

Plan of Work

Oklahoma Cooperative Extension Service

**Division of Agricultural Sciences and
Natural Resources**

Oklahoma State University

Federal Fiscal 2000-2004

July 15, 1999

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**Oklahoma Cooperative Extension Service
Oklahoma State University
Plan of Work for Federal Fiscal 2000-2004**

Introduction

This document contains the FY 2000-2004 Plan of Work (POW) for the Oklahoma Cooperative Extension Service that is part of the Division of Agriculture Sciences and Natural Resources at Oklahoma State University. The POW is a statement of the OCES' intended extension activities as they relate to the federal goals for the next five years, as required by the Agricultural Research, Extension and Education Reform Act of 1998, and as allowed under USDA's "Guidelines for State Plans of Work for Agricultural Research and Extension Formula Funds". It is based on the Division's revised (draft) Strategic Plan and stakeholder input discussed below. It is patterned after section B. *Components of the 5-year Plan of Work* found beginning on page 19246 of the *Federal Register: April 19, 1999*.

This POW does not include the College of Agricultural Sciences and Natural Resources academic programs plan nor the Oklahoma Agricultural Experiment Station's research plan. However, it was developed in conjunction with the Oklahoma Agricultural Experiment Station's POW.

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Planned Programs

1b. This plan is for the Oklahoma Cooperative Extension Service (OCES). Other institutions and units in the state were consulted and interaction occurs on an on-going basis, however it was decided to submit separate plans of work at this time. The program effort is shown below as 25 Key Program Component areas. These Key Program Components have been designated to improve planning and reporting. Most of these components consist of numerous on going and new programs designed to meet the issues, problems and needs of citizens of Oklahoma and the U.S. One of the problems with designating these components came in the highly integrated nature of many of these programs. One program may very well have pieces of several of the key program components. It was difficult to separate highly integrated programs to establish the separate components and the associated fiscal and staff years. It was equally difficult to decide under which Federal goal to place a particular key program component, as many of the components really address more than one Federal goal.

The following key program components do not represent all of the programs and activities expected to be conducted during the planning period. These are the programs that fit well into the five federal goals and that could be readily categorized into identifiable components.

Each Key Program Component contains a narrative description based on the items outlined on page 19247 of the *Federal Register: April 19, 1999*. At the end of each description is a matrix showing estimated costs and staff years involved in each key program area. The costs and staff year estimates are from all sources of funding (as noted above, because these components do not represent all OCES programs, the fiscal and personnel estimates do not represent all costs and staff years).

CSREES Goal 1: An agricultural system that is highly competitive in the global economy. Empower the agricultural system with knowledge that will improve competitiveness in domestic production, processing, and marketing.

Key Program Components:

- Improving Efficiency in Livestock Production
- Improving Efficiency in Crop Production
- Forage Production
- Improving Farm Business and Financial Management
- Improving Domestic Marketing Concepts and Alternatives
- Integrated Pest Management
- Sustainable Agriculture
- Commercial Horticulture and Alternative Agriculture Opportunities
- Improving Natural Resources and Forestry
- Value-Added Food and Agriculture Products
- 4-H Youth Agriculture Programs

Improving Efficiency in Livestock Production

Focus: Development and dissemination of educational programs to encourage adoption of technology that improves efficiency, profitability and sustainability of livestock enterprises. Produce and disseminate decision-making tools to encourage adoption of technology that improves efficiency, profitability and sustainability of livestock enterprises. Examples include computer software, Internet web sites and fact sheets.

Major Programming Efforts: (Beef; Cow/Calf; Stocker and Feedlot; Swine; Dairy; Poultry; Horse; Sheep; Meat Science and Foods)

Educational programs for each of these major efforts are centered around improving efficiency of livestock production in the areas of management, genetics, reproductive physiology, nutrition, health and quality of livestock products.

A. Description or statement of issues/problems.

Livestock production accounts for sixty eight percent of the total value of agricultural commodities produced in Oklahoma. Major issues in livestock production include increased cost of production with stable or declining demand, waste management, and identification of production systems that minimize inputs and optimize production and product quality. Stakeholder input is solicited through a variety of vehicles, including commodity organization committees, county advisory groups and personal contacts with producers and agribusiness professionals.

B. Performance Goals

Output indicators: Program delivery methods will include educational workshops and seminars, field demonstrations and experiments, field tours, newsletters, newspaper columns, fact sheets, television and radio programs, Internet, computer software packages, in-service training programs and one-on-one.

Input solicited to determine:

- Number of publications and requests for publications.
 - Number of meetings, workshops and in-service sessions.

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- Number of participants attending educational programs.
- Number of hits and down loads from web sites.
- Number of radio and television programs.
- Number of software packages distributed.

Outcome indicators:

- Adoption of technology as evidenced by periodic evaluations and surveys.

- Pre and posttests in selected programs to determine knowledge gained.
- Changes in livestock enterprise demographics and profitability.

C. Internal and External Linkages

Internal linkages will include cooperative efforts among state, area and county staff. Interdisciplinary programs will be developed involving animal science, agricultural economics, plant and soil sciences and the college of veterinary medicine. External linkages will include

involvement from other universities, regional extension and research committees, NRCS, commodity organizations, the Noble Foundation, Langston University, Kerr Center for Sustainable Agriculture, private companies and producers.

D. Target Audiences

Livestock and forage producers, extension personnel, agribusiness personnel, veterinarians, consultants and other agricultural support personnel.

E. Program Duration

Five years and beyond.

F. Allocated Resources

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

Livestock Production Efficiency	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	2,858,896	2,930,368	3,003,627	3,078,718	3,155,686
Human Resources (Staff Years)	29	29	29	29	29

Improving Efficiency in Crop Production

Focus: This component is a broad effort to improve grower efficiency in the production of the major Oklahoma field crops including wheat, peanuts, soybeans, cotton, corn, and grain sorghum. This will be accomplished through encouraging and demonstrating excellent and economical management practices.

A. Description or statement of issues/problems.

Prices being paid for farm commodities have dropped in terms of real dollars in the past decade while the costs for producing these crops have continued to rise. During the years 1996-1998, many Oklahoma producers were actually selling their crops at below cost of production prices.

In the short term, this means that the standard of living for Oklahoma farm families is declining and in the long term means that critical land and equipment equity is being eroded to a degree that many will not be able to continue to farm.

In recent years, large commodity surpluses in the U.S. have resulted in low prices and little or no competition between potential buyers for farm products. Further, fierce international competition has taken some of our once lucrative foreign markets. Even in countries having the

desire and need for our products, poor economic conditions have caused a severe drop off in demand.

County advisory committees and crop commodity groups have noted that current and expected short-term economic conditions dictate that producers improve their efficiency or run the risk of being eliminated.

B. Performance Goals

Extension Agriculture Educators, Area Agronomists, and State Specialists will continue delivering education through extensive field demonstrations, field scouting, educational meetings, printed materials, grower meetings, web sites, and other delivery techniques. Programs will emphasize management strategies, which balance pest and nutrient management, environmental protection, and profit potential. Improving efficiency in crop production will be emphasized in all programs. By demonstrating the integrated crop management approach, Extension Agriculture Educators, Area Agronomists, and State Specialists, can continue to provide agriculture producers, crop consultants and ag industry representatives with observations and results related to questions being asked. Selected activities will be targeted for assessment of audience satisfaction.

Output indicators for fiscal 2000:

- 113 field tours and field days conducted.
- 99 educational meetings not including tours.
- 6,890 producers reached through crop production activities. (No attempt was made to determine whether some of these were the same producer with wheat and cotton.)
- 100% OCES staff trained in crop production.
- 500 professionals outside of extension trained in crop production.

Outcome indicators for fiscal 2000:

- 15% of the wheat acreage receiving better cheat management practices.
- 15% of wheat acreage planted to a higher producing wheat variety.
- 25% of soybean producers will reduce input costs by \$20/acre.
- 25% of peanut producers will reduce input costs by \$30/acre.
- 90% of the northern Oklahoma cotton producers utilizing improved weed control practices.
- 20% of northern Oklahoma cotton producers using some type of harvest aid practice.
- 80% of cotton producers will be modifying management practices due to implementation of transgenic cotton varieties.
- 35% of cotton producers will reduce input costs by \$20/acre.
- 20% of corn and sorghum acreage planted to more productive hybrids.
- 10% of corn acreage changed to more appropriate herbicides.

C. Internal and External Linkages

Each county has an advisory committee that gives direction to the Extension Educators and helps promote county programs. Many of the major agronomic commodities in Oklahoma have an extension coordinating committee composed of several State Extension Specialists, Area Agronomists, Ag Educators, and sometimes producers. These groups serve in program planning, advertising, and evaluation. Also many of the commodities have producer groups and boards controlling self-help funds which extension competes for as part of the program support.

Support from such groups indicates satisfaction of prior performance as well as grower recognition of need for the proposed program.

D. Target Audiences

The ultimate audience is the crop producer, although frequently we also address the agribusiness representative or consultant who then will impact the producer. By design our intent is that all producers of a commodity have equal opportunity to access educational opportunities.

E. Program Duration

The improvement of crop production efficiency is a continuing goal. Individual projects within this goal differ in length and current status. Some will be terminated after one year. Some are forever renewing such as variety evaluation and selection which is repeated annually.

F. Allocated Resources

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

Crop Production Efficiency	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	1,644,213	1,685,318	1,727,451	1,770,637	1,814,903
Human Resources (Staff Years)	16.3	16	16	16	16

Forage Production

Focus: This effort includes many OCES programs that have a common goal of maintaining and improving the use of a diverse range of native and introduced forage resources found across the state. Forage production is important to a wide variety of agriculture enterprises including hay producers, and livestock operations from the smallest farms to the largest ranches. In many parts of the state the number of small acreage’s are increasing and new producers are entering forage agriculture bringing a new audience that often has an educational and experience background from outside production agriculture. It is important to reach these new audiences while continuing to provide information to our traditional audiences. Emphasis in forage production is to empower forage producers by providing the information necessary for them to conduct their

chosen enterprises efficiently, economically and in a socially acceptable manner and remain competitive. Efficiency in production and marketing will be stressed while also exploring new opportunities in production, processing and marketing.

A. Description or statement of issues/problems.

Critical issues identified from citizen input through county and district advisory committees, from livestock and forage associations, the division strategic plan, and directly from the state legislature dictate an integrated management emphasis in all areas of forage production.

Major programming efforts include:

• Integrated Alfalfa Management	• Range Management
• Pasture Management	• Forage Grass and Legume Production
• Integrated Vegetation Management	• Musk Thistle Control

The over riding objective is to incorporate best management practices to achieve economically feasible production. This will include wise management of plant nutrients, pest management, and harvest management including grazing.

B: Performance Goals

Output indicators: Citizens will receive information regarding integrated forage management by attending local, county, area, and statewide educational programs. Information will also be presented via the World Wide Web, newspapers, magazines, radio and television, including Sunup (a daily OSU extension program). Publications (hard copy and internet) on topics related to vegetation management, forage crops, and range management will be updated, revised and written as new information is available, demand dictates and budgets allow. County Agriculture Educators will be the primary contact for local producers to obtain one-on-one education and for conducting local workshops and demonstrations. County Agriculture Educators in 77 Oklahoma counties will have educational opportunities to become and remain technically competent in a variety of forage related topics critical to their geographical location. State and area staff will participate in county, regional, and state educational activities, and provide educational materials to support the efforts of the county Agriculture Educators. 90% of forage producers should be aware that forage information is available from these varied sources. Evaluation will be based on number participating in educational opportunities, user evaluations, and follow-up surveys.

Outcome indicators:

- Pre and Post testing will be used at educational events. Some participants will receive follow-up surveys to estimate use of suggested management practices and implementation new practices.
- Surveys will monitor spread of thistles included in an Oklahoma noxious weed law.
- Internet sites will provide users with opportunities to contact extension staff with questions and comments.

Expected changes will include:

- 80% of the contacts should improve their current management skills.
- 50% of the contacts will implement improved production practices.

Examples of expected improvements will include:

- Stocking rates adjusted appropriately based on forage productivity and fertilizer inputs to reduce the reliance on mechanical or chemical weed control measures.
- Forage management changed to reduce the reliance on machine harvested forages.
- Improved yields as a result of improved species, scouting, fertilizer practices, harvest management, and pest control.

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- Improved incomes due to better management, reduced costs, or improved marketing opportunities resulting from better products.
- Increase accessibility to minority clientele, small operators, and limited-resource producers.

C: Internal and External Linkages:

The extension forage production program will require input and cooperation from within the Plant and Soil Sciences Department including, alfalfa and forage legumes, weed and brush

management, forage management, and range management. Within DASNRR including input from the Departments of Animal Science, Agriculture Economics, Entomology and Plant Pathology, and Forestry. Demonstrations will be conducted with research stations, Noble Foundation and Langston University.

External linkages involved in planning and conducting an educational effort in forage production include:

<ul style="list-style-type: none"> • National Resource Conservation Service 	<ul style="list-style-type: none"> • Noble Foundation
<ul style="list-style-type: none"> • Native American Tribal Environmentalists 	<ul style="list-style-type: none"> • Private Industry (including equipment manufactures and seed vendors)
<ul style="list-style-type: none"> • Companies involved in the beef, pork, and poultry feeding industries 	<ul style="list-style-type: none"> • State government entities including the Department of Environmental Quality
<ul style="list-style-type: none"> • Oklahoma Conservation Commission 	<ul style="list-style-type: none"> • Private producers who provide sites and facilities for demonstrations and workshops
<ul style="list-style-type: none"> • Oklahoma Alfalfa Hay & Seed Association 	<ul style="list-style-type: none"> • Oklahoma Forage & Grazing Council

D. Target Audiences:

Livestock and crops producers who have a portion of their enterprises devoted to livestock production. This includes newcomers to production agriculture and the well established (from the smallest livestock operation to large farms and ranches) and agency and industry professionals involved in positions to consult with forage producers.

E. Program Duration:

All the major programming efforts are long-term activities requiring many years but will have individual short and medium duration components.

F. Allocated Resources

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

Forage Production	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	1,697,725	1,890,168	1,937,422	1,985,858	2,035,504
Human Resources (Staff Years)	18.2	19	19	19	19

Improving Farm Business and Financial Management

Focus: Development of sound educational programs that take a broad, integrated view of management, addressing financial, legal, tax, and social impacts of decisions. Help producers identify and use technology (computers, software and other computer-related technology such as

the Internet) to manage and effectively use information.

Major programming efforts

(includes IFMAPS, Agribusiness Management, Farm Financial Management, Quicken/Farm Recordkeeping, Farm Tax Management, agricultural law)

A. Description or statement of issues/problems.

Oklahoma farmers and ranchers and agribusinesses must make financial plans and management decisions aimed at profitability and sustainability in an increasingly risky environment. Changes in legislation, government programs, and macroeconomic conditions make financial and risk

management an increasingly important component of daily operations and strategic planning. Stakeholder input is gathered through toll free calls, contact at meetings, and networking with other agribusiness professionals.

B. Performance Goals

Output indicators: Methods and activities include presentations, workshops, demonstrations, newsletters, Current Reports, Fact sheets, bulletins, Quicken materials, other publications, one-on-one education, and in-service training.

Reporting indicators to be used:

- Number of publications, requests for publications.
- Number of presentations, workshops, and demonstrations, in-service trainings.
- Number of participants in meetings and workshops.
- Number of financial plans developed.
- FTEs in development and delivery of programs.

Outcome indicators:

- Increased understanding of financial and risk management concepts and recognition of pertinent legal and tax issues.
- Improvements in record keeping practices, e.g. adoption of a record keeping system if not currently using one, use of budgets and cash flow plans.

Reporting indicators to be used include periodic evaluations and surveys. In selected programs, pre- and post- tests will be used.

C. Internal and external linkages

Interactions will include specialists in other disciplines as well as Extension staff at all levels within the state. In addition, programs and projects are planned and developed in conjunction with regional extension and research committees (southern and north central), national and regional Integrated Resource Management committees, USDA Farm Service Agency, NRCS and Economic Research Service, Oklahoma Ag Statistics Service, state Department of Agriculture, Oklahoma Banker's Association, Oklahoma Ag Mediation Program, commodity organizations, Sustainable Agriculture Research and Education (SARE) programs, Langston University, Noble Foundation, Kerr Center for Sustainable Agriculture. Regional and national linkages are also

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formed through professional meetings.

D. Target Audiences

Extension staff, farmers and ranchers (including small and beginning farmers as well as commercial farm operators), agricultural lenders and other agricultural industry support personnel (e.g. accountants, veterinarians, consultants), and agribusinesses, including cooperatives.

E. Program Duration
Long-term (over 5 years)

F. Allocated Resources

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

Improving Farm Business	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	783,579	803,168	823,247	843,829	864,924
Human Resources (Staff Years)	7.6	7.6	7.6	7.6	7.6

Improving Domestic Marketing Concepts and Alternatives

Focus: Development of educational programs to teach producers how to identify and use price risk management alternatives and how to determine the financial impact of the use of each alternative. Help producers identify and use technology (computers, software and other computer-related technology such as the Internet) to manage and effectively use market information.

Major Programming Efforts: (Fed Cattle Market Simulator; Farm and Ranch Risk Management Model; Mass Media Programs)

A. Description or statement of issues/problems.

Oklahoma farmers, ranchers and agribusinesses make price risk management decisions aimed at insuring the profitability and sustainability of the farm, ranch or business. These decisions include selecting price risk management alternatives and determining each alternative's impact on the short and long run financial situation. Constant legislation, government program, and macroeconomic climate changes make price risk management a critical component of strategic planning. Determining methods to determine manageable price risk management strategies is a high priority with producers and agribusiness managers.

Critical issues were identified from stakeholder input through producer and agribusiness organizations, contact at meetings, and networking with other marketing economists.

B. Performance Goals

Output indicators: Price risk management concept and method educational efforts will include "stand-alone" presentations, workshops, demonstrations, newsletters, Current Reports, Fact sheets, bulletins, other publications, one-on-one education and will be also be incorporated into other "Key Program" educational efforts. All price risk management programs will not be reported as such. The number of activities conducted, number of individuals reached, professional FTE's involved in the development and delivery of activities will be recorded. Participant evaluations will be obtained for selected programs.

The following are examples of goals for fiscal 2000:

- 12 activities identified as price risk management.
- 50% of crop and cattle producers reached.
- 50 OCES and other professionals trained.
- All producer organizations will be involved in training programs.

Outcome indicators:

Executive Directors, board members, and producers will be surveyed to determine the impact of the educational programs, the need for continuing current programs, and the need for new programs. Selected training sessions will include a program evaluation survey. The evaluation form will include questions relating to the success of the program and the need for additional training.

The following are examples of goals for fiscal 2000:

- Participant's evaluation of educational programs will have an approval rating of at least 3.5 out of a possible rating of 5.0.
- Producer organization directors and board members surveys will indicate at least a 3.5 rating out of a possible rating of 5.0 for the educational programs.
- Demand for price risk management educational programs will decline.
- Use of marketing and production risk management tools will increase by 25 percent.

C. Internal and External Linkages

Price risk management educational efforts are a joint effort of Cooperative Extension Service economists, experiment station economists, FSA/USDA, RMA/USDA and the Oklahoma Department of Agriculture. Other entities involved include jointly planned efforts with the Oklahoma Wheat Growers Association, Oklahoma Cattleman's Association, Oklahoma Wheat and Stocker Producer Association, the Oklahoma Wheat Commission, the Samuel Roberts Noble Foundation and other producer and agribusiness groups.

D. Target Audiences

Extension staff, farmers, ranchers (including small and beginning farmers as well as commercial farm operators), agricultural lenders, and other agricultural industry support personnel and agribusinesses, including cooperatives.

