(b)(1) and (c) of the Smith-Lever Act will be expended in FY00 for integrated Research and Extension activity. That represents **32 percent** of the $7,718,216.00 Kentucky is scheduled to receive.