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E. Program Duration

Long-term (over 5 years)

F. Allocated Resources

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

Domestic Marketing Concepts	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	1,024,961	1,050,585	1,076,850	1,103,771	1,131,366
Human Resources (Staff Years)	10.1	10	10	10	10

Integrated Pest Management

Focus: Oklahoma State University's (OSU) Integrated Pest Management (IPM) Program is a diverse and highly interdisciplinary effort that involves a large number of research and extension faculty. Federal, state, and local sources fund the program. OSU's IPM program places a heavy emphasis on environmental responsibility and a healthy respect for people's livelihoods. The OSU IPM program addresses pest management needs and issues in both agricultural and urban settings. The program is systems-oriented and brings together the expertise needed to provide agricultural producers, consultants, homeowners, and other pest managers with the knowledge they need to keep them on-track — from planting, to harvesting, to storage and to food processing and distribution. The OSU IPM program reaches target audiences through a wide variety of media, including: newsletter, fact sheets, and manuals.

A. Description or statement of issues/problems.

Critical issues were developed based on citizen input through growers' representation on commodity teams, county and district-level advisory committees, grower meetings, and other related advisory committees.

Over the next five-year period, the OSU IPM program will focus its effort on ten projects:

- Alfalfa IPM. The education effort will be focused on ten crop management associations to help increased adoption of IPM methods on alfalfa, including marketing, fertility management, and threshold-based pesticide applications. Growers will be encouraged to give increased attention to stand persistence and the costs and benefits of nutrient and pesticide inputs.
 - Cotton IPM. The education effort will be focused on crop consultants, crop management associations, and gins to improve decision making and reduce unnecessary applications of pesticides. Field demonstrations will be conducted to validate new practices and educate growers, including resistant varieties, insect management, harvest management, and management and preservation of biological control agents. A major emphasis will be placed on the establishment of IPM cooperatives in the northern portion of the state.
 - Curcubit IPM. Watermelon will be the primary crop addressed.
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- Greenhouse IPM. The education effort will be focused on helping growers increase adoption of improved management practices, including good sanitation, early detection of pests, correct use of pesticides, pesticide safety, the effective use of biocontrol agents, and the use of new alternative control materials.
 - Mesonet. A major effort will be undertaken to improve decision-making through the use of weather-based prediction models.

- Peanut IPM. The education effort will be focused on crop management associations to increase adoption of IPM methods in six counties. Emphasis will be on increased use of soil sampling, greater use of weather-based forecasting systems (leafspot advisory system and irrigation management), and increased use of weed maps.
- Pecan IPM. The educational program will help growers adopt improved management practices, including orchard pruning and sanitation, uses of appropriate orchard floor cover crops, and appropriate management of insects and diseases.
- Stored Product IPM. The education program will be focused on stored product managers to help them reduce energy and pesticide inputs, reduce pesticide resistance and residues, and protect worker and public safety. Emphasis will be given to improved management practices using SLAM (sanitation, loading, aeration, monitoring) and by installation of Closed Loop Fumigation Systems (CLF).
- Urban IPM. The education program will be focused on helping homeowners make better pest management decisions by improving the quality of information provided to them by employees of retail garden centers. Education efforts will also be conducted for greenhouse operators and pest control operators. Educational efforts will be conducted for school children. A municipal IPM training program will be developed.
- Wheat IPM. The education effort will be focused on providing grower education through demonstrations of benefits of soil testing, variety selection, and threshold-based pesticide applications.

B. Performance Goals

Output indicators: The primary output indicators used to measure program success during the five-year period are:

- Number of demonstrations conducted.
- Number of new and/or updated IPM educational and training materials delivered.
- Number people participating in educational programs on IPM topics.

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Examples of specific output indicators that will be used to measure success in specific IPM projects are:

- Alfalfa IPM: 25 demonstrations will be conducted in key alfalfa production areas.
- Cotton IPM: 100 field demonstrations will be conducted to show improved practices, including 25 demonstrations of reduced tillage practices in key watersheds and 25 turn-row

demonstrations; 5 IPM cooperatives will be established in Northern Oklahoma, covering 10,000 acres.

- **Stored Product IPM:** 1000 pesticide applicators will be trained at fumigation workshops; 1000 stored product handlers will be trained at elevator workshops; 50 demonstrations of the Closed-loop Fumigation System (CFS) will be installed in commercial elevators; 10 on-farm storage demonstrations will be conducted; the Closed-loop Fumigation System will be installed by 25% of elevator facilities.
- **Urban IPM:** 50 train-the-trainer workshops will be held; 10% of urban residents will receive IPM information through retail garden centers; IPM training will be provided to 25% of garden center employees and pest control operators; IPM training will be provided to 20% of municipalities with populations greater than 50,000; IPM education and training will be provided to 20% of school systems; 100,000 urban IPM fact sheets will be purchased by garden centers and other businesses; 1,000 pest control operators will receive turf and ornamental IPM information.

Outcome indicators:

The primary outcome indicators that will be used to measure program success during the five-year period are:

- Number of farms/acres that utilize IPM methods.
- Increased profitability.
- Reduced pesticide use.

Examples of specific outcome indicators that will be used to measure success in specific IPM projects are:

- **Alfalfa IPM:** The average number of post-emergence pesticide applications will be reduced by 20 percent; the use of resistant varieties will be increased by 25%; the use of preplant herbicides will be reduced by 33%.
- **Peanut IPM:** 10% more acres will be managed with the leafspot advisory system, resulting in 25% fewer applications of fungicides.
- **Stored Product IPM:** The average number of fumigations in commercial elevators will be reduced by 50%; 50% of workers at commercial elevators will follow recommended safety practices; use of improved aeration practices will increase by 50 percent; insect losses will

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be reduced by 33% in grain handling facilities.

- **Urban IPM:** The improper disposal of household hazardous wastes will be reduced by 25%.

C. Internal and External Linkages

The OSU IPM program is highly integrated among disciplines including: agricultural economics, agricultural education, agricultural engineering, agronomy, entomology, and plant pathology. The IPM program is well coordinated with OSU's Pesticide Education and Water Quality

Programs. External linkages have been established with NRCS, FSA, U.S. Geological Survey, Dept. of Environmental Quality, University of Oklahoma, Langston University; Conservation Commission, Conservation Districts, Texas Extension Service, Purdue University, the Kerr Center, Noble Foundation, Oklahoma Beautiful, Nature Conservancy, Oklahoma Wildlife, Grain and Feed Assoc. The IPM program is highly field-oriented and has extensive involvement of agricultural producers and other pest managers in all phases of its operation.

D. Target Audiences

Agricultural producers, consultants, pest control operators, elevator operators, millers, retail nursery and greenhouse operators, municipal employees, school system employees.

E. Program Duration

The OSU IPM program is expected to continue on a long-term basis. Individual projects supported by the program may be completed within the five-year period.

F. Allocated Resources

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

Integrated Pest Management	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	1,167,988	1,197,187	1,227,117	1,257,795	1,289,240
Human Resources (Staff Years)	13.2	13	13	13	13

Sustainable Agriculture

Focus: This component is a broad effort to improve the sustainability of agriculture through economic viability, sound environmental and natural resource management, and awareness and recognition of social acceptability. It is intended to be incorporated into many programs conducted by OCES.

A. Description or statement of issues/problems.

Integrating sustainable practices into typical Oklahoma agricultural operations in order to reduce input costs and environmental externalities are a critical issue. This issue includes the development of sustainable forage-based livestock systems, management of animal waste - natural resource systems, integrated resource management techniques for small to mid-sized beef producers, best management practices to protect and conserve soil and water resources, broader application of IPM strategies applicable to the Oklahoma environment, and landscape-level resource management systems designed to meet ecological and productivity goals. Finding means to improve incomes while mitigating risks to health and the environment are also high citizen priorities. Extending strategies to enhance the production and marketing of products under identifiable alternative systems such as organic and IPM certified, developing alternative-product production systems, development of the state's agricultural and forestry value-added industry, and education and information to allow the public to understand the risks to health and the environment relate to this issue.

Critical issues were identified based on citizen input through county and district-level advisory committees, the Oklahoma State University Division of Agricultural Sciences and Natural Resources Strategic Planning process which included wide internal and external input, and through the statewide sustainable agriculture advisory committee and other related advisory committees.

B. Performance Goals

Output indicators: Sustainable agriculture concepts and methods will be incorporated into a variety of programs. All these programs will not be identified as primarily sustainable agriculture. However, some of the programs will be so identified. The number of activities conducted, number of individuals reached, professional FTEs involved in the development and

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delivery of activities will be recorded. Selected activities will be targeted for assessment of audience satisfaction. Training sessions for OCES as well as other organizations and agencies will be conducted with specific sustainable agriculture content. Training will be evaluated on percentage of target audience reached, user evaluations, and follow-up surveys.

The following are examples of goals for fiscal 2000:

- 15 activities identified as primarily sustainable agriculture.

- 3,000 reached through sustainable agriculture and related activities.
- 30 % of the 50,000 small to mid-sized forage/cattle producers reached.
- 95% of the 1,300 poultry producers reached.
- 100 OCES and other professionals trained.
- 50 producers will add cool season grasses to their forage systems.
- All agencies and organizations with training roles in sustainable agriculture will be reached through training sessions.
- An acceptable level of quality and participant satisfaction will be attained.

Outcome indicators: Participants in selected activities will be tested to indicate knowledge gained and skills acquired. All training sessions will include pre and post testing. Representative participants will receive follow-up surveys to indicate behaviors altered, practices changed, and decisions made. County Extension Educators will be surveyed during the POW period to estimate change in producer behaviors. Identified changes in behavior combined with economic and environmental indicators and other data will be used to estimate impact of Key Program Component activities as appropriate. Case studies of producer or entity changes in behavior and/or practices will be developed to exemplify the quantitative indicators.

The following are examples of goals for fiscal 2000:

- 80% of those tested will gain knowledge or skills in at least one topic area.
- 100 individuals or entities will start or expand production of alternative products or value-added products.
- 25% of the poultry producers will make a change to reduce externalities potentially negative to the environment and/or society.
- 50 % of the top ten poultry production counties will show no increase in phosphorous in soils sampled.
- \$50,000 in reduced costs related to hay production.
- \$1,000,000 of gross sales by new or expanded value-added and/or alternative products.

C. Internal and External Linkages

The Oklahoma Sustainable Agriculture training program is planned and conducted jointly with Langston University. In addition, many of the sustainable agriculture specific activities are also jointly planned and conducted by staff from OSU and Langston. Other entities involved in

planning and activities are the NRCS, the Kerr Center for Sustainable Agriculture, Oklahoma Conservation Commission, the Oklahoma Land Stewardship Alliance, the Native American tribal environmentalists, the Noble Foundation, and the Oklahoma Departments of Agriculture and Environmental Quality. Individuals (producers and others) serve on advisory boards, conduct joint demonstrations and serve as sources of information.

D. Target Audiences

Livestock producers and crops producers, small to mid-sized cattle producers, poultry producers, agency and organization professionals, Native American tribes, those seeking production alternatives and value-added product production, those producing and marketing organic and IPM produced products, and the general public and users of products.

E. Program Duration

This Key Program Component is expected to have a long-term duration. Some of its activities may be short-term or intermediate-term in duration.

F. Allocated Resources

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

Sustainable Agriculture	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	612,307	627,615	643,305	659,388	675,873
Human Resources (Staff Years)	5.4	5.5	5.5	5.5	5.5

Commercial Horticulture and Alternative Agriculture Opportunities

Focus: Horticultural crops have been identified as potential alternative crops to add to a current production scheme or as a substitute for a crop or crops that are currently being produced in Oklahoma. The reasons for considering an alternative crop may be due to increased disease, weed or insect pressure on the current crop or due to the crop experiencing low market prices. In either case, horticultural crops require suitable soil and climatic conditions, availability of water in a timely manner, an increased commitment for financial expenditure and intensive management and a marketing strategy that provides smooth transfer of the product from the farm to the market at the best possible price.

A. Description or statement of issues/problems.

Horticultural crop production in Oklahoma is characterized by three types of production, small home gardens, small production marketed locally and regionally, and large production mostly contracted with major marketing companies with national and international marketing channels. Large commercial greenhouses and nurseries, turf grass producers and vegetable, fruit and nut producers are scattered throughout the eastern two-thirds of the state. While small, part-time producers and those seeking income supplementation occur throughout the state, most are in the

same area. Critical issues were identified through producer feedback and critical issue suggestions from county and district level advisory committees, and the OSU DASNR Strategic Planning Process. While the scale may differ, the identified issues are quality of product due to pressures from weeds, diseases and insects; market access for timely sale, variety selection and competitive prices.

B. Performance Goals

Output indicators:

The following are goals for fiscal year 2000.

- 16 activities identified as primarily horticultural crops or alternative crop production and/or marketing systems management.
- 700 producers reached through aforementioned activities.
- 15% of nursery and greenhouse growers impacted.
- 20% of fruit and vegetable growers reached.
- 10% of turf grass maintenance and production industry personnel reached.
- All agencies and organizations with training roles in horticulture will be included in the planning of training workshops.

Outcome indicators:

- 10 individuals will adjust production practices to include at least one alternative crop and/or one best management practice recommended by OCES.
- 75 individuals will begin or expand commercial/alternative horticultural crop production.
- Net revenue for the watermelon producers altering their production or marketing practices will increase by 2 % based on a reduction of costs of production or a higher percentage of the crop was acceptable for the market.
- \$500,000 of gross sales as a result of alternative crops such as specialty cut flowers and other viable OK crops.

C. Internal and External Linkages

Staff from OSU - Wes Watkins Agricultural Research and Extension Center at Lane; OSU, Stillwater; OSU Tulsa; and OSU Oklahoma City. Other entities involved: USDA/ARS – South Central Agriculture Research Laboratory at Lane; Noble Foundation; Kerr Center for Sustainable Agriculture; as well as Langston University.

D. Target Audiences

Traditional crop producers such as those growing small grains and peanuts and new producers of alternative crops; parks and grounds personnel; golf course superintendents, fruit and vegetable growers, greenhouse growers, nursery personnel; and the general public.

E. Program Duration

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This key program components will be continuous and of long-term duration. Some activities may be only of a one or two-year duration.

F. Allocated Resources

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

Commercial Horticulture	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	979,530	1,004,018	1,029,119	1,054,846	1,081,218
Human Resources (Staff Years)	10.1	10	10	10	10

Improving Natural Resources and Forestry

Focus: Over two-thirds of Oklahoma’s forests are in private, non-industrial ownership. Most of these owners are lacking formal management plans that could enable them to realize greater economic benefits, increase personal enjoyment of their land and better conserve and manage their lands in a sustainable fashion. Such benefits would enhance local economies and benefit society by encouraging reforestation and sustainable, multiple use/benefit forest management.

Major Programming Efforts: Major programs and efforts aimed at improving forest and natural resource management in Oklahoma include a Master Woodland Owner program, the 4-H Forestry program, other youth outreach, landowner outreach efforts, other adult education and affiliation with and development of the following associations: Oklahoma Woodland Owners Association, Wood Industry Association of Oklahoma, Oklahoma Redcedar Association, Oklahoma Forestry association and Oklahoma Christmas Tree Association.

A. Description or statement of issues/problems.

Many landowners fail to utilize technical expertise and financial assistance available from Federal and State agencies. Lack of knowledge and, in some cases, a distrust of the public sector cause landowners to miss opportunities to benefit themselves and others. As demand for quality wood products, outdoor recreation, biological diversity, aesthetics, soil and water conservation, and products such as Christmas trees, mushrooms, “you-pick” berries, firewood and similar products increases, so also will opportunities for knowledgeable landowners.

B. Performance Goals

Output indicators:

- Master Woodland Owner Program: hold 10 workshops by June 2000, provide notebooks for all participants.
- 4-H Forestry: hold NE Regional, SE Regional and State Championship competitions yearly; hold exhibit judging yearly at State Fairs; send State Champion team to National Invitational

yearly.

- Other youth outreach: specific programs as requested.
- Landowner outreach: Annual Timber Utilization Conference/OWOA Annual Meeting; workshops and conferences for landowners; Oklahoma Renewable Resource Newsletter; extension publications and videos.
- Other Adult education: workshops for arborists and urban foresters, training workshops for teachers and environmental (including Extension) educators.

- Associations: meetings attended, specific workshops, referrals.

Outcome indicators:

Outcome indicators for all the above include practices adopted and shared with other landowners, knowledge gained, demonstration areas developed, volunteer hours, participation in events and impacts on the environment and society.

• **Internal and External Linkages**

- Master Woodland Owner: NCSU and Southern Region SARE, ODA Forestry Services, USDA Forest Service, OSU Cooperative Extension.
- 4-H Forestry: NRCS, OSU Cooperative Extension, Eastern Oklahoma State University, national 4-H.
- Other youth: above plus public schools.
- Associations: themselves, NRCS, OSU Cooperative Extension ODA Forestry Services, USDA Forest Service.
- Landowner outreach: All the above.
- Other Adult: All the above.

D. Target Audiences

- Master Woodland Owner Program: landowners who are community leaders (no more than 20) and County Extension Educators (5).
- 4-H Forestry: 4-H youth.
- Landowner outreach: Non-industrial forest landowners, both resident and absentee.
- Associations: members and potential members.
- Other Adults: Extension and other environmental educators, homeowners, environmental groups (including NGOs).

E. Program Duration

- Master Woodland Owner Program: intermediate term (began 8-98, ends 7-00).
- All other listed programs/efforts are long-term (continual).

F. Allocated Resources

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

Natural Resources and Forestry	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	278,706	285,674	292,816	300,136	307,640
Human Resources (Staff Years)	2.2	2.5	2.5	2.5	2.5

Value-Added Food and Agricultural Products

Focus: This key program component, broadly defined, covers the entire spectrum of food and agricultural products processing: primary commodity handling, quality segregation of primary commodities for various processing uses, business and technical assistance to both large and small food and agricultural products processors, and marketing products both domestically and internationally. As such, some overlap occurs with Integrated Pest Management (IPM), agricultural production practices, and safety of the food and fiber system.

A. Description or statement of issues/problems.

Developing and expanding value-added processing activities in the state of Oklahoma serves two purposes: (1) broadening the state's economic base, and (2) adding value to the state's vast raw agricultural output before that output leaves Oklahoma. Changes in food and fiber industry regulations, specifically those associated with food safety at the processing level and IPM procedures throughout the food marketing chain, have permanently altered the daily operations of both large and small food processors. Also, entrepreneurs in the food and fiber industry require considerable education in this area to achieve success in value-added ventures. Changes in consumer preferences (towards more value-added, convenience foods) have likewise resulted in the increased awareness and use of technology for assuring the quality of processing inputs, the preferred attribute levels and safety of end-products, and even the packaging schemes for value-added products.

Critical issues facing the value-added sector were identified by existing processors (in Oklahoma

and abroad), entrepreneurs, the OSU Division of Agricultural Sciences and Natural Resources (DASNR) advisory committee, the Oklahoma Food and Agricultural Products Research and Technology Center (FAPRTC) advisory committee, and the DASNR Strategic Planning process. Additional input was received from other industry-specific groups.

B. Performance Goals

Output indicators: A variety of programs will incorporate the business and technical aspects of value-added food and agricultural products. However, not all of these programs will be

primarily identified as value-added programs. As mentioned earlier, this component covers the entire spectrum of the food marketing chain – from commodity production to final consumer. Extension publications, workshops and short courses, one-on-one education, and multimedia educational tools will be utilized to meet the needs of value-added industry constituents.

Reporting indicators will be:

- Number of publications and requests for those publications.
- Number of presentations, workshops, and multimedia educational tools developed.
- Number of participants in workshops and requests for multimedia educational tools.
- Number of individual entrepreneurs/businesses for whom personal education/assistance is provided.

Outcome indicators:

- The effectiveness of educational efforts through pre- and post-tests used for educational workshops.
- The development of new value-added businesses in Oklahoma.
- The expansion of existing value-added businesses, or the strengthening of some existing businesses to promote continuance of their operations.

C. Internal and External Linkages

Linkages/support for this program component will be in the forms of:

- Other Oklahoma colleges and universities.
- Kerr Center for Sustainable Agriculture.
- Noble Foundation.
- Various state agencies (e.g. Oklahoma Department of Agriculture, Department of Commerce, Department of Health, etc.).
- Commodity organizations and other producer groups.
- Regional extension and research projects.
- National and regional professional organizations.
- Regional organization of food processing centers.

D. Target Audiences

This category will include existing Oklahoma food and agricultural products processors, producer groups (cooperatives, commodity groups, etc.) wishing to establish value-added ventures, non-producer entrepreneurs wishing to start value-added businesses, those seeking production alternatives to meet the changing needs of processors and consumers (i.e. identity-preserved commodities, certified organic products, and IPM certified products), food and agricultural products distributors and retailers, and the end-users of value-added products.

E. Program Duration

While many short- and intermediate-term activities will be included, this is expected to be a long-term program component (over 5 years).

F. Allocated Resources

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

Value-Added Food Products	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	1,317,279	1,350,211	1,383,966	1,418,566	1,454,030
Human Resources (Staff Years)	11.8	12	12.5	12.5	12.5

4-H Youth Agricultural Programs

Focus: This component includes programs such as Ag in the Classroom, Animal Projects, Knowledge College, Judging and Skill Contests.

A. Description or statement of issues/problems.

Demographics support the contention that youth are leaving agriculture. The average age of rural residents has continued to increase as the number of families living on family farms continues to decline. In many situations where families may still reside on the farm, youth see one or more of the parents leaving the farm to work off-site in order to support the family. As a result, youth see a need to seek employment in non-farm related professions.

Extension advisory groups routinely call for more programming that helps youth recognize the opportunities to be involved in agricultural enterprises both on the farm and through associated enterprises. They are also concerned that youth who leave the farm will not have a good understanding or appreciation of agriculture and may not be equipped to be good decision-makers about agricultural issues later in life.

Historically 4-H agricultural projects have served as a means to introduce youth various careers while developing positive life skills. A relative new program for Oklahoma 4-H, Ag in the Classroom specifically is designed to help youth gain a better general knowledge of agriculture.

B. Performance Goals

Output indicators: Agricultural literacy issues will be incorporated into core subject matter curriculum for elementary classrooms. Additionally, through targeted projects an emphasis will be placed on the development of knowledge that will improve competitiveness in domestic production, processing and marketing. Training sessions will be conducted for Extension Educators, volunteers and youth in order to expand their base knowledge while equipping them to train others. Training efforts will be evaluated based on audiences reached and evaluations of content delivered through the sessions. Follow-up surveys will be used as appropriate to determine the level of success in “train-the-trainer” delivery methods.

The following are goals for fiscal 2000:

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- Provide a minimum of two trainer workshops for professionals and volunteers on biotechnology in agriculture.
- 5,000 youth reached through ag literacy projects.
- 80 teachers receive intensive training in hands-on applications of ag-literacy curriculum.
- 150 youth participate in the Animal Science "Knowledge College".

Outcome indicators: As appropriate program participants will be randomly assessed to determine if practices are changed or if new knowledge is gained and utilized as a result of program participation. Because of the nature of most of the programs and the limited economic involvement of most 4-H youth in agriculture, economic impact may not be accurately determined. However, an effort will be made to determine the level of economic impact of 4-H project with specific youth utilizing applications submitted in the 4-H recognition program.

The goals for fiscal 2000 are:

- Develop a descriptive profile of youth involved in agriculture projects in 4-H that submit state 4-H record books and scholarship applications.
- Assess the degree at which teachers and other volunteers implement curriculum in which they have been trained that relate to agriculture and determine if their teaching practices are changed.

C. Internal and External Linkages

Faculty and staff in various departments will partner with state, district and county 4-H staff to provide training and assessment of programs. Additionally, the Ag in the Classroom is facilitated by field staff and volunteers in cooperation with the Oklahoma State Departments of Agriculture and Education. Efforts will be made to encourage an increased level of involvement by tribal farm councils and other under represented groups.

D. Target Audiences

4-H Youth, volunteers and Extension Educators will be the targeted audiences. Secondary audiences will include Native American farm committees via county staff in selected counties. Another secondary audience for possible assessment of impact is the students of teachers who attend training sessions.

E. Program Duration

The longevity of this Key Program Component is not known. Several of the assessments that have been identified will serve as benchmarks for future program design and implementation. Due to the popularity of youth agricultural projects, especially in the area of animal science, the duration is likely to be long-term.

F. Allocated Resources

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

4-H Agricultural Programs	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	1,908,573	2,031,288	2,082,070	2,134,121	2,187,475

Human Resources (Staff Years)	20.6	21.1	21.6	21.6	21.6
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Goal 2: A safe and secure food and fiber system. To ensure an adequate food and fiber supply and food safety through science-based detection, surveillance, prevention and education.

Key Program Component:

- Food Safety

Food Safety

Focus: The focus is to reduce the risk of foodborne illness for Oklahomans through non-formal education programs provided for the food industry and consumers at all stages of the food chain from production to consumption. It is intended to be incorporated into many programs conducted by OCES.

A. Description or statement of issues/problems.

Microorganisms, a small percentage of, which are pathogenic, are ubiquitous in the environment and often contaminate raw agricultural food products. Some of these microorganisms may be able to survive preservation treatments. Also, humans may introduce pathogens into foods during production, processing, distribution, and/or preparation. Thus, any food, whether it is raw or processed to enhance quality and safety, may carry some level of risk for foodborne illness if not properly handled before consumption. Everyone in the food system, from producers to preparers, must recognize the need for vigilance in controlling microbiological hazards to reduce the risk of foodborne illness. Each person has a significant role in food safety during acquisition, storage, preparation, serving, and dealing with leftovers.

During the past few decades, several new important foodborne pathogens, some which can grow at refrigeration temperatures, have been identified. New methods for transmission of these pathogens have also been identified. Changes in demographics, consumer lifestyle, and food preferences have resulted in changes in food formulation, manufacture, and distribution. Coupled with the ability of microorganisms to evolve rapidly and adapt to their environment, these changes present new microbiological challenges to everyone in the food system.

Food safety has always been a primary concern among food microbiologists, consumers, public health officials, and industry. Microbial foodborne pathogens present serious health risks for consumers of contaminated foods, and especially to at-risk populations. Current trends towards fresh, minimally-processed foods, accentuates the potential threat from contamination that occurs from either indigenous contaminants on raw commodities or from cross-contamination acquired during processing, during preparation of meals at food service establishments, or even by the consumers themselves. Increases in foodborne illnesses due to emerging foodborne pathogens have necessitated novel approaches to identify and inhibit human pathogens in food.

The exact incidence of foodborne illness caused by microbiological contaminants is not known due to inherent limitations in the current epidemiological reporting system. Estimates of the number of cases in the U.S. each year range from 1.4 million to 24-81 million. A Task Force for the Council for Agricultural Science and Technology (1994), created to estimate the impact of human illness from foodborne microorganisms and to recommend strategies for their control, concluded the range is more likely to be 6.5 to 33 million cases annually. The incidence of chronic complications associated with infections of foodborne pathogens is not known, but is

thought to be less than five percent. Estimates of annual deaths range from 200 to 9,000. Foodborne illnesses incur substantial costs to an ill person, food producers, and the national economy, estimated at \$2.3 to \$4.3 billion in medical costs and \$3.3 billion to \$5.1 billion in productivity losses. Figures specific to Oklahoma for number of cases, incidence of chronic complications associated with infections of foodborne pathogens, and costs are not available.

The USDA-FSIS has mandated Hazard Analysis and Critical Control Point (HACCP) plans for the meat and poultry processing industries. Current data has indicated that 50 percent or more of human outbreaks of *E. coli* O157:H7, *listeria monocytogenes*, *salmonella*, and *campylobacter* originate from meat sources. It is the USDA's intention to reduce outbreaks from these microorganisms by focusing on better food safety programs for the meat and poultry processing industry.

Consumers need to be aware of the control they have in their own kitchens for foodborne illness. They need to understand how important food handling practices (acquisition, storage, preparation, serving, and dealing with leftovers) affect food safety. The top four mishandling factors contributing to foodborne illness outbreaks cited in a 1988 survey were:

- Contaminated raw food/ingredient.
- Inadequate cooking/canning/heat processing.
- Obtained food from unsafe source.
- Improper cooling.

B. Performance Goals

Output indicators: Food safety education will be incorporated into a variety of programs. All of these programs will not be identified as primarily food safety. However, some of the programs will be so identified. The number of activities conducted, number of individuals reached, professional FTEs involved in the development and delivery of activities will be recorded. Selected activities will be targeted for assessment of impact.

The following are examples of goals for fiscal 2000:

- 4 HACCP trainings for industry personnel reaching 200 participants.
- 10 television segments on food safety reaching 200,000 Oklahomans.
- 12 Food and Agricultural Products Center newsletters distributed.
- 6 in-service trainings for OCES staff reaching 100 participants.

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- 10 food handler certification courses held reaching 300 participants.
- 10 "Healthy Living" programs conducted reaching 100 consumers emphasizing safe food handling behaviors.
- 10 food safety lessons from the Super Nutrition Activity Program conducted reaching 100 youth in grades 3-5.
- 10 pressure canners tested for accuracy in each county reaching 770 participants.
- 6 presentations at professional and/or commodity group meetings reaching 400 participants.

- Development and updating of 2 linked food safety web pages reaching 200 participants.

Outcome indicators: Participants in selected activities will be tested to indicate knowledge gained and skills acquired. Training sessions will include pre and post testing. Representative participants will receive follow-up surveys to indicate behaviors altered, practices changed, and decisions made. Identified changes in behavior combined with economic indicators and other data will be used to estimate impact of Key Program Component activities as appropriate.

The following are examples of goals for fiscal 2000:

- 80% of those tested will gain knowledge or skills in at least one topic area.
- 50% of children that participate in the “Is Your Ground Brown” portion of the Super Nutrition Activity Program will check ground beef for color before tasting.
- 50% of participants that attend HACCP training will develop a HACCP plan for their operation.
- 50% of food service employees that attend a food certification course will successfully pass the exam.
- 40% of “Healthy Living” participants will use a thermometer to determine the doneness of meat and poultry products.

C. Internal and External Linkages

Internal linkages include state and county cooperative extension educators in the following areas: Family and Consumer Sciences; 4-H and Youth Development; Nutritional Sciences; Animal Sciences; Horticulture and Landscape Architecture; Entomology and Plant Pathology; Food and Agriculture Products Research and Technology Center; Veterinary Medicine; Agricultural Communications Services.

External linkages include: Oklahoma Beef Industry Council; Oklahoma Department of Health; Oklahoma Department of Agriculture; Oklahoma-Texas Meat Processors Group; Pratt’s Supermarkets.

D. Target Audiences

The target audiences include:

- Adult and youth consumers, including Family and Consumer Education groups and 4-H youth, interested in reducing their risk of foodborne illness.
- Food processing firms and their employees.
- Commercial food service firms and their employees.
- Food handlers.

E. Program Duration

This Key Program Component is expected to have a long-term duration. Some of its activities may be short-term or intermediate-term in duration.

F. Allocated Resources

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

Food Safety	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	605,669	660,811	677,331	694,265	711,621
Human Resources (Staff Years)	6.3	6.8	7	7	7

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.

Key Program Component:

- Nutrition, Health and Wellness

Nutrition, Health and Wellness

Focus: The focus of this program area is to improve dietary habits and physical exercise practices to reduce the health risk factors through non-formal education programs. The educational programs provide information on dietary guidance and appropriate nutrition to increase consumer awareness, understanding.

A. Description or statement of issues/problems.

Four of the leading disease causes of death are diet related including coronary heart disease, stroke, diabetes and certain types of cancers. Oklahoma has the second highest death rate due to heart disease and strokes in the nation. As a result, Oklahomans' concern about the role of diet and health has reached an all time high. Reference stakeholder input on critical issues/problems in the area of Nutrition, Health and Wellness were obtained from county PPAC's and Impact team advisory committees.

From grassroots and stakeholder input, the following two major critical issues were identified in Oklahoma in the area of Nutrition, Health and Wellness:

- Fewer Oklahoma's are consuming a diet that promotes health.
- Increased incidence of overweight and obesity.

Significant problems related to the critical issues were:

- Lack of understanding regarding the relationship of diet and disease.
- Lack of basic nutrition knowledge and food preparation skills.
- Lack of understanding about and/or practicing healthy food selection.
- Increased incidence of developing diseases associated with poor nutrition at earlier ages.
- Poor health and disease related to diet.
- Lack of physical activity.
- Increased incidence of obesity.
- Increased incidence of heart disease.
- Increased incidence of diabetes.
- Lack of desire and motivation to improve eating habits.
- Negative impact of time and economic constraints on food choices.

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- Families lack the skills to manage their food resources.
- Over consumption of fast and convenience foods.

B. Performance Goals

Output indicators: During FY2000 the Nutrition, Health and Wellness impact program will be "Healthy Living," which is a five-year Oklahoma Cooperative Extension impact area. The "Healthy Living" impact program consists of three educational curriculums including two adult curriculums and one youth curriculum. The "Healthy Living"

curriculum educates adult Oklahoman's on applying the Dietary Guidelines, Food Guide Pyramid and Nutrition Facts Label to food selection, food preparation, and food safety. The "Active Living" curriculum educates adult Oklahoman's on increasing physical activity and creating an individualized fitness

program including aerobic, strengthening and flexibility. The “SNAP” curriculum (Super Nutrition Activity Program) is a nutrition and physical activity curriculum for school-age children. The “Healthy Living” impact team curriculums are multi-session series conducted by Oklahoma County Extension Educators.

During FY2000 the next five-year Nutrition, Health and Wellness program will be developed and implemented during the FY's 2001-2004.

	Targeted	Actual	Targeted	Actual	Targeted	Actual
	In-services conducted	In-services conducted	Programs conducted	Programs conducted	Participants reached	Participants reached
1999-2000	2		10		100	
2000-2001	2		10		100	
2001-2002	2		10		100	
2002-2003	2		10		100	
2003-2004	2		10		100	

Outcome indicators: During FY2000 pre and post outcome indicator data will be collected from the three impact program curriculums. The “Healthy Living” curriculum will be evaluated using pre and post Food and Nutrition Behavior Questionnaire; food recall; anthropometric, clinical and biochemical measurements. The “Active Living” curriculum will be evaluated using pre and post Physical Activity Questionnaire; anthropometric, clinical, and biochemical measurements. The “SNAP” curriculum will be evaluated using a pre and post Nutrition and Physical Activity Questionnaire.

During FY2000 the evaluation instruments for the next five-year Nutrition, Health and Wellness program will be developed and implemented during the FY's 2001-2004.

	Target	Actual	Target	Actual	Target	Actual
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	Number who made behavior changes	Number who made behavior changes	Number improved dietary intake or physical measures	Number improved dietary intake or physical measures	Economic benefit	Economic benefit
1999-2000	75		50		\$200,000	
2000-2001	75		50		\$200,000	

2001-2002	75		50		\$200,000	
2002-2003	75		50		\$200,000	
2003-2004	75		50		\$200,000	

C. Internal and External Linkages

Internal linkages include state and County Cooperative Extension Educators. External linkages include representatives from the health and agriculture industry who serve on advisory committees, and grocery stores including; Oklahoma Beef Industry Council, Oklahoma Agency on Aging, and Pratt’s Supermarket.

D. Target Audiences

The target audience is adults and youth interested in the role of food and nutrition and their role in maintaining optimal health.

E. Program Duration

Short-term: During FY 1999-2000 the current ongoing five-year Oklahoma Nutrition, Health and Wellness impact program entitled "Healthy Living" will be completed.

Intermediate-term: During FY 1999-2000 a concentrated effort will be made to develop a new five-year impact program to address nutrition, health and wellness which will be implemented 2000-2004. The new Oklahoma Nutrition, Health and Wellness impact program will evaluate behavior changes and economic impact.

F. Allocated Resources

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

Nutrition, Health and Wellness	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	746,006	764,656	783,772	803,367	823,451
Human Resources (Staff Years)	10.9	11	11	11	11

Goal 4: 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 complex links with soil, water, air, and biotric resources.

Key Program Components:

- Water Quality
- Animal Waste Management
- Pesticide Applicator Training
- Pesticide Impact Assessment
- Natural Resource Stewardship
- Environment and Natural Resources 4-H and Youth Programs

Water Quality

Focus: The Extension Water Quality component addresses a broad range of areas including agricultural pollution prevention/pollution control, environmental education, drinking water protection, drinking water treatment, and waste management. It overlaps extensively with Youth Education, Integrated Pest Management, solid waste management, and Community Development. The program works closely with and supports the State 319 Nonpoint Source Program, the Clean Water Action Plan, and the Source Water Protection Program.

A. Description or statement of issues/problems.

Water quality is one of the foremost public concerns statewide because of its importance to health, economic development, and quality of life. Eastern Oklahoma has high quality recreational and drinking water resources that are under pressure from animal production agriculture and urban development. These water resources are generally P-sensitive and subject to excessive poultry litter application on pastures and degradation of riparian vegetation. Waste and nutrient management education are key needs for protecting these resources. Urban centers of Oklahoma are sources of sediment from construction and pesticides and fertilizer from urban nonpoint source. Education programs are needed to address the construction industry and the urban use of pesticides and fertilizers around the home.

South Central Oklahoma has numerous high quality waters that currently are in good quality, but threatened by agricultural land use and by the impact of county road maintenance, mining operations, and oil and gas industry exploration and production activities.

Central and Western Oklahoma water resources are generally less sensitive to P, but frequently have sedimentation problems due largely to the highly erodible crop land and poor condition of riparian areas. Unstable stream channels are common, and stream bank erosion is severe. Many residents and community drinking water sources depend on ground water, which often is contaminated by nitrate. Interest in protecting the quality of ground water is particularly high in this area.

Issues to be targeted:

- **Pollution Prevention/Pollution Control:** This effort addresses primarily agricultural nonpoint sources of pollution. Principal concerns are degraded riparian areas, over-fertilization by animal manure or commercial fertilizer causing both surface and groundwater problems. Eastern Oklahoma has concerns related to Phosphorus in surface waters mostly from contamination by poultry litter. Central and Western Oklahoma have concerns related to excessive use of commercial fertilizer and high nitrate in surface and ground waters. Programs address riparian management, proper fertilizer use, and proper use

of animal wastes as fertilizer for pasture and cropland. (This element may be included under Animal Waste Management)

Erosion and sedimentation problems exist throughout Oklahoma, particularly associated with agricultural croplands and urban areas affected by construction. Unstable channels also present a significant educational need. Soil conservation, erosion and sediment control, and riparian management are key programs.

- Youth Environmental Education: The program is developing a strong focus on youth programs in classroom enrichment, teacher/leader education, environmental camps, and environmental service. This effort is described primarily elsewhere (See Environment and Natural Resources 4-H and Youth Programs)
- Drinking water protection is addressed on a personal level with Oklahom*A*Syst (the Farm*A*Syst/Home*A*Syst program), a program of public meetings and self-scoring work sheets to evaluate risks to personal water supplies. This program is addressed to all sectors of Oklahoma including farm and nonfarm rural residents, suburban residents with private drinking water systems, and low-literacy/minority communities. Community drinking water protection is addressed in wellhead protection programs.
- Drinking water treatment is a continuing element of the Water Quality Program. Residents frequently have questions concerning types of treatment systems and treatment needs to protect health and aesthetics. County Extension Educators are the primary targets of this effort.
- Private Domestic Waste Treatment Systems: Programs address private domestic waste treatment systems such as septic tank-drainfield systems. Through Home*A*Syst and other educational media, the program continues to address proper design and maintenance of septic systems. These are a major threat to private domestic drinking water.

B. Performance Goals

Output indicators:

Pollution Prevention/Pollution Control: Outputs will consist of workshops, public meetings, one-on-one training, educational programs for use in stand-alone presentations and as supplements to farmer/rancher meetings on other topics. Most pollution prevention/pollution control programs are coordinated with the State 319 Program addressing problems in targeted watersheds.

Performance goals for FY2000:

- Develop water quality educational materials for use in the Poultry Producer Education program.
- Promote marketing of poultry litter and transfer to nutrient deficient farms outside sensitive watersheds.

- Develop riparian management program for presentation by Ag Educators, and conduct training with County Agricultural Educators.
- Conduct fertility management workshops to reduce excess fertilizer application to crops.
- Conduct storm water/sediment control workshops for community leaders in Oklahoma.

Youth Environmental Education: The effort described under Environment and Natural Resources 4-H and Youth Programs will be supported and coordinated with the Water Quality Program.

Drinking Water Protection: The program will seek to involve county programs in the Oklahom*A*Syst program, particularly targeting minority residents and underserved communities.

- Conduct Oklahom*A*Syst programs in 6 counties.
- Continue minority drinking water protection program with Langston University in Okfuskee County. Reach 200 residents.
- Establish Oklahom*A*Syst program in cooperation with Native American Tribes. Establish program with one new tribe.
- Develop interactive Oklahom*A*Syst worksheets for the Web.

Drinking Water Treatment:

- Update educational materials on water treatment.
- Train County Educators on sources of information to address drinking water treatment questions.

Private Domestic Waste Water Treatment:

- Update educational materials on design and maintenance of septic tank and alternative treatment systems.
- Print and distribute materials.

Outcome indicators:

Pollution Prevention/Pollution Control:

- 1000 Poultry producers educated on water quality issues and effectiveness of BMPs. Expected outcome is good management of poultry litter and reduction of water quality impact from poultry litter in Eastern Oklahoma.
- 20 referrals of poultry litter sellers to poultry litter buyers, to transfer 2000 tons of litter out of nutrient sensitive watersheds.
- Reach 500 agricultural producers with lessons/demonstrations on riparian management.
- Increase soil testing in Soil, Water, and Forage Analytical Laboratory by 10%.

Youth Environmental Education:

- 3 Extension Educators conduct 4-H programs with water quality content.

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- 10 youth leaders conduct 4-H programs with water quality content
- 20 youth attend EcoCamp to participate in program on controversial environmental issues.
- 5 counties conduct summer camps with water quality programming content.

Drinking Water Protection:

- 6 counties conduct Oklahom*A*Syst programs. Reach 200 residents.
- 3 communities develop and implement wellhead protection plans.

- OSU-Langston University water quality program will conduct risks assessments on 50 wells in minority community and make referrals for problems encountered.
- 500 people access Oklahom*A*Syst website and use assessment procedure.

Drinking Water Treatment:

- 50 residents learn what water treatment needs they have and how to meet them.

Domestic Wastewater Treatment:

- 10 homeowners assisted with septic tank problems.

C. Internal and External Linkages

The water quality program is linked with virtually all disciplines in the Division of Agricultural Sciences and Natural Resources, with programs in most county offices, with Extension Water Quality programs throughout the southeastern U. S., and to all the Environmental agencies in Oklahoma. The water quality initiative committee includes representatives from Biosystems and Agricultural Engineering, Plant and Soil Science, Entomology and Plant Pathology, Horticulture and Landscape Architecture, Forestry, Animal Science, Agricultural Education, Communications, and 4-H Youth Development, and Agricultural Economics. Several county educators also participate in program planning along with the IPM coordinator and the Pesticide Education coordinator.

The water quality program is closely linked with other Extension Water Quality programs in the Southeast through participation in the SREWQPC (Southern Region Extension Water Quality Planning Committee) and in the Southern Region Water Quality/Waste Management Workshops, held every two years. In addition, there is networking among program participants in many of the states.

The Water Quality Program has official membership in the Oklahoma Nonpoint Sources Work Group, the Oklahoma Water Quality Monitoring Council, the NRCS State Technical Committee, and planning committees for numerous watershed projects. In addition, Program members work closely with the Oklahoma Water Resources Board, the Oklahoma Conservation Commission, the Oklahoma Department of Wildlife Conservation, and the Oklahoma Department of Environmental Quality on numerous projects.

D. Target Audiences

Water quality programs are targeted to agricultural producers, youth, families, minority communities, community leaders, teachers, and youth of Oklahoma. Agricultural BMP-programs will be part of producer meetings that have other content. Poultry producers will be

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targeted under the poultry education program. Programs on drinking water and waste management will target rural residents on farms and nonfarm areas. Special effort will be focused on minority areas, particularly African American and Native American. Youth programs will target youth around the state.

E. Program Duration

The Water Quality Program is ongoing. The plan described above is for the first year of the ongoing program.

F. Allocated Resources

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

Water Quality	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	877,091	899,018	921,493	944,531	968,144
Human Resources (Staff Years)	7.25	7	7	6.9	6.8

Animal Waste Management

Focus: This component is a multi-disciplinary effort to improve handling of animal waste and manure to the environmental and economic benefit of Oklahoma.

A. Description or statement of issues/problems.

Oklahoma has experienced the evolution in animal agriculture felt throughout the country. Namely, fewer producers on less land than ever before are raising more animals. The most obvious manifestation of this trend is a dramatic increase in Oklahoma pork production over the last five years. Although the increase in swine numbers has captivated the public's imagination, it is by no means the only source of collected manure. Beef feedlots, dairy farms, and poultry farms have also consolidated animal numbers. Oklahoma leads the nation in per capita horse ownership. The animal waste management program focuses on two vital concerns: continued preservation of soil, air and water quality, and the continuous improvement of animal production through pollution prevention.

B. Performance Goals

Output indicators: Animal waste management concepts will be transferred through a number of key projects, including: a state-wide poultry waste management training program, EPA supported small farm livestock pollution prevention program, and creation of an OSU Animal Waste Management Information Team. In addition to these formal programs, a number of county and area based agricultural production programs will also be undertaken that will not

necessarily appear as Stillwater based waste management projects.

The following are examples of goals for fiscal year 2000:

- 20 poultry operators receiving nine hours of basic waste management training.
- 1100 poultry operators receiving three hours of refresher training.
- 400 waste management record books distributed to poultry farmers.
- A 6 segment video series outlining basic concepts of poultry waste management.

- 20 dairy farmers trained in pollution prevention techniques.
- 75 OCES, agency, and private sector personnel receiving at least one hour of waste management training.
- 7 demonstration farms using pollution prevention techniques for manure.
- A comprehensive animal waste management information team in place.

Outcome indicators Participants in formal training sessions will be tested to indicate knowledge and skills acquired. Producers in targeted geographic areas will be surveyed to determine actual use of pollution prevention techniques in the field.

- 25% of Oklahoma poultry farmers using records to track use of litter.
- 25% of Oklahoma poultry farmers using soil and litter testing to determine application rates.
- 10% increase in broiler litter marketed across county lines.
- 10% of swine producers using soil and waste analyses, odor dispersion maps, and records to manage waste application.
- 20% of all dairy, swine, and poultry producers using waste management plans meeting NRCS standards to handle waste.

C. Internal and External Linkages

The OCES waste management program does not exist in a vacuum. This is a multi-disciplinary program utilizing the talents of eight departments in the university. Efforts are coordinated with a number of state and federal agencies each with their own area of jurisdiction in regulation and service. The OCES program is linked with a number of national efforts within the USDA and land grant system including a 6-state consortium on animal waste research and outreach, a national initiative on animal waste management, and NCR 189 – the regional project covering atmospheric impacts of animal agriculture.

D. Target Audiences

The primary audience for waste management education is agricultural producers. The audience is reached directly through state, area, and county based programs. Extension also plays a role in the nurturing of a competent professional community to meet the needs of this audience. The professional community consists of government agency personnel, agri-business employees, consulting engineers, soil scientist, crop consultants, media, and legislators.

E. Program Duration

The animal waste management program is expected to have a long-term duration. Some of the activities currently underway have short-term and medium term objectives.

F. Allocated Resources

The animal waste management program is heavily dependent on outside funding to complete its goals and objectives. Current allocated funds include: \$300,000 5-year contract with Oklahoma Poultry Federation to conduct poultry waste management training, \$40,000 for fiscal year 2000

in a EPA 319 project entitled Small Farm Livestock Pollution Prevention, \$5,000 are earmarked from Waste Management Specialists conference funds to start-up the Animal Waste Management Information Team in Fiscal Year 2000. Individuals named in the table are directly involved in the above mentioned projects or heavily involved in other animal waste management activities. Unidentified educators and specialists lend additional support to the program.

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

Animal Waste Management	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	907,896	930,593	953,858	977,705	1,002,147
Human Resources (Staff Years)	9.8	10	10	10	10

Pesticide Applicator Training

A. Description or statement of issues/problems.

Provide updates on federal and state pesticide regulations and how to comply in a manner safe to the environment and to humans. The varied uses and requirements for each use pattern for pesticides required input from the various user groups on what information is needed to make safe and legal applications of pesticides.

B. Performance Goals

The performance goals will be the same as the national PAT GPRA.

Output indicators: Number of individuals attending targeted programming; number of targeted informational material delivered; number of policy makers provided information.

Outcome indicators: Number of individuals adopting safety practices for the environment and health; number of people updating safety equipment; number of OCES participation on group/applicator boards; number of OCES participating on regional/national committees and/or advisory groups

C. Internal and External Linkages

OCES will be involved with state crop and applicator groups. OCES will be involved with national and regional affiliations dealing with pesticide safety and application issues.

The Pesticide Coordinator's office will maintain contacts with Oklahoma Department of

Agriculture, Region VI EPA, USDA offices and EPA Headquarters personnel. The office will also maintain its relationship with the American Association of Pesticide Safety Officials, American Association of Pesticide Control Officials, Association of Structural Pest Control Regulatory Officials and other such groups.

D. Target Audiences

The target audience is the pesticide users of Oklahoma and the general public. Main users include, but are not limited to, agricultural, turf, indoor pest control, termite, and right-of-way

applicators. This diverse group includes various minority groups such as Afro-Americans, native Americans, females, farmers, etc.

Special emphasis will be directed towards underserved audiences in the indoor, termite and right-of-way groups.

E. Program Duration

These are ongoing, five year programs. Some aspects, such as specific health safety issues will be one to two year programs. Most will be five-year programs with emphasis changing based on occurrences happening in Washington, D.C.

F. Allocated Resources

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

Pesticide Applicator Training	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	366,069	375,220	384,601	394,216	404,071
Human Resources (Staff Years)	2.8	2.8	2.8	2.8	2.8

Pesticide Impact Assessment

A. Description or statement of issues/problems.

Pesticide registrations are changing daily affect agricultural production and public health. These changes also affect the way pesticide users manage pest problems in a legal manner.

B. Performance Goals

Performance goals will be based on the National NAPIAP GPRA.

Output indicators: Number of crop profiles completed, published and revised; number of pesticide use and usage surveys completed and published; number of presentations presented;

number of persons/groups informed of registration matters; number of Section 18s processed; number of pesticide reviews undertaken.

Outcome indicators: Feed back from persons/groups on registration matters; Identification of critical pesticide needs from persons/groups resulting from contacts informed.

C. Internal and External Linkages

Number of DASNR faculty/staff participating in various NAPIAP activities; Number of out-of-state interactions on pesticide registration issues; number of interactions with persons/groups in-state on pesticide related issues; number of contact at national level of pesticide registration issues.

D. Target Audiences

Pesticide users in state; commodity/applicator groups; state and federal decision-makers.

E. Program Duration

Short-term issues will include immediate need for feed back to EPA and USDA; Intermediate-term issues will include development and revision of crop profiles and pesticide use and usage information; Long-term issues involve the continued tracking of pesticide registrations and how they are affecting pest management and production decisions within the state.

F. Allocated Resources

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

Pesticide Impact Assessment	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	290,301	297,558	304,997	312,622	320,438
Human Resources (Staff Years)	2	2	2	2	2

Natural Resource Stewardship

Focus: This component is a broad-based effort to improve stewardship of Oklahoma’s natural resources while maintaining economic viability.

A. Description or statement of issues/problems.

In recent years the public has become increasingly aware of the value of maintaining native plant

communities and native populations of wildlife. Native communities may provide aesthetic, recreational (non-consumptive and consumptive), and financial rewards to the public and to private landowners. As well, ecosystem health impacts human well being through sustainability of the environment. Introduced plants have replaced much of the pre-European settlement native vegetation as the result of farming land that is unsuitable for cultivation. The introduction of non-native forages in pasture settings and replacement or conversion of native forest communities to plantations or pasture has also had a dramatic negative influence on Oklahoma’s biota. In particular, plants and animals that are negatively influenced are those that are

associated with large unbroken tracts of similar habitat. In some areas native habitats have changed because of the elimination of fire, an essential ecosystem process. Based on soil classification and General Land Office Survey notes, we can predict the historical distributions of many of the native communities. Through proper use of prescribed fire, prescribed grazing and proper forest management in an ecosystem framework, we can maintain biological diversity of native communities while meeting the economic needs of the agricultural community.

Critical issues were identified through input from natural resource professionals and citizen representatives to the State Technical Committee that oversees cost-share programs such as WHIP and EQUIP. The Oklahoma State University Division of Agricultural Sciences and Natural Resources has gathered further input through related advisory committees and the Strategic Planning process.

B. Performance Goals

Output indicators: The concepts and methods by which to implement the goals of natural resource stewardship will be incorporated into a variety of programmatic efforts. All of the programs are not identified under the key program component of natural resource stewardship. The number of educational activities conducted, individuals reached, diversity of individuals, and professional FTEs used in the development and delivery of programs will be tracked. Target audience participation and satisfaction will be evaluated on the basis of evaluations and follow-up surveys.

Following are examples of goals for fiscal year 2000:

- 2 activities identified as natural resource stewardship.
- 50 OCES and other natural resource management professionals trained.
- 20 Landowners will be reached with information about implementation of stewardship principles.
- 50% of agencies and organizations with roles in natural resource stewardship will be reached.

Outcome indicators: Participants in selected training activities will be give evaluations to determine the value of the information presented in terms of knowledge and skills gained to implement natural resource stewardship principles. Follow-up surveys will be conducted with

individual landowners to determine principles incorporated into land management decision making and implementation of specific practices. Program impact will be estimated through number of acres burned and number of acres with Stewardship Plans completed. Natural resource professionals will be surveyed as to the numbers of landowners changing land management strategies.

Following are example goals for fiscal year 2000:

- 80% of those tested will gain knowledge in stewardship of natural resources management and stewardship.
- 25 of those management professionals trained will utilize information learned to increase awareness of respective audiences.
- 10 landowners will adopt and implement stewardship principles in land management planning.

C. Internal and External Linkages

This program is a collaborative effort by specialists in Forestry, Range, Wildlife and Ag Economics at Oklahoma State University. Additionally, training activities will be jointly planned and conducted by representatives from Oklahoma Department of Agriculture, Forestry Services; Oklahoma Department of Wildlife Conservation; Noble Foundation; U.S. Fish and Wildlife Service, Natural Resources Conservation Service and the U. S. Forest Service. Linkages will also be maintained with conservation organizations such as The Nature Conservancy and private corporations such as Weyerhaeuser.

D. Target Audiences

Livestock producers, non-industrial forest landowners, crop producers, other landowners, OCES personnel agency, and other organization natural resource management professionals.

E. Program Duration

This program component is expected to have long-term duration. Individual activities may be from short to mid-term in duration.

F. Allocated Resources

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

Natural Resource Stewardship	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	708,940	726,664	744,830	763,451	782,537
Human Resources (Staff Years)	7.2	7	7	7	7

Environment and Natural Resources 4-H and Youth Programs

Focus: 4-H/Youth Environmental Projects, Conservation of Natural Resources, "Aquatimes" Classroom Enrichment, Environmental Service Projects, Camps with an Environmental Focus.

A. Description or statement of issues/problems.

Young people are concerned about the future of the environment. They are also the targets of a great deal of environmental information, including information that is confusing or misleading. Furthermore, people tend to blame others for environmental problems and often do not see themselves as part of the problem or the solution.

The data from 500 interviews conducted during the State Fair of Oklahoma revealed that there was a tendency for the agricultural community to blame urban areas for environmental problems and for urban people to blame agriculture. This further illustrates the need for objective environment and natural resources programs.

Extension advisory groups routinely indicate the need for programming in this area. In 1999, advisory groups specifically identified needs in the solid waste and water quality areas.

B. Performance Goals

Output indicators: Targeted projects will emphasize the development of knowledge that will contribute to understanding and improvement of natural resources. Training sessions will be

conducted for Extension Educators and youth and adult volunteers to expand their knowledge base and providing them with the knowledge and skills to train others and to assume personal responsibility for making a positive change in the environment. Training efforts will be evaluated based on audiences reached and evaluation of content delivered through the sessions. Follow-up surveys will be used for selected programs to determine the effectiveness of the "train the trainer" delivery method for bringing about changes in knowledge and practices.

The following are goals for fiscal 2000:

- Provide trainer workshops for 15 Extension Educators, classroom teachers and volunteers on the management of streams and streamside areas.
- Provide trainer workshops for 25 Extension Educators and 4-H volunteers on the new 4-H water quality projects.
- Provide trainer workshop to youth and adult volunteers on recycling.
- Two trainer workshops will be conducted on the "Aquatimes" school enrichment program.

Outcome indicators: Participants in selected programs will be randomly assessed to determine if practices are changes or if new knowledge is gained and utilized as a result of program participation. The number of activities conducted, number of individuals reached and professional FTEs involved in the development of activities will be recorded.

Goals for fiscal 2000 are:

- Develop a descriptive profile of youth who submit state 4-H record books and scholarship applications in the area of Conservation of Natural Resources.
- Assess the degree to which Extension Educators, teachers and volunteers implement the educational programs in which they have been trained.
- Randomly survey youth who participate environment and natural resources educational programs to determine knowledge change and/or changes in personal and family practices.
- Five counties will have day or over-night camps with a focus on environmental education.
- Ten youth groups will carry out service projects focusing on the environment and five will be selected for qualitative evaluation.

C. Internal and External Linkages

Faculty and staff in Biosystems and Agricultural Engineering, Forestry and other departments will partner with state, district and county 4-H staff to provide training and assessment of programs. Additionally, program will be facilitated at the local level by field staff and volunteers. Efforts will be made to encourage increased involvement of tribal councils and other under-represented groups.

D. Target Audiences

4-H Youth, volunteers and Extension Educators will be the primary targeted audiences. Other target audiences will include non-4-H youth and minority audiences.

E. Program Duration

This Key Program Component is expected to have a long-term duration, although some of its activities may be short-term or intermediate-term in duration.

F. Allocated Resources

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

Natural Resources 4-H/Youth	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	679,704	696,697	714,114	731,967	750,266
Human Resources (Staff Years)	7.3	7.8	7.8	7.8	7.8

Goal 5: 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.

Key Program Components:

- Community Economic, Small Business and Tourism Development
- Community Infrastructure, Services, and Facilities Programs
- Local Government Education Program
- Consumer Horticulture, Home Gardening and Landscaping
- Applications Engineers
- Family Economic Well-Being

Community Economic, Small Business and Tourism Development

Focus: It has often been said that Oklahoma’s economy is dependent on oil and agriculture. Although that might be true in some areas, many Oklahoma counties have additional forces driving their economy. There are, in fact, several counties that rely on agriculture or oil for their primary economic activity. However, such things as manufacturing, government, and service industries shape the economies of other counties. Additional industries such as forestry, retirement, and tourism are critical to certain areas of rural Oklahoma as well. This diversity creates a complex task when addressing rural development issues.

A. Description or statement of issues/problems.

In some cases, rural communities/counties in Oklahoma have a need to diversify the local economic base. In other cases, quality of life issues such as adequate public services/facilities or improved consumer (goods/services) selection are of concern. For these reasons, leaders in rural Oklahoma communities are very concerned with economic development options. Rural areas need to understand the options available for development including: attracting new basic jobs, encouraging new business formation, retention and expansion of existing firms, and improving marketing and management skills of existing firms. Each of these strategies has strengths and weaknesses and may or may not be appropriate for a given local economy. In addition, specific sectors such as manufacturing, tourism, small business, etc. may be targeted. Educational efforts are necessary to assess the results of economic development activities as well as the results of changes in a local economy. Small businesses as well as basic industrial employers should be included in this effort.

B. Performance Goals

Output indicators: Sustainable community development concepts and methods will be incorporated into a variety of programs. A program generally involves a group of local leaders (target audience) in a community. Training sessions, technical reports, and individual counseling will be provided. Selected activities will be targeted for assessment of audience satisfaction. Training will be evaluated on percentage of target audience reached, user evaluations, and follow-up surveys.

	<u>Targeted</u>	<u>Actual</u>	<u>Targeted</u>	<u>Actual</u>	<u>Targeted</u>	<u>Actual</u>
	<u>Programs</u>	<u>Conducted</u>	<u>Participants</u>	<u>Reached</u>	<u>Publications</u>	
1999-2000	20		200		5	
2000-2001	20		200		5	
2001-2002	20		200		5	
2002-2003	20		200		5	
2003-2004	20		200		5	

Outcome indicators: Participants in selected activities will be tested to indicate knowledge gained and skills acquired. Representative participants will receive follow-up surveys to indicate behaviors altered, practices changed, and decisions made. Case studies will be developed to exemplify the quantitative indicators.

	<u>Targeted</u>	<u>Actual</u>	<u>Targeted</u>	<u>Actual</u>
	<u>Behavioral Changes Made</u>		<u>Participants Reached</u>	
1999-2000	5		50	
2000-2001	5		50	
2001-2002	5		50	
2002-2003	5		50	
2003-2004	5		50	

C. Internal and External Linkages

Internal linkages will include:

- Food and Agricultural Products Center
- Home Based Business Center
- College of Business

External linkages will include:

- State Department of Commerce
- Local Chambers of Commerce
- Rural Electric Cooperatives and Public Utilities
- Langston University

D. Target Audiences

The target audience includes local elected officials, local businesspersons, potential businesspersons, and agencies, associations representing these groups.

E. Program Duration

The program duration is for five years (2000-2004).

F. Allocated Resources

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

Community Econ. Development	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	621,058	636,584	652,499	668,812	685,532
Human Resources (Staff Years)	6.9	6.9	6.9	6.9	6.9

Community Infrastructure, Services, and Facilities Programs

Focus: Economic growth and prosperity of rural counties and communities in Oklahoma.

A. Description or statement of issues/problems.

Rural counties and communities in Oklahoma are not sharing equally with urban counties and communities with economic growth and prosperity. Some rural communities are experiencing population growth whereas others are remaining constant or declining. Leaders in growing communities need to understand the economic structure of their community. They need to know how changes in the economic base will effect population, employment, community service needs, taxes, etc. Leaders in declining communities need information as to how changes in their economic structure will effect their tax base such that they can most efficiently use their scarce resources.

In addition to economic base changes, federal programs continue to change such that county and community leaders must change their delivery systems. A recent example of this was EPA's subtitle "D" landfill regulations, which imposed strict rules on landfills. Over 40 percent of Oklahoma's landfills closed. Much work was and still is, being done to assist leaders in how they can provide solid waste services within their budget limitations. Another current example is the Department of Health's new legislation which allows a general hospital to become a critical access hospital. This license level allows additional Medicare reimbursement and may allow rural hospitals to remain open. County and community leaders need assistance in evaluating their health care needs and then designing a system which can provided affordable services.

This program will assist county and community leaders as they evaluate alternative community service delivery systems. Budgets, which include an estimate of costs and revenues, will be prepared for each alternative. The budgets, along with specific information relative to federal and state legislation, will be presented to county and community leaders to enable them to make informed decisions.

B. Performance Goals

Output indicators: Planning community services involves the entire community. Included in the planning process will be the development of a budget for alternative systems.

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Training sessions, technical reports and individual counseling will be provided. Training and technical assistance will be evaluated on percentage of target audience reached, user evaluations, and follow-up surveys.

	Programs Conducted		Participants Reached		Publications	
	Targeted	Actual	Targeted	Actual	Targeted	Actual
1999-2000	15		400		35	
2000-2001	15		400		35	

2001-2002	15		400		35	
2002-2003	15		400		35	
2003-2004	15		400		35	

Outcome indicators: Representative participants will receive follow-up surveys to indicate behaviors altered, practices changed and decisions made. Case studies will be developed to exemplify the quantitative indicators.

	Behavioral Changes Made		Participants Reached	
	<u>Targeted</u>	<u>Actual</u>	<u>Targeted</u>	<u>Actual</u>
1999-2000	5		50	
2000-2001	5		50	
2001-2002	5		50	
2002-2003	5		50	
2003-2004	5		50	

C. Internal and External Linkages

Internal linkages will include:

- Family and Consumer Sciences Department
- OSU College of Osteopathic Medicine

External linkages will include

- Department of Environmental Quality
- State Department of Health
- State Office of Rural Health
- OU Medical School
- State Department of Commerce
- Oklahoma Association of County Commissioners
- State Department of Transportation

D. Target Audiences

The target audience includes local elected officials, county and community employees, local

business and industry persons, and local providers of service. Also, the general public will be educated as to alternative programs.

E. Program Duration

The program duration is for five years (2000 – 2004)

F. Allocated Resources

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

Community Infrastructure	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	553,449	567,285	581,467	596,004	610,904
Human Resources (Staff Years)	7.9	7.9	7.9	7.9	7.9

Local Government Education Programs

Focus: Public Policy Education/Rural Development and Officials' Roles and Responsibilities.

A. Description or statement of issues/problems.

Public Policy Education/Rural Development: Rural communities often struggle to provide those government services either demanded by local citizens or mandated by state and federal government. Rural community leaders seek information and technical assistance regarding alternative service financing options and procedures especially in the face of declining population, jobs, tax base, and statutory and constitutional limits on revenue sources.

Officials' Roles and Responsibilities: Title 19, sections 130.1 – 130.7, Oklahoma Statutes creates the Commission on County Government Personnel Education and Training with Oklahoma Cooperative Extension Service and OSU's Center for Local Government Technology as co-partners fulfilling the legislation's objectives. The objectives include professional development, improved efficiency, and improving technical skills of elected county officers and their employees. We are also to serve as a reference and resource center for county government.

Advisory Boards/Surveys: Advisory boards, surveys, and personal contact with county, area, and state level extension personnel provides guidance for specific needs. Constantly changing local, state, and federal laws and regulations requires annual reviews and adjustments to the issues.

B. Performance Goals

Output indicators: Public policy education in rural communities is accomplished through several methods and activities.

These include:

- 1) written and oral financial trend analyses,
- 2) written and oral reports on various tax options and what procedures must be followed in order to legally adopt them,
- 3) written publications (hardcopy and web based) explaining local government finance institutional structure and options, and
- 4) community specific technical assistance on these local, public finance issues.

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Annual Goals:

- Eight financial trend reports.
- Eight counties provided local tax assistance.
- Two county government extension publications, new or revised.

Output indicators: for "officials' roles and responsibilities" include:

- 1) county officer handbooks extensively describing each officer's role and responsibilities,

- 2) short-courses to address specific duties in detail,
- 3) certification programs,
- 4) publications for education of both county officers and citizens, and
- 5) technical assistance on a one-to-one basis.

Participation is recorded at each meeting, short-course, or event. Satisfaction is gauged by written evaluations provided anonymously by participants. Satisfaction is also gauged at regular meetings of advisory boards and through one-on-one conversations with leadership.

Annual Goals:

- One county officer handbook updated.
- 65% of counties participating in certification program.
- Twenty county officer certification courses presented.

Outcome indicators: Community leaders indicate capacity to make decisions after having received program. Community leaders make decisions in accord with current laws and regulations after having received programming. County officers fulfill all responsibilities through use of new knowledge that improves efficiency in production of services.

Annual Goals:

- Eight boards of county commissioners pass resolutions based on assistance provided.
- Eighty percent of participants indicate significant knowledge or decision making capacity gained from programs.

C. Internal and External Linkages

Internal links include county, area, and state extension professionals plus the Center for Local Government Technology in the College of Engineering. External links include cooperative work with the Oklahoma Tax Commission and State Auditor and Inspector, as well as, Extension professionals working with rural community leaders in other states.

D. Target Audiences

County officers and their staffs plus community leaders who take an interest in local government affairs. From time to time the general public is also served on high exposure issues.

E. Program Duration

These programs are long-term in nature. Laws change, community public service needs change, and there is turnover of both elected officials and their staff. All such changes result in continued demand for program services.

F. Allocated Resources

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

Local Government Education	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	496,113	508,515	521,228	534,259	547,616

Human Resources (Staff Years)	5.1	5	5	5	5
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Consumer Horticulture, Home Gardening and Landscaping

Focus: This component is an effort to reach non-production users of horticulture/gardening information in order to improve the quality of life through sound horticultural practices including proper fertilizer and pesticide use, proper planting and culture techniques, proper home produce harvest and preparation, appropriate plant materials selection, and aesthetic improvement of the environment.

A. Description or statement of issues/problems.

According to a recent Gallup poll, gardening is the number one hobby in the United States with the “average” gardener being from the South and Midwest. It is estimated that 75% of Oklahoma households are involved in some type of garden, lawn, or landscape activity. Trends show gardening as a lifestyle relating to every aspect of life, not just as a source of food. Information about specific home gardening subjects such as water gardening, landscaping, lawn, container gardening, herbaceous perennials, annual flowers, woody ornamentals, and home fruit and vegetable production are in high demand. Rapid urban growth, coupled with increased interest in the environment and home gardening, has prompted an ever-increasing number of garden and landscape inquiries. Extension staff members are too few in number and generally have little if any training in horticulture. Most questions are seasonal in nature and are relatively easy to answer assuming that one has horticultural training.

Critical issues were identified based on county staff and client requests for specific materials, the Oklahoma State University Division of Agricultural Sciences and Natural Resources Strategic Planning process which included wide internal and external input, and gardening trends nationwide.

B. Performance Goals

Output indicators: Consumer horticulture programs will be conducted in a variety of ways including Master Gardener training, bi-yearly State Master Gardener Conferences, *Oklahoma Gardening* programming, Urban IPM programs, Urban Forestry, Don’t Bag It Landscape Waste Management Program, Oklahoma Botanical Garden and Arboretum as well as written and electronic publications, workshops, and seminars, and individual contacts including landscape and pest identification and on-site visits.

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Outcome indicators: Participants in selected activities will be surveyed to indicate knowledge gained and skills acquired. County Extension Educator and consumer feedback will be monitored as well as viewer’s polls and ratings, and volunteer numbers and hours will be tabulated.

C. Internal and External Linkages

The consumer horticulture key component encompasses many areas of horticulture as well as entomology, plant pathology, forestry and wildlife management, plant and soil sciences, biosystems and agricultural engineering, agricultural communications, 4-H and youth development and human environmental sciences. External linkages include the State Department of Forestry, State Department of Agriculture, Public Service Company of Oklahoma, TLC, county and city officials, homeowner alliances, garden clubs and horticulture and horticulture-related industry people as well as individual horticulturists and hobbyists.

D. Target Audiences

Extension staff, gardening enthusiasts, volunteers and homeowners.

E. Program Duration

This Key Program Component is expected to have a long-term duration. Some of its activities may be short-term or intermediate-term in duration.

F. Allocated Resources

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

Consumer Horticulture	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	1,077,455	1,104,391	1,132,001	1,160,301	1,189,308
Human Resources (Staff Years)	9.7	10	10.3	10.5	10.5

Applications Engineers

Focus: Employment opportunities in rural areas.

A. Description or statement of issues/problems.

Rural Oklahoma, with its historical economic reliance on agriculture and energy, punctuated by scattered small industry, is very typical of other areas of rural America. Of the more than 5,000 manufacturing firms in Oklahoma, all but 62 are small (less than 500 employees).

Approximately half of these small firms are located in rural areas. These rural manufacturers are extremely important to their local economies. The loss or downsizing of one of these small or mid-sized plants can have devastating consequences for the host and surrounding communities. While products are quite diverse, there is limited global perspective with respect to markets, technology, and overall modernization. These rural firms face particular difficulty in getting relevant and usable information and technical assistance that will keep them abreast of the rapid changes in business, engineering, and manufacturing technology.

As employment opportunities shift in the rural areas, we must look for other possibilities to foster new job growth. One such possibility for job growth is in the manufacturing sector. Assisting rural manufacturers in becoming more competitive in the national and international marketplace will result in the creation of more and higher quality jobs. An additional benefit to increasing the competitiveness of our rural manufacturers is the creation of wealth for the community. Manufacturers usually export their product from the local area, which brings capital into the local economy.

B. Performance Goals

Output indicators: The applications engineers use an on-line Lotus Notes based client activity reporting system. The engineers enter program activities directly into the database on a file server.

Data include:

- 1) Personnel involved
- 2) Task Category from the following list:
 - Automation/Robotics
 - Business Systems/Business Management
 - CAD/CAM/CAE
 - Control Systems/Integration
 - EDI/Communications/LAN
 - Environmental : Pollution Prevention
 - Environmental : Treatment/Control
 - Environmental : Compliance/Regulatory
 - Environmental : Recycling/Resource Recovery
 - Environmental : Energy Conservation
 - Financial
 - General
 - Human Resources
 - Market Development
 - Material Engineering
 - Other

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- Plant Layout/Manufacturing Cells
- Process Improvement
- Product Development and Design
- Quality/Inspection
- Specific task information by date of action.
- Time spent on the task by:
 - Assessment of problem

- Travel time associated with task
- Hours of engineering assistance at no charge.
- Hours of engineering assistance for fee.

Outcome indicators: A client survey developed by the National Institute for Science and Technology (NIST) for the Manufacturing Extension Partnership (MEP) is completed for each project in which 8 or more hours of assistance are provided. The survey instrument captures impact data from the client. This questionnaire contains questions that attempt to assess the economic impact of the services provided. The client survey instrument is currently being revised by NIST.

C. Internal and External Linkages

Program effort is conducted in cooperation with the Oklahoma Alliance for Manufacturing Excellence (The Alliance). The program is supported in part by funding obtained from The Alliance, the Oklahoma Center for the Advancement of Science and Technology (OCAST) and a small USDA grant. The Alliance is Oklahoma's Manufacturing Extension Partnership (MEP) funded in part by NIST and OCAST and local sponsors. The Alliance has 15 Manufacturing Extension Agents (MEA) located in various parts of the state. Applications engineers work closely with The Alliance MEAs as well as Cooperation Extension personnel to provide engineering assistance to the manufacturers.

D. Target Audiences

This program is targeted to the stakeholders in the Oklahoma Industrial Extension System which includes :

- Oklahoma's rural manufacturers
- The Oklahoma Cooperative Extension Service
- The Oklahoma Alliance for Manufacturing Excellence
- The Oklahoma Center for the Advancement of Science and Technology
- The Oklahoma Department of Vocational and Technical Education
- Rural Enterprises of Oklahoma

We also routinely cooperate with other entities such as the Oklahoma Small Business Development Centers, The Oklahoma Department of Environmental Quality and The Oklahoma

Department of Commerce. In addition, we have close ties with the College of Engineering, Architecture and Technology here on campus.

E. Program Duration

This program has become an integral part of Oklahoma's Industrial Extension Program and is expected to be continued.

F. Allocated Resources

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

Applications Engineers	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	1,032,888	1,058,710	1,085,178	1,112,307	1,140,115
Human Resources (Staff Years)	7	7	7	7	7

Family Economic Well-Being

Focus: Family economic well-being represents a multi-faceted effort to assist Oklahomans improve their quality of life. The component responds to issues identified by individuals and agency personnel through a needs analysis and supplemented through statistical data. The focus of the component utilizes two major efforts of the family's economic situation, the generation of income and how that income is saved and/or spent.

- 1) Money Management: Focusing on individual and family problems with living paycheck to paycheck and the collateral issues of credit and debt. Special emphasis will be given to issues of savings, reduction of debt, buying a home and financial preparedness of youth.
- 2) Generation of Income: A dual focused effort will assist individuals and families to enhance their income generating opportunities. One focus will be to encourage potential and existing business owners including youth. The second program will assist individuals to prepare for entering the work force.

A. Description or statement of issues/problems.

- 1) Overall Economic Indicators
 - 45th per capita income.
 - 41st in number of people at or below poverty.
 - 21% of children live in poverty.

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- Declining farm and rural business income as identified by the programming advisory committee (PAC).
- Specific Indicators: With input gathered from each county's program advisory committee, a survey of community leaders and the current programs' advisory committees, a planning meeting was held to prioritize that information along with the statistical information seen below. At that meeting extension educators and invited community leaders and state officials discussed the needs of individuals and communities. From the discussion, a voting process and finally workgroup meetings, the FCS focus areas were developed.

- Family
 - Oklahoma ranked 2nd in divorces per 1000 marriages.
 - Single parent household increased from 19.7 to 23.5% from 1985-1992.
 - Oklahoma prison population has increased to 20,444 by 10/97, an increase of 8446 since 1995. Oklahoma ranks first in number of women incarcerated.
 - Oklahoma had 17.5% of population over age 60.
 - Living paycheck to paycheck (PAC).
 - Problems with debt and credit (PAC).
 - Lack of basic money management skills (PAC).
 - Limited job readiness skills (PAC).
- Home-Based and Micro Business
 - Homework nationally involves 35% of all households.
 - Micro businesses (20 employees or less) represent 90% of all businesses and 80% of all job growth.
 - Oklahoma has over 125,000 home-based businesses.
 - Over 1300 micro businesses are started each quarter.
 - Other factors - NAFTA, global economy, lifestyle choices, movement to an information economy, and change to a service economy.

B. Performance Goals

A variety of methods and activities will be used including in-service education, workshops and seminars, media publicity, newsletters, technology including internet sites. Educators and specialists will also provide one-on-one education and service. Existing programs, as listed above, will be expanded with Money 2000 & Beyond, additional micro and home-based business materials and a youth entrepreneurship program.

Output indicators:

Anticipated Program Participants					
Program	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
DOC Prerelease program	500	500			
Family Economic Well-being Impact Team	1000	1000	1000	1000	1000
Home Buyers Education	300	300			
High School Financial	2000	2000	2000	2000	2000
Investments	200	200	200	200	200
Money Management for Ch. 13 Bankruptcy Filers	500	500	500	500	500
General financial management	700	700	700	700	700
Pathways	300	300	300	300	300
Keys to Successful Life Choices	200	200	200	200	200
Children and Money	200	200	200	200	200
Home-Based/Micro Businesses	500	500	500	500	500

In-service will be provided in these program areas to OCES extension educators. These events will enhance the educator's knowledge and skills. Typically 3-4 events will be held each year with 50 educators from FCS, 4-H and Agriculture participating. In addition, leader lessons for FCS programs will both expand the information available to the public as well as increase the interest in program participation.

Outcome indicators:

For all programs other than the home-based/micro business program, it is anticipated that 50% of program participants will plan on adopting the behavioral changes and practices taught. This will be based on surveys done upon completion of a sampling of the events. Follow-up surveys anticipate that 20% of those responding will have actually adopted one or more of the practices or will have modified a behavioral pattern. In addition, two additional outcome indicators will capture impact data. Those indicators will include the amount that debt was reduced and the amount of money saved. Because of the lack of existing savings and debt reduction data, no

projection will be made for these two outcome indicators.

The home-based and micro business program will utilize the previous GPRA indicators of:

- 1) the number of new businesses started,
- 2) the number of businesses supported/maintained and expanded, and
- 3) the numbers of new jobs started.

In addition, data will be gathered on the growth of new and existing businesses in terms of gross income. The goals are 10 new businesses started, 150 businesses maintained, and 20 new jobs started.

C. Internal and External Linkages

Internal: Food and Agricultural Products Center; Department of Sociology; College of Business; Division of Agricultural Sciences and Natural Resources; Oklahoma Cooperative Experiment Station Rural Development; 4-H and Youth Development.

Instate (State Offices/Agencies): Oklahoma Department of Corrections; Oklahoma Department of Human Services; Oklahoma Department of Commerce; Oklahoma Department of Agriculture; Oklahoma Department of Vo-Tech; Oklahoma Housing Development Agency; Oklahoma State Employment Offices.

Other State/Local: Schools - K-12; Vo-Tech Schools; Oklahoma Bankers Association; Oklahoma Association of Electric Cooperatives; Local Bankers, Financial, Mortgage and Investment Firms; Community Action; Credit Counseling; Credit Unions; Churches; Housing Development Authorities; Parent/Teacher Groups; Head Start; Courts; Job Training Partnership Offices; Chambers of Commerce; Crisis Intervention Centers; Drug Abuse Treatment Centers; Mental Health Centers; Oklahoma Rural Development Council; Economic Development Organizations; Libraries; Marriage and Family Counselors; Local Newspapers, Radio and Television Stations; Real Estate Associations; Senior Citizens Groups; Service Organizations.

Other: U.S. Department of Justice; NE-167 (a project of NE Experiment Stations).

Universities: Langston University; Clemson University; Texas A&M; North Dakota State University; Iowa State University; Kansas State University; Utah State University; Montana State University; Northeast Louisiana University at Monroe.

D. Target Audiences

- General population
- Students - K-12
- Chapter 13 Bankruptcy filers
- Welfare-to-work individuals
- Prerelease minimum security offenders
- Potential and existing home-based and micro business owners
- Potential home-buyers
- Limited income households

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- Alternative school attendees

Efforts will be made to provide programs to under-served audiences and groups. Outreach plans will include methods and activities to achieve such participation.

E. Program Duration

<u>Program</u>	<u>Projected Duration</u>
Money 2000 & Beyond	Long term
Home-Buyers Education	Intermediate term
Money Management for Ch. 13 Bankruptcy Filers	Intermediate term
Keys to Successful Money Management	Long term
Master your Dollars	Short term
Women's Financial Information Program	Long term
Pathways to Success	Intermediate term
Children and Money	Long term
High School Financial Planning Program	Long term
DOC Prerelease program - Keys to Successful Life Choices	Intermediate term
General programs	Long term
Home-Based and Micro Business	
Putting It All Together	Long term
Mapping Your Marketing Future	Long term
General programs	Long term

F. Allocated Resources

Below is the estimate of fiscal resources from all sources to conduct this key program component for Fiscal 2000-2004. Also shown is the estimate of human resources directly conducting programming for fiscal years covered by the plan.

Family Economic Well-Being	FFY 2000	FFY 2001	FFY2002	FFY 2003	FFY2004
Fiscal Resources (\$)	1,065,291	1,091,923	1,069,221	1,095,952	1,123,351
Human Resources (Staff Years)	9.95	9.95	9.25	9.2	9.2

2. Stakeholder Input Process

The Oklahoma Cooperative Extension Service (OCES) has a well-defined program advisory committee system that provides grass roots input for program planning. Each January or February, county extension staff seeks input from program advisory committee (PAC) members on program needs related to OCES strategic program priority areas.

Advisory committee members are selected to represent various geographic areas of each county. They are representative of agricultural interests, youth, families, community and government

leaders, and the general public. Committee members also represent the ethnic diversity of the county, as well as different socioeconomic groups.

District Extension Program Specialists compile priority issues identified by County PACs. The District Specialists summarize the issues within each strategic program priority, and make them available to District Directors and the state office. The issues are also shared at District Advisory Council (DAC) meetings. District Advisory Councils identify needs, problems, and issues that cut across more than one county.

District priority issues are reviewed and compiled at the state office. Issues identified most often (either by multiple county PACs or more than one DAC) under each program area are shared with Department heads and state specialists. These needs are given special attention in the development of individual plans of work. They also provide direction for major Extension programs.

Additional meetings of the PACs are also encouraged and conducted throughout the year. Typically these meetings occur after the annual planning process is complete and are used to refine planned county programs and seek additional timely input.

Another formal means of acquiring stakeholder input comes through the development and revision of the Division of Agriculture and Natural Resources strategic plan. In that process considerable effort is made to acquire input both internal and external to OSU and the extension system. Drafts of the strategic plan are widely distributed with input coming directly to the Dean and Director. The most recent revision is in the public comment period and will be in place about the time this POW begins.

Considerable stakeholder input is also received through other means. 1) The state legislative and administrative branches frequently make laws, conduct hearings, empower taskforces and committees, make regulations, conduct interim studies, and directly express needs and problems which result in priority program issues. Input comes from Extension personnel participating in these processes as well as official directives. 2) Extension also regularly seeks input from commissions, agencies, groups, foundations and other organizations representing various segments of the Oklahoma public. 3) Many key program components and programs within those components have advisory groups made up of stakeholders. 4) The Director has a statewide advisory group representing a wide array of interests relevant to our mission. This group has a

three-year rotating membership and meets twice a year. It is also called upon at other times to provide input to items such as extension planning and the Division strategic plan.

Examples of district and state summaries of issues and needs from PAC-DAC process are found in appendix B. The draft revision of the Division's strategic plan is provided in appendix A.

3. Program Review Process

- a. All plans of work (5-year and annual) developed by county, area, district and state program professionals are reviewed in reference to quality and relevance by at least two individuals with program and/or administrative responsibility pertinent to the individual's program area. The reviewers assess the merit of the program plans of work with respect to issues, needs, and problems identified through stakeholder input, quantity of effort planned in relation to appointment, and plans to evaluate and report program quality and impact. County Educator plans are reviewed by the appropriate district subject matter specialist, district director, and state program leader (when appropriate). Area and district specialist plans are reviewed by the district director, the subject matter department head, and appropriate assistant director/state program leader. State specialist plans are reviewed by the appropriate department head and the appropriate assistant director/state program leader.

4. Multi-state Research and Extension Activities

b. The Oklahoma Cooperative Extension Service (OCES) personnel expect to be involved in a large number of activities with other states and territories to plan, prepare, develop, attend, and deliver programs and program support to meet the issues, needs, and problems of the people of Oklahoma and other states. OCES has a long history of working with individuals and teams of extension and research personnel from individual states, regional and national entities, and multi-state grants and contracts. For this POW, all OCES personnel identified expected activities for the planning period, expected duration of the activities, and the number of days expected to be devoted to this activity in Fiscal 2000 (each year, as part of the annual POW update, this process will be repeated). For fiscal 2000, the cost estimate of multi-state program activity exceeds an amount equal to 25% of federal funds received under section 3(b) and (c) of the Smith-Lever Act. For reporting documentation, all OCES personnel will report monthly throughout the fiscal year the number of days participating in multi-state activities. An average full-cost estimation by type of appointment (i.e. faculty/state specialist, district specialist, county educator, etc.) will be used in conjunction with the reported time spent to document the costs related to multi-state activity. Through this process, OCES will document that multi-state activities result in a cost to OCES of an amount equivalent to no less than 25% of federal funds received under section 3(b)(1) and (c) of the Smith-Lever Act during each of the years covered in this plan.

c. Appendix C includes a list, by federal goal, of expected multi-state activities, the OCES personnel involved, other states involved, and an indication of the group's plan to document its efforts.

5. Integrated Research and Extension Activities

The Oklahoma Cooperative Extension Service (OCES) has a long history of providing input to help guide research on the issues, needs and problems of the people of Oklahoma. Likewise, OCES works closely with those conducting research in the Oklahoma Agricultural Experiment Station (OAES), Oklahoma State University and other research institutions across the country. This permits OCES to deliver timely research-based knowledge and information to target audiences. This process occurs constantly between individuals and teams with varying appointments. In addition, many of our specialists have joint appointments with the OAES.

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Joint appointments result in the most obvious integration of research and extension programs. OCES will document that, from all sources, an amount equivalent of no less than 25% of federal funds received under section 3(b)(1) and (c) of the Smith-Lever Act will be expended on OCES specialists with joint OAES appointments during each of the years covered in this plan.

Certification:

Dr. Sam E. Curl, Dean and Director
Oklahoma Cooperative Extension Service
Oklahoma State University

Date

APPENDIX A

**Division of Agricultural Sciences and Natural Resources
Strategic Plan
1999**

INTRODUCTION

The Division of Agricultural Sciences and Natural Resources is proud to present its Strategic Plan for 1999 and beyond. This plan is the result of the Division's continuing planning process and sets the stage for programs over the next several years. It is important for readers of this plan to understand the history of its development and the role of planning in the Division in the 1990s.

THE PLANNING PROCESS

A comprehensive planning process, initiated in 1990, resulted in the development of the first Strategic Plan for the Division of Agricultural Sciences and Natural Resources in June of 1992. While Division plans had been developed and published previously, the Strategic Plan of 1992 was truly unique. It was dedicated to guiding programs in teaching, research and extension by focusing on developing opportunities in the 1990s and strengthening areas in which the Division had a competitive advantage or need.

In 1996, a Strategic Plan progress report entitled "Today's Priorities for the Future..." was released. This report detailed the Division's accomplishments toward its goals and objectives. It is clear in the progress report that having a defined plan, setting reasonable goals and shifting resources to address priorities were effective. We are proud of the accomplishments, which were made with the strong support and cooperation of our partners.

In December 1997 the process of revising the Strategic Plan was initiated. We reflected on past

accomplishments, discussed the next steps in several of the major thrusts initiated in the early 1990s and examined new opportunities on the horizon. Further, we examined institutional and other factors, which enhance or limit our ability to serve the people of Oklahoma, the region, the nation and the world.

We invite you to review the areas of emphasis we call priorities and the goals and recommendations, which constitute the 1999 plan. As in the past, it is our intent that the 1999 Strategic Plan will be a living document. Please help us by periodically reviewing the plan and

continually providing your constructive comments and concerns. These will be critical in making adjustments and preparing for the future.

THE 1999 STRATEGIC PLAN

The Vision and Mission Statements

The Division's vision is a statement of the high level of quality we wish to maintain across all program areas integral to a land-grant institution. The Division's mission statement also confirms the basic land-grant mission of discovery and development through research and the synthesizing and dissemination of knowledge through traditional undergraduate and graduate instructional programs and through Cooperative Extension programs at the state and county levels.

The Division's mission statement is followed by a statement of support for the base or foundation programs of the Division and a listing of the broad priorities as developed and stated in our Strategic Plan.

VISION

The Oklahoma State University Division of Agricultural Sciences and Natural Resources will have programs of state, regional, national and international eminence in teaching, research, and extension.

MISSION

The mission of the Oklahoma State University Division of Agricultural Sciences and Natural Resources is to discover, develop, synthesize, and disseminate knowledge.

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PRIORITIES

The Division's mission focuses on the base or foundation programs in agricultural sciences and natural resources with emphasis on the following priorities:

- Enhance scientific inquiry

- Develop human resources
- Enhance agriculture's profitability, competitiveness, and sustainability
- Protect and sustain the environment
- Strengthen rural Oklahoma
- Enhance the quality of human life
- Meet greater Tulsa's higher education needs in agriculture and natural resources

Priority Areas for 1999

Seven broad priority areas are identified in this 1999 plan. Six are modifications of earlier priorities. The new seventh priority area focuses on the Division's role in the initiative establishing Oklahoma State University-Tulsa including undergraduate degree programs, the Graduate Center, and the joint OSU/OU consortium for research.

Supporting original thought and research into fundamental mechanisms in the biological, physical, engineering, social, and economic sciences remains an important priority of the Division. While accomplishments in these areas have been substantial over the past five years, maintaining a strong fundamental research capability continues to be a key to attaining a quality research program and remaining on the cutting edge of technology. Goals under this priority have been revised but still emphasize the disciplinary strengths of the Division, the need for interdisciplinary cooperation and maintenance of the infrastructure to support mission-oriented basic research.

The priority area "Develop Human Resources" cuts across teaching, research and extension programs of the Division. Goals relating to undergraduate and graduate programs have been retained with renewed emphasis on recruitment and retention that are in line with University-wide objectives. Critical goals focusing on a comprehensive plan for the future for Oklahoma Cooperative Extension Service and special programs for new clientele groups have been addressed initially through the Focus on the Future Task Force. Youth and adult education and information technology round out this broad priority area.

Research and extension efforts to enhance the profitability and competitiveness of agriculture remain the cornerstone of the Division's mission. Production research, financial management and market opportunity goals have been retained with revised recommendations stressing the use

of information technologies to assist producers. The completion and staffing of the new Oklahoma Food and Agricultural Products Research and Technology Center demanded the rewriting of the goal and recommendations for agricultural product and processing development. A strong need remains to keep abreast of agricultural, food and natural resources policy for producers, the public and our students.

The Division is committed to address issues concerning the quality and safety of the environment. This commitment is closely tied to the need to be profitable and competitive while

sustaining the soil, water and air resources upon which we depend. Revised goals on integrated pest management and waste management systems are therefore more focused. The establishment of a successful Environmental Sciences undergraduate program under the 1992 plan required the addition of new recommendations to strengthen the program. The increase in demand for youth and adult environmental education programs will also be met under this priority area.

Expanding the economic base of rural Oklahoma, enhancing local leadership skills and providing educational and technical assistance for rural community services remain primary goals in our efforts to strengthen rural Oklahoma. This priority is closely tied to the need to improve the profitability and competitiveness of agriculture, but deals with the infrastructure necessary for rural revitalization and stability.

Social, economic and emotional well being, physical wellness, educational opportunities and a supportive environment are components necessary for a high quality of life. The Division's research and educational programs on diet, health and nutrition, as well as food safety, focus on the physical wellness of all Oklahomans. Increasing the capability of individuals and families in the areas of financial management, nutrition, childcare and meeting the needs of an aging population enhance the quality of life in both urban and rural settings. Finally, concern for recreational and aesthetic needs has been added as a quality of life goal.

Recently, Oklahoma State University has welcomed a new responsibility for providing some of the higher education needs in the greater Tulsa area. Many of the Division's educational programs are unique to the state and the mid-south region, and appear to mesh well with the expressed needs in the Tulsa area. While this opportunity is just in the development stages, a priority has been developed to get us started. The first goal focuses on planning so we can be better prepared to determine needs, design programs and assess facility and other required resources. The second goal deals with specific educational initiatives, which have been identified. In the future, the "Tulsa" priority may be expanded or folded into other elements of the plan. In any event, identifying the priority now should enhance our probability for success.

Implementation

The fact of the 1999 Strategic Plan's development does not guarantee its successful implementation. However, the strength and success of the 1992 Strategic Plan and the familiarity with the priorities, goals and objectives will aid greatly in its acceptance and use. Implementation will occur when the units (departments) of the Division digest the priorities, goals and recommendations and conduct specific activities to meet them. Many of the programs will occur through interdisciplinary efforts that transcend units. One of the Division's great strengths is the tradition of cooperation. Many very important issues identified by our

stakeholders require team efforts. The Division will be seeking opportunities to enhance and support ongoing and new collaborative programs.

Resources committed to the priorities and other incentives designed to reward successes will enhance the implementation process. Those who benefit from the research, instruction and extension programs of the Division play an important role in both planning and implementation. The Division will find enhanced opportunities for stakeholder input and systems for accountability. In the end, we will all share in the rewards of a job well done.

PRIORITY AREA 1: ENHANCE SCIENTIFIC INQUIRY

The Division of Agricultural Sciences and Natural Resources research programs historically have been diverse and broad in scope. The Division has been steadfast in its dedication to fostering the highest quality research. Scientific inquiry, ranging from the most fundamental investigations to those conducted with immediate applications and from those grounded in biology to engineering, economics, and social sciences, must be enhanced. Such research is driven by the mission of the Oklahoma Agricultural Experiment Station which embraces those areas critical to production agriculture as well as range, forestry, wildlife, and related natural resources.

As a major education and research institution, the Division of Agricultural Sciences and Natural Resources is committed to providing an environment where original thought and research on fundamental mechanisms are encouraged. Recruiting and nurturing the very best scientists is of primary importance. Understanding fundamental processes at the molecular, cellular, and organismal (plant and animal) levels will contribute to the fundamental knowledge base and, in the long-term, enhance the efficiency of production in agriculture and improve the health and well-being of all citizens. Strong, mission-oriented research programs in biology, economics, engineering, and the social sciences will help provide solutions to pressing current problems of environmental degradation, food safety, economic competitiveness, and sustainability. Institutions with strong research capabilities provide high quality education, generate excitement and pride in graduate and undergraduate programs, attract high technology industry, and contribute to a higher quality of life for the citizens they serve.

Goal 1: Promote the Discovery, Understanding, and Application of Fundamental Mechanisms

Recommendations:

1. Investigate fundamental mechanisms that operate in biological, chemical, physical, engineering, social, and economic systems important to agriculture and the environment.
2. Take advantage of the unique opportunity of the land-grant university to link basic sciences and applied programs to enhance efficiency of production and to improve quality of the environment.
3. Relate the benefits of scientific and technological advances to our society.

Goal 2: Increase Knowledge of Plant, Animal, and Soil Systems and Their Interactions

Recommendations:

1. Genetically improve animals and plants to enhance quality, stress resistance, production efficiency and marketability.
2. Identify factors responsible for regulation of plant/animal responses.
3. Apply gene mapping/manipulation technologies to classical plant and animal selection studies.

Goal 3: Develop Strong Multi-Disciplinary Research Programs in Fundamental and Applied Sciences

Recommendations:

1. Continue financial support of multi-disciplinary activities including research planning, outside speakers, symposia, and workshops.
2. Facilitate and recognize multi-investigator research activities.
3. Maintain a critical mass of scientists in targeted priority areas important to agriculture and natural resources.
4. Strengthen research and disseminate results through distance communication technologies.

Goal 4: Provide an Infrastructure Conducive to Innovative, Creative and Relevant Research of the Highest Quality

Recommendations:

1. Provide seed money for fundamental research.
2. Establish and maintain externally-supported endowed professorships and chairs.
3. Provide incentives for obtaining outside grants and contracts which support research.
4. Support activities/policies/procedures to identify grant opportunities and to expedite preparation, submission and management of multi-investigator proposals.

5. Provide training and equipment to facilitate world-wide research collaboration via distance technology.
6. Further develop and maintain appropriate centralized research support facilities and instrumentation resources.

PRIORITY AREA 2: DEVELOP HUMAN RESOURCES

Professional and scientific knowledge are national resources essential to a strong U.S. food and agricultural industry. Today, human resources are challenged to new heights amid the current technological revolution in a complex global society where demographic, social, cultural, economic, and political factors change continuously. As a result, education is more important than ever.

A major challenge for the Division of Agricultural Sciences and Natural Resources is to help ensure an adequate supply of scientific expertise and high quality professionals and leaders for the 21st century. The Division must increase the number of students graduating from its undergraduate and graduate programs. Quality students must be recruited and retained through the completion of the respective degree programs. In addition, cultural diversity among our students and resultant workforce must be expanded to more nearly reflect demographics and more ably meet the needs of the global society.

Teaching, research, and extension faculty, central to formal and informal learning, must be adequately prepared to plan and conduct needed future educational programs. Faculty and staff development programs with related rewards and enriched incentives are needed to support a quality faculty. Creative scholarship in teaching, research, and extension must be documented, evaluated, and rewarded on the basis of individual merit.

Multidisciplinary faculty groups are needed for the development, coordination, and administration of innovative curricula for future interdisciplinary environmental and biological science programs. Lifelong learning needs of Oklahoma residents must be assessed, and diverse youth and adult educational leadership programs must be developed by teaching and extension faculty to meet the needs of audiences both off and on campus.

Goal 1: Foster the Development of Youth and Young Adults

Recommendations:

1. Enhance and expand specific support and educational programs for at-risk youth.

2. Strengthen departmental conferences/camps for 4-H and other youth, science symposia, and interscholastic educational activities.
3. Promote/provide educational materials and activities to teachers in primary and secondary education.
4. Develop additional promotional materials related to careers in food science, biotechnology, agribusiness, and environmental science curricula.

Goal 2: Enhance Undergraduate and Graduate Programs

Recommendations:

1. Expand emphasis on recruitment, retention and services for students, including increased focus on urban, minority, and disadvantaged students.
2. Assess the quality, standards, content and viability of current undergraduate and graduate options to meet changing employment demand.
3. Increase mentoring and internship programs for undergraduates in partnership with business, industry, and government.
4. Expand undergraduate research experiences, leadership forums, and exchange programs.
5. Include more technical writing, group discussions, experiential learning and oral reports in all academic offerings.
6. Internationalize educational experiences by globalization of course content and by expanding international activities through exchange programs, internships, study tours, language training, and Peace Corps.
7. Encourage integrated learning across the curricula and more honors classes, seminars, and participation in honors activities.

Goal 3: Enhance Faculty and Staff Development Programs

Recommendations:

1. Promote strategies for developing faculty and staff capabilities to use new technologies/multimedia, including Distance Education and World Wide Web in teaching and extension.
2. Strongly promote professional development programs to include faculty and staff exchanges, sabbaticals, mini-sabbaticals, study leaves, on-the job training experiences, and effective assessment and recognition.
3. Implement faculty development programming using portfolios to improve teaching and advising.

4. Encourage and reward faculty and staff for participation in international agricultural and natural resources activities.
5. Support language training for those involved in international activities.

Goal 4: Establish a Comprehensive Long Range Plan for Cooperative Extension

Recommendations:

1. Review organizational structure/boundaries with changing clientele/program needs and funding support.
2. Establish a plan for review of position needs in Extension at all levels.
3. Strengthen evaluation and priority setting of client needs, and enhance programs to meet those needs.
4. Explore opportunities to improve programming, services, and efficiency in Extension by expanding user fees for specialized educational training and by effective partnering with foundations, other public agencies, private consultants, and others.
5. Explore the feasibility of additional research/extension centers to better meet clientele needs for specialized education and information.

Goal 5: Tailor and Expand Special Cooperative Extension Service Programs to Meet Needs of Clientele

Recommendations:

1. Identify specific user groups, including underrepresented clientele, and provide information to meet their needs using the most effective methods.
2. Evaluate and adjust staff assignments to fit clientele needs.
3. Expand mass media programs to reach specific target audiences.
4. Expand public awareness of Extension programs by strengthening working

relationships with members of mass media.

Goal 6: Improve Formal and Nonformal Professional Career and Life-Long Learning Opportunities

Recommendations:

1. Develop methods to evaluate and credit experiences of adult learners.
2. Assess learning interests and needs of non-traditional clientele for credit or non-credit continuing education.
3. Develop educational programs/courses convenient to non-traditional learners.
4. Assess and develop on-going training/educational programs to meet current and future certification needs for producers/clientele.
5. Extend use of new technologies for educational delivery to expand opportunities for life-long learning.

Goal 7: Promote Division-Wide Planning for Information Systems

Recommendations:

1. Develop a system-wide network for information technology to enhance communication and the rapid application of technology, statewide and beyond.
2. Train faculty and staff to use advanced information management systems and technology to enhance education and program delivery.
3. Create incentives for systems management innovation.
4. Expand emphasis on developing graduates who can use cutting-edge technology.

PRIORITY AREA 3: ENHANCE AGRICULTURE'S PROFITABILITY, COMPETITIVENESS, AND SUSTAINABILITY

Oklahoma agriculture competes in a global marketplace. International markets have long been important for the state's grain crops, and exports of the state's beef, pork, and poultry products are growing. Unexpected swings in world demand are common, however, and many exporting countries are competing aggressively for a larger share of the world market. As a result, domestic farm prices and the profitability of Oklahoma's agricultural enterprises can rise or fall sharply.

At the same time, government farm programs, which have supported and stabilized farm incomes in the past, are being scaled back. In the years ahead, a growing share of the state's farm income will come from the marketplace, rather than government programs. Freed from the requirements of government programs, however, the new policy environment will also give Oklahoma's farmers much more flexibility in choosing what and how much to produce. It may change the scale of agricultural production systems as well.

As a nationally recognized leader in developing research-based educational programs, the Division of Agricultural Sciences and Natural Resources is well positioned to serve Oklahoma agriculture in a risky environment. Applied research, teaching, and extension programs in plant and animal agriculture and natural resources including an emphasis on value-added industry will remain the cornerstone of the Division's work. The Division's programs will be comprehensive, spanning production, management, processing, marketing, and policy.

The Division will expand its role in improving the efficiency of plant and animal production. Efforts to reduce costs per unit of output and boost product quality through improved production and management systems will contribute to enhanced global competitiveness and profitability, while preserving environmental quality. Improved tools will be developed to help producers measure and manage their businesses in a riskier market environment. Division programs will seek to expand the development of new processes and products from Oklahoma's farm produce. Market opportunities will be explored at home and abroad for traditional and new farm and food commodities and value-added products.

The Division will also focus on important issues of public policy associated with food, agriculture, and natural resources. The Division will seek answers to new social and economic issues, including farm and trade policy, food safety and security, changing market structures for farm products, animal waste disposal, and the quality of the state's air, water, and other natural resources. The development and distribution of science-based information on the real and perceived risks and benefits associated with the science and technology of food, agriculture, and natural resources will be a focal point of the Division's programs in public policy.

Goal 1: Increase the Production Efficiency of Major and Alternative Agricultural Enterprises

Recommendations:

1. Advance production and management practices, including precision farming, that are compatible with environmental quality, sustainability, profitability, and competitiveness.
2. Develop tools to assess costs, returns, and risk for existing and alternative agricultural technologies and enterprises.
3. Establish interdisciplinary research and extension teams to develop integrated resource management systems for existing and alternative agricultural enterprises.
4. Enhance educational programs to communicate the value of research-based practices.

Goal 2: Improve Farm, Ranch, and Agribusiness Management Practices

Recommendations:

1. Strengthen financial management and planning.
2. Identify practices to manage production and financial risks.
3. Assist producers and agribusiness managers in the application of information technologies.

Goal 3: Enhance Market Opportunities for Oklahoma's Commodities and Value-Added Products

Recommendations:

1. Identify market opportunities and establish necessary business and capital linkages.
2. Strengthen market research for value-added products that can be produced in Oklahoma.
3. Provide international education experiences to acquaint Division personnel and students with the global market for Oklahoma's agricultural products.

Goal 4: Expand Food and Agricultural Product Processing, and Product and Process Development

Recommendations:

1. Use the Food and Agricultural Products Research and Technology Center to enhance ties with industry and to foster economic development.
2. Obtain resources for equipment and personnel to enhance research for new and improved processing technology.
3. Develop new and improved processes to enhance food quality, safety, security, and product development.
4. Apply engineering principles to enhance and commercialize bioconversion biotechnologies.

Goal 5: Expand Focus on Public Policy in Food, Agriculture, and Natural Resources as Part of a Global Economy

Recommendations:

1. Advance the understanding of the social and economic issues raised by science, technology, and public policy.
2. Provide information to the public on real and perceived risks and benefits associated with food, agriculture, and natural resources.
3. Educate undergraduate and graduate students on farm, food, and natural resource policy issues.

PRIORITY AREA 4: PROTECT AND SUSTAIN THE ENVIRONMENT

Oklahomans continue to be concerned about the quality and safety of the environment in which they live. They want to protect the environment to provide a reasonable measure of security for future generations while continuing to use natural resources to meet their economic needs. The range of environmental concerns expressed by the public is wide and includes both real and perceived problems. Soil erosion by water and wind diminishes the productivity of the land and contributes significantly to water and air quality problems. Wastes and waste by-products can threaten air, soil and water quality and affect human and animal health. Concerns are expressed that the indiscriminate use of chemicals in the environment may threaten air, water and soil quality, contaminate food products or harm ecosystems. There is uncertainty concerning the possible impacts of climate change on water, pest infestations, soil erosion, plant productivity and the health of natural and managed ecosystems.

The Division of Agricultural Sciences and Natural Resources is uniquely equipped to address many of these concerns through scientific investigations and the transfer of knowledge. Division scientists have the ability to study and understand fundamental processes to determine the impact of current management practices and the applied skills to develop viable alternative management schemes. We will continue to study the movement and fate of chemicals in the environment and develop Integrated Pest Management systems which reduce chemical use and meet production, environmental and social objectives. Similarly, the development and assessment of Best Management Practices for the protection of soil, water and air quality will be based in good science and meet economic and production objectives.

Traditional and non-traditional educational programs of the Division are a critical component of addressing environmental problems and promoting rational environmental understanding. Educational programming, based on the results of fundamental and applied research, will strive to help students, youth and life-long learners be environmentally aware and technically able to solve challenging environmental problems. In addition, programs will be designed to address the human or social components of environmental management systems.

At the inception of the Division Strategic Plan in 1992, it was recognized that an integrated approach to understanding and solving environmental problems was needed. While excellent

progress has been made, the Division will continue to stress the importance of integrated approaches in research, teaching and outreach programs. This means considering a full range of resource uses and impacts, understanding the economic and social context in which resources are managed and providing factual information concerning natural resource and environmental policy.

The strategic goals of this priority area are focused on: protecting soil water and air resources, management of rangelands, forests and wildlife, Integrated Pest Management, waste

management and environmental education. It is well recognized that the environmental priority, goals and recommendations are integrated with many other elements within this strategic plan.

Goal 1: Protect Soil, Water and Air Resources

Recommendations:

1. Characterize soil, water and air processes and their interactions as they relate to resource quality and sustainability.
2. Investigate the movement and fate of agricultural chemicals in the environment.
3. Develop or refine agricultural management systems which reduce adverse environmental impacts on soil, water and air resources, as well as terrestrial and aquatic ecosystems.
4. Develop criteria and procedures to better assess the risks and benefits of various agricultural management systems on the environment.
5. Develop, assess and refine Best Management Practices for the protection of soil, water, and air resources.

Goal 2: Develop Ecologically Sustainable and Economically Feasible Management Systems for Forest, Rangeland and Wildlife Resources

Recommendations:

1. Continue to develop a better understanding of the function and structure of ecological systems.
 2. Develop and refine landscape-level resource management systems designed to meet ecological and productivity goals.
 3. Examine landscape-level resource management systems with respect to their economic potential and social impacts.
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4. Continue to strengthen linkages and cooperation between natural resources units, agencies and organizations within Oklahoma State University, the state and region.
 5. Evaluate the potential for alternative enterprises that integrate native rangelands, forests and wildlife into agricultural management systems.

Goal 3: Expand and Promote Strategies for Integrated Pest Management in Rural and Urban Environments

Recommendations:

1. Develop and promote Integrated Pest Management systems which meet society's environmental, social, and economic goals.
2. Investigate molecular strategies for developing animal and plant resistance to pests.
3. Evaluate and adapt IPM strategies for applicability to the Oklahoma environment.
4. Maintain a strong extension education program on Integrated Pest Management.

Goal 4: Achieve Effective and Efficient Waste Management Systems

Recommendations:

1. Assess the impact of wastes or waste by-products (including odor) on humans, animals and on soil, water, and air quality.
2. Educate the public on the impact of animal wastes on the environment.
3. Develop systems to reduce waste loads, improve treatment effectiveness and increase the efficiency of disposal and recycling.
4. Improve methods for monitoring and assessing soil, water, and air quality associated with waste management technologies.

Goal 5: Expand and Refine Environmental Education Programs

Recommendations:

1. Strengthen the undergraduate environmental science (ES) program via development of our ES faculty, curriculum review, and development of intern and career opportunities.
2. Increase Division participation and leadership in the graduate environmental sciences program.

3. Develop and expand environmental education programs for 4-H youth and community leaders and integrate environmental education into agricultural production programs.
4. Encourage development of expert faculty and staff teams to address key environmental issues.

PRIORITY AREA 5: STRENGTHEN RURAL OKLAHOMA

The Division of Agricultural Sciences and Natural Resources is committed to serving the citizens of Oklahoma through its strong ties to clientele in rural areas and urban communities. The continued reduction in rural community employment opportunities, the related shifts in population from rural to urban areas, and the accompanying decreases in farms, ranches, and other agribusinesses, all have contributed to the decline of many small towns throughout Oklahoma. Yet community pride and the desire to capitalize on the advantages of small town living remain strong.

Providing leadership, development, and employment opportunities for residents who wish to remain in rural areas is often difficult. However, enhancing leadership and economic development opportunities are important as the State's economy continues to diversify. Greater understanding is needed about the interdependence of rural, urban, and global economies relative to the quality of life and viability of rural communities.

Developing the economic base in Oklahoma through expanded business and marketing opportunities is a key to viability for many Oklahoma communities with strong ties to agriculture. Increased processing of food and agricultural products, development and support of rural industries, and the development of home-based businesses as value-added enterprises can help expand the economic base. Looking beyond traditional markets to international opportunities is an important area of emphasis within the Division.

Providing public services (including education, fire protection, emergency and other health and medical services, water and sewer services, and solid and hazardous waste disposal) presents challenging problems, particularly in rural areas. Delivering services to residents across large

geographic areas is difficult and often expensive.

In addition, declining populations often reduce the tax base through which public services are financed. The Division assists communities and decision makers attempting to provide services efficiently and economically. It also helps to develop leadership and other skills needed by local leaders working to enhance economic development opportunities and improve the quality of life for all rural residents.

Goal 1: Increase the Economic Competitiveness and Sustainability of Rural Communities and Industries

Recommendations:

1. Strengthen research and extension programs which evaluate community opportunities to expand the economic base.
2. Identify economic opportunities and provide educational programming for initiatives such as home-based businesses and value-added rural industries.
3. Identify logical clusters of small rural businesses and manufacturers and provide assistance on product development, process improvement, and marketing.
4. Strengthen linkages with organizations and agencies providing economic development assistance.
5. Provide educational programming on land use planning, zoning and landscape architecture.

Goal 2: Improve Capacity of Elected Officials and Other Local Leaders to Deal with Economic Development and Quality of Life Issues in Both Urban and Rural Areas

Recommendations:

1. Strengthen leadership ability of local leaders and elected officials.
2. Assist local leaders in issue identification and strategic planning processes.
3. Strengthen the public decision making process through local education programs.
4. Continue emphasis on the Oklahoma Agricultural Leadership Program and the Family Community Leadership Program.

Goal 3: Increase Educational and Technical Assistance for Development of Community Services and Facilities

Recommendations:

1. Provide budget studies and research information to include educational, fire protection, emergency and other health and medical services, water and sewer services, and solid and hazardous waste disposal services.

PRIORITY AREA 6: ENHANCE THE QUALITY OF HUMAN LIFE

Quality of human life is enhanced through physical wellness; spiritual, social, economic, and emotional well-being; intellectual opportunities; and a supportive environment. Perceived quality of life affects the way individuals view themselves and their roles in families, communities, and the state. Enhanced quality of life interfaces with, and overlaps, other Division priorities such as human resource development, rural revitalization, profitability and sustainability of agriculture, and enhancing scientific inquiry.

The Division's extension education programs for at-risk rural and urban youth and adults are important priority areas. Increased emphasis will be given to programs addressing teen pregnancy, child abuse, and poverty as they relate to maternal and child health and infant mortality. Adult program needs include access to and the ability to make astute decisions about adequate health care, aging, dependent care, community services, job preparation and the generation of income opportunities. Educational needs of at-risk families include programs in parenting, resource development, resource management and skills for the transition from welfare to work.

Health conscious consumers and research findings on lifestyle-related illnesses have increased the need of, and the demand for, food safety programs, and other nutrition and health education. With the new Oklahoma Food and Agricultural Products Research and Technology Center on line, increased emphasis will be given to increasing the economic value and safety of food products for industries in Oklahoma.

The planned development of community facilities and land use patterns can greatly enhance the desirability of communities as places to live and work. With priority given to formal and nonformal education, citizens can promote compatible land use development patterns throughout Oklahoma.

The Division is uniquely positioned to address these issues through research, extension, and collaborative efforts with other OSU colleges and the OSU Wellness Center. Partnerships with state agencies and other organizations that share common goals will extend, coordinate, and enhance educational opportunities for Oklahomans. Education, in its many forms and

circumstances, is society's best hope for stimulating and bringing about changes to improve the quality of human life.

Goal 1: Improve Diet, Health, and Nutrition Throughout the Life Cycle

Recommendations:

1. Continue collaborative efforts of the DASNR faculty with the College of Human Environmental Sciences, the Wellness Center, and strengthen relationships with Oklahoma's medical and health community.
2. Develop targeted diet, nutrition, and health programs which increase knowledge and result in positive behavior changes throughout the life cycle.
3. Explore the impact of food recovery and gleaning on nutrition.

Goal 2: Improve Food Quality and Safety

Recommendations:

1. Develop new processes and genetically improved plants, animals, and micro-organisms to improve the nutrient and/or the biologically active components of foods.
2. Teach safe food-handling practices using Hazard Analysis Critical Control Point (HACCP) methods with emphasis on youth, the elderly, the food industry, and the food service industry.
3. Educate the public about the quality and safety of foods and food products emphasizing the role and responsibility of individuals and companies at each stage in the food chain to maintain quality and safety.
4. Design and implement programs for small and home-based businesses involved in food product development and hospitality.
5. Develop methods of producing, processing, and safely distributing foods to eliminate,

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reduce, and/or monitor toxicants

6. Assess effectiveness, benefits, risks, and claims of food additives and explore alternatives.
7. Provide research and technical resource support for the evaluation of the safety of Oklahoma food products.

Goal 3: Strengthen Individuals and Families by Addressing Critical Social and Economic Issues through Cooperative Extension Service Educational Programs

Recommendations:

1. Educate families and individuals about family financial management and resource development.
2. Develop programming to reach families having difficulty meeting basic needs such as housing, food, shelter, and clothing.
3. Increase the identification and delivery of parent and family education to at-risk families.
4. Increase consumer and public awareness of quality child care.
5. Organize and facilitate coalitions with other agencies and groups for program and policy development to serve the needs of clientele.
6. Promote welfare-to-work through education.

Goal 4: Strengthen the Capacity of Families and Communities to Meet the Needs of an Aging Population

Recommendations:

1. Provide programs emphasizing the importance of saving and investing for retirement.
2. Develop educational programs for older adults and family caregivers.

Goal 5: Promote Professional Planning and Subsequent Development of Recreational and Other Community Facilities in Oklahoma

Recommendations:

1. Promote the aesthetic appearance of natural and cultural landscapes in Oklahoma.
2. Promote the development of recreational businesses and facilities such as a golf courses, hunting and fishing camps, and bed and breakfast establishments.

3. Promote the establishment of attractive and compatible land use development patterns in Oklahoma communities.



PRIORITY AREA 7: ENHANCE OUR ABILITY TO MEET GREATER TULSA'S HIGHER EDUCATION PRIORITIES IN AGRICULTURE AND NATURAL RESOURCES

The establishment of OSU-Tulsa on January 1, 1999, presents many new opportunities and challenges. On or before July 1, 2001, programs leading to bachelor degrees from OSU delivered at OSU-Tulsa, will be developed. Further, the Graduate Center at Tulsa, which will include the establishment of a joint OSU/OU consortium for research, is proposed and program development is underway.

Development of undergraduate and graduate education programs and assorted research programs for OSU-Tulsa is a priority of the Division of Agricultural Sciences and Natural Resources. The Division will develop a comprehensive plan for Tulsa programs more quickly on those programs already in strong demand. The Division's goal for its Tulsa programming will be subject to frequent review, modification, and adjustment as we become more familiar with educational needs of the greater Tulsa area.

Goal 1: Initiate Planning for Division Programs in Tulsa

Recommendations:

1. Examine needs and develop opportunities for graduate education and research.
2. Examine needs and develop opportunities for undergraduate programs.
3. Develop facility and other resource needs associated with education and research opportunities. As appropriate, identify public and private partnerships in developing Tulsa-based programs.

Goal 2: Develop Specific Initiatives*

Recommendations:

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1. Develop program initiatives in:
 - a. Biotechnology and bioconversion engineering
 - b. Horticulture
 - c. Food science and technology
 - d. Precision agriculture/turf management

*These special initiatives were identified at the time of the plan's publication. It is anticipated that additional initiatives will be identified.

APPENDIX B

Northeast District DAC Needs and Issues Identification Agriculture

Pasture Management

- Improved brush and weed control
- Cost effectiveness of control measures
- Landscape level management techniques

Improved agricultural business management

- Profitability
- Financial, tax, and estate planning
- Direct marketing of agriculture commodities
- Use of futures and options - beef dairy and grains
- Computer and Internet training

Animal waste management

- Poultry litter

Development of alternative products, markets, and market arrangements

- Beef cattle
- Horticulture crops
- Soybeans

Alternative cattle grazing systems

- Improved winter feeding
- Reduced input systems
- Cool season grass usage
- Soil management

Urban encroachment

- Loss of agricultural acreage
- Changes in property rights
- Agricultural land values

Impacts on rural communities

Southwest District DAC Needs and Issues Identification Agriculture

Forage and Pasture Management

- Weed and brush control
- Cool season forages
- Alfalfa production

Beef cattle production and management

Alternative cropping systems
Dryland cropland

Agricultural marketing

- Hedging and futures markets including dairy, cattle, wheat
- Limited production products
- Value-added food and agricultural product industry development

Improved agricultural business management

- Estate planning
 - Producers exiting farming
 - Continuation of business
- Owning and leasing farm equipment
- Income tax management
- Computer use and Internet
- Understanding government programs

Alternative products, markets, and market arrangements

- Alliances and cattle marketing
- Horticulture products

Pesticide use

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Wheat production and management

- Reduced tillage

Urban horticulture and Master Gardener programs

Northwest District DAC Needs and Issues Identification Agriculture

Crop production and management

- Continue to conduct quality cooperator-based demonstration plots
- No-till cropping systems and residue management
- Production systems in a holistic framework
- Non-traditional crops including soybeans and cotton

Farm business management

- Market and financial risk
- Alternative market outlets
- Crop and livestock marketing
- Owning versus leasing of equipment
- Captive supplies, marketing alliances for livestock

Forage-livestock systems

- Stocker cattle
- Cool season grasses
- Sustainable and landscape level forage production systems
- Calf feedout demonstrations
- Grazing management

Horticulture programs

- Value added production and products
- Consumer horticulture, landscape and gardening

Farm Safety programs

- Youth programs

Southeast District DAC Needs and Issues Identification Agriculture

Marketing

- Means to retain value-added dollars on farm
- Partnerships and alliances
- Risk management and futures markets

Pasture and forage management

- Cool season and warm season grasses
- Nutrient management
- Animal waste application

Educational programs directed at general public

- Changing demographics of agriculture
- Changing property rights
- Urban encroachment
- Other agricultural issues

Post drought management

- Livestock reproduction
- Grass management
- Soil management

Forest and woodland production and management

- Private owners management
- Value-added products
- Systems incorporating other crops and livestock

Beef production and management

- Disease, health, parasite and fertility issues
- Organic and related beef production

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- Price risk management
- Nutrition and feed substitution

Alternative and value added products

- Organic products
- Wildlife management as value added product
- Hunting leases
- Alternative row crops

Pecan production

Southeast District DAC Needs and Issues Identification Agriculture (Continued)

Incorporating sustainable agriculture concepts into existing operation
Poultry production and litter management
Sustainable forage systems

Agribusiness, farm business management and financial management
Estate Planning
Protecting property rights
Record keeping and electronic information management
Use of Internet

1999 PAC Summaries from ALL Districts

Extension Educator's Impact Team: _____

FAMILY ECONOMIC WELL-BEING

Issues Identified:	Most Significant Problems Related to the Issues
<p>• MOST CRITICAL ISSUE</p> <p>Southeast District</p> <ul style="list-style-type: none"> • Debt problems and use/abuse of credit - Five Counties 	<ul style="list-style-type: none"> • Increased bankruptcy <ul style="list-style-type: none"> • Falling behind on credit card payments • Using one credit card to pay off another • High interest rates • Use of credit cards for groceries and basic necessities • Little or no savings • Increased stress on family members • Reluctance to ask for help unless in serious trouble

<p>Southwest District</p> <ul style="list-style-type: none"> • Debt problems and use/abuse of credit, including credit cards (13) 	<ul style="list-style-type: none"> • Easy access to credit
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<p>FAMILY ECONOMIC WELL-BEING (con't)</p> <p>Northeast District</p> <ul style="list-style-type: none"> • Debt problems and use/abuse of credit (10) 	<ul style="list-style-type: none"> • Increased debt • Increased bankruptcies • Insufficient saving • Poor money management practices (mismanagement) • Availability of credit to youth before understanding responsibility – developing poor spending habits • Use of high interest resources (rent to own, small loan companies, credit cards) 	<ul style="list-style-type: none"> • Fact sheets • Home study lessons • News articles • Videos • More on making choices • Programs on how to overcome barriers to communication regarding money • Job training, goal setting
<ul style="list-style-type: none"> • Northwest District <p>Declining Farm & Rural Business Income</p> <p>Debt Problems & Use/Abuse of Credit</p>	<ul style="list-style-type: none"> • Insufficient work/job opportunities (3) <ul style="list-style-type: none"> • Lack of entrepreneurial skills • Inadequate child care (2) • Insufficient work/job opportunities paying a living wage. • Farm families can't survive • Lack of medical Insurance • People moving to rural counties to receive higher payments • Additional expense to rural • Additional expense to rural but no additional taxes • Families being able to live on a fixed income • Shrinking rural economy 	<ul style="list-style-type: none"> • Extension Service needs to market our educational information to those who are seeking jobs, to increase their job skills and awareness • Will work with RD on this training for child care providers • Communication (Kid Time) • Workshop in "Better Use of Resources"

<p>FAMILY ECONOMIC WELL-BEING (con't)</p>	<ul style="list-style-type: none"> • Limited resource families need help with budgeting (3) <ul style="list-style-type: none"> • Behind on credit card payments (2) • Use of credit cards for groceries & necessities (2) • Limited skills for teaching children about money (4) • Living beyond your income • Use of high interest rates (2) • Down-sizing & debt (Housing payments) (2) • Increase in debt & bankruptcy filings • Poor financial planning • Too few quality paying jobs in rural areas • Decrease in farm product prices • Poor decision making skills • Use one credit card to pay off another credit card 	<p>of Financial Resources”</p> <ul style="list-style-type: none"> • Consumer credit counseling • Educational programs to help adults with money management • Reach kids while they are young • Youth & money (Children/youth the big spenders) • Workshops for youth on money management (lower elementary age) • Enrichment programs that can be used by teachers
<p>•SECOND MOST CRITICAL ISSUE</p> <p>Southeast District</p> <ul style="list-style-type: none"> • Living paycheck-to-paycheck - Three Counties 	<ul style="list-style-type: none"> • Unable to pay large infrequent bills such as car tags or insurance • No savings for major purchases or education • Lack of medical insurance 	<ul style="list-style-type: none"> • How to make more from what I get • Classes
<p>Southwest District</p> <ul style="list-style-type: none"> • Living paycheck to paycheck (5) 	<ul style="list-style-type: none"> • Shrinking rural economy 	<ul style="list-style-type: none"> • News articles • Videos • Budget education designed like O.N.E. program

<p>Northeast District</p> <ul style="list-style-type: none"> • Families living paycheck to paycheck (8) • Limited work skills and job readiness 	<ul style="list-style-type: none"> • Lack of communication about money issues • Credit too easily available • Youth with disposable income not learning about budgeting • Inability to plan and prepare financially for the future, retirement • Lack of medical insurance • Lack of positive work attitude • Lack of basic work skills and career preparation for youth • School failures • Low self-esteem 	<p>Money Management Program for the whole family</p> <p>Need for budgeting programs in school – how to market</p>
<ul style="list-style-type: none"> • Northwest District • Teaching financial management & responsibility to children & youth 	<ul style="list-style-type: none"> • Inexperienced in use of money <ul style="list-style-type: none"> • Negative effect of marketing by news media • The ability to get credit • Lack of high school education • Lack of positive work attitude • Insufficient work/job opportunities paying a living wage/no benefit • Insurance not affordable, do not understand importance of having insurance, medical, car • Paying too much rent • What a family can afford to pay for a home • Limited work skills use of computer technology <ul style="list-style-type: none"> • Increased availability & need to use electronic financial tools • Job readiness skills/career preparedness for 	<ul style="list-style-type: none"> • Program materials about insurance in Spanish • Home buyers workshop • Information to say it's OK for increased technology, to trust in it, to use it & to know that technology will continue to grow in the future. Who can provide this information? • Publications • Press Releases • Radio Spots

FAMILY ECONOMIC WELL-BEING (con't)	youth <ul style="list-style-type: none">• No or little savings• Poor planning for irregular expenses• Down-sizing or loss of overtime money• Landlord/tenant relations are strained• Lack of knowledge about rights• Living pay check to pay check	
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**1999 PAC Summaries
from ALL Districts**

Extension Educator's Impact Team: _____

FAMILY RESILIENCY

Issues Identified:	Most Significant Problems Related to the Issues	Extension Program Resources Needed
<p>• MOST CRITICAL ISSUE</p> <p>Southeast District</p> <ul style="list-style-type: none"> • Inadequate Parenting Skills - Eleven Counties 	<ul style="list-style-type: none"> • Single/divorced parents <ul style="list-style-type: none"> • Effects of divorce on teens/children • Poverty • Teen pregnancy/parents • First time parents • Parenting skills for grandparents • Low self-esteem/achievement in children • Lack of parental involvement • Stress 	<ul style="list-style-type: none"> • Parenting classes • Fact sheets • Public service announcements • Inserts for bills/statements
<p><u>Southwest District</u></p> <ul style="list-style-type: none"> • Elderly care, fraud and abuse (11) 	<ul style="list-style-type: none"> • Violent environments(7) 	<ul style="list-style-type: none"> • Home Study Lessons • Fact Sheets

		<ul style="list-style-type: none">• News articles• Newsletters Flyers Programs on budgeting for Long Term care• Materials on options available for eldercare
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FAMILY RESILIENCY (con't)

<p>Northeast District</p> <ul style="list-style-type: none"> • Child abuse and neglect (10) 	<ul style="list-style-type: none"> • Adolescent/teen pregnancy and parenting skills • Inappropriate discipline • Parenting under stress • Low self-esteem • Poverty • Family Violence • Drug use • Children taking care of themselves 	<ul style="list-style-type: none"> • Continued parenting in-services and materials • Anger management • Conflict resolution • Packaged programs • Newsletter material, fact sheets
	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> •
<p><u>Northwest District</u></p> <ul style="list-style-type: none"> • Parenting Under Stress 	<ul style="list-style-type: none"> • Single Parents <ul style="list-style-type: none"> • Divorcing Parents • Substance Abuse parents • Grandparents raising Grandchildren (2) • Teaching children decision making skills • Discipline methods • Sandwich generation • Step Parents • Quality Child Care (2) • School Failure/lack of parent support & involvement • Communication problems • Expectations & Inappropriate discipline methods • Rebellious children 	<ul style="list-style-type: none"> • Kid Time (2) • Co-Parenting Through Divorce • Parenting classes at drug abuse treatment center. • Positive Discipline Workshops • Educational programs that allow for one on one assistance to parents • First time parents training • Parenting programs • Press releases • Radio Programs • School enrichment

	<ul style="list-style-type: none">• Lack of family time – Too Busy• Children do not have attention span in school then they cause trouble for the teachers and keep other students from learning• Rebellious children-juvenile crime• Child Care for children of employees working evening, nights, or weekend hours	<ul style="list-style-type: none">• Family living spec. & resources (Fact Sheets) are needed in today's world. The "Community" needs education in parenting
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FAMILY RESILIENCY (con't)

<p>•SECOND MOST CRITICAL ISSUE</p> <p>Southeast District</p> <p>Child Abuse and Neglect - Six Counties</p>	<ul style="list-style-type: none"> • Inability to deal with stress • Low self-esteem • Violence • School failure • Depression • High numbers of child abuse cases • Educate divorcing parents to co-parent 	<ul style="list-style-type: none"> • Classes on stress/problem solving • Co-parenting classes • Healthy Families programs • Parenting classes • Fact sheets and printed resources
<p><u>Southwest District</u></p> <ul style="list-style-type: none"> • Child Abuse and Neglect (9) 	<ul style="list-style-type: none"> • Divorce (7) • Stress (8) 	<ul style="list-style-type: none"> • Packaged programs • Information on how to design an adult day care center or home. Awareness materials • Displays

FAMILY RESILIENCY (con't)

<p>Northeast District</p> <ul style="list-style-type: none"> • Inadequate parenting skills (9) • Care of the Elderly (6) 	<ul style="list-style-type: none"> • Need for parenting and co-parenting • Divorce, single parenting, step-parents, blended families • Parenting skills for Grandparents • Need for trained caregivers • Elder abuse • Health Care Fraud • Lack of local support services • Middle age people caring for multiple generations 	<ul style="list-style-type: none"> • Continued support for programs such as Healthy Families • Parent info on Grandparents as intergenerational communication <ul style="list-style-type: none"> • More materials for working with single parents, step-parents, blended families • Programs for caregivers • Grief education
<p>Northwest District</p> <ul style="list-style-type: none"> • Child Abuse and Neglect 	<ul style="list-style-type: none"> • Dress for Success <ul style="list-style-type: none"> • Lack of quality childcare (2) • Training Child Care Staff • Low self esteem (2) • Parenting under stress • Violence/Violent Environment • Inappropriate discipline techniques • Divorce & it's effects (2) • Not being taught character, morals • Peer pressure • Work/family stress • Out of school days & after school care 	<ul style="list-style-type: none"> • Parenting University • Training in violence in the media • Healthy Families <ul style="list-style-type: none"> • Programs for Child care providers • Training for TANF clients

	<ul style="list-style-type: none">• Parents do not want to be bothered with their children as both parents are usually working out of the home	
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1999 PAC Summaries from ALL Districts

Extension Educator's Impact Team: _____

NUTRITION, HEALTH, AND WELLNESS

Issues Identified:	Most Significant Problems Related to the Issues	Extension Program Resources Needed
<p>• MOST CRITICAL ISSUE</p> <p>Southeast District</p> <p>Fewer Americans are consuming a diet that promotes health - Eleven Counties</p>	<ul style="list-style-type: none"> • Over-consumption of fast foods <ul style="list-style-type: none"> • People are developing diseases associated with poor nutrition at earlier ages • Reaching the audience that would most benefit • Lack of basic nutrition knowledge/cooking skills 	<ul style="list-style-type: none"> • CNEP support • Fact sheets • Nutrition/cooking skills classes • Expand ONE & EFNEP • In-services • News articles • News letters

NUTRITION, HEALTH, AND WELLNESS (con't)

<p>Southwest District</p> <ul style="list-style-type: none"> • Fewer Americans are consuming a diet that promotes health (6) 	<ul style="list-style-type: none"> • Over-consumption of fast and convenience foods. • Lack of physical activity 	<ul style="list-style-type: none"> • Classes on food safety training for cooks and wait staff, fact sheets, home study lessons, news articles, flyers, materials in Spanish, Videos
<p style="text-align: center;"><u>Northeast District</u></p> <ul style="list-style-type: none"> • Increased incidence of overweight and obesity – nine (9) counties 	<ul style="list-style-type: none"> • Increased consumption of fast food/junk food. • Overweight children and adults • Less physically active people • Relationship of diet and disease • Obesity, diabetes, heart disease • Increased consumption and reliance on convenience foods 	<ul style="list-style-type: none"> • More healthy living/active living • News releases • Displays/display ideas <ul style="list-style-type: none"> • Short, catchy, effective messages and program delivery ideas • Better marketing techniques for current curriculums <ul style="list-style-type: none"> •

NUTRITION, HEALTH, AND WELLNESS (con't)

<ul style="list-style-type: none"> • Northwest District <ul style="list-style-type: none"> • Fewer Americans are consuming a diet that promotes health 	<ul style="list-style-type: none"> • People don't understand or practice good food selection (3) <ul style="list-style-type: none"> • People lack the desire and motivation to improve eating habits (3) • Time & economic constraints affect food choices negatively (5) • Over consumption of empty calories • Too little physical activity • Food contamination • Poor food sanitation in the home • Over consumption of fast foods (3) • Lack of healthy food selections • Increased incidence of food-borne illnesses • Lack of regulations • People have become less physically active (4) <ul style="list-style-type: none"> • Poor health & disease related to diets • Families lack the skill of managing their food resources in order to feed their family adequately for the month • Athletic nutrition Ed • Generation being raised with little knowledge on preparation of foods 	<ul style="list-style-type: none"> • Educational programs that help people to eat healthy for their lifestyle • Diabetes awareness/education is needed, from all possible sources. Prevention & education is the key to dealing with this soon to be chronic disease. • ONE Program <ul style="list-style-type: none"> • SNAP-resources for pre-school children & adults • Educational resources to address this concern, not hidden in the Keys to Successful Life Choices Program, but fact sheets dealing with the economics of making food choices is needed. Collaboration from specialists for fact sheets would be useful to our citizens. <ul style="list-style-type: none"> • Basic cooking classes • Food preservation classes & food safety • School enrichment • Newsletters • 4-H Programs • grocery Store flyers
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NUTRITION, HEALTH, AND WELLNESS (con't)

<p>•SECOND MOST CRITICAL ISSUE</p> <p>Southeast District</p> <p>Increased incidence overweight/obesity - Seven Counties</p>	<ul style="list-style-type: none"> • Low self-esteem • Increased health problems • Diseases not being helped with proper diet/special diets • People do not understand or practice healthy food selection • Sedentary life style • Eating fast foods • Parents not aware of effects foods have on their children's health 	<ul style="list-style-type: none"> • Curriculum on weight control/exercise <ul style="list-style-type: none"> • Classes on health risks associated with obesity/inactivity • More training in the special diets area • Information on feeding children
<p><u>Southwest District</u></p> <ul style="list-style-type: none"> • Increased incidence of overweight/obesity (6) • Food safety and sanitation (6) 	<ul style="list-style-type: none"> • Increased food contamination away from home such as restaurants, supermarkets, farmer's markets, covered dish meals, homes, etc. 	<ul style="list-style-type: none"> • Develop training materials that could be used by state agencies/others. <ul style="list-style-type: none"> • Additional paraprofessionals • Worksite programs. • Printed materials with special attention given to the dietary challenges of American Indians.

		<ul style="list-style-type: none"> Adapt Oklahoma Food Safe program in certification program for high school students.
<p>Northeast District</p> <ul style="list-style-type: none"> Fewer Americans consuming a diet that promotes health – seven (7) counties Rising incidence of food borne illnesses – five (5) counties 	<ul style="list-style-type: none"> Lack of knowledge of basic nutrition Lack of food preparation skills Families lacking skills in managing their food resources Poor sanitation practices in the home Lack of training in food safety 	<ul style="list-style-type: none"> Continued updates on basic nutrition and food preparation How to manage food resources <ul style="list-style-type: none"> Low cost/no cost meal planning Update of food safety regulations More “Fight BAC” material
<p>Northwest District</p> <ul style="list-style-type: none"> Seniors Are At Risk 	<ul style="list-style-type: none"> Drug Costs <ul style="list-style-type: none"> Drug interactions Proper dosage Nutrition & Health Education Living on a budget Elderly isolation due to lack of resources 	<ul style="list-style-type: none"> Add to mailing lists to “Sr. News”

1999 PAC Summaries from ALL Districts

Extension Educator's Impact Team: _____

POLICY/LEADERSHIP

Issues Identified:	Most Significant Problems Related to the Issues	Extension Program Resources Needed
<p>• MOST CRITICAL ISSUE</p> <p>Southeast District</p> <ul style="list-style-type: none"> • Citizen empowerment and involvement - Nine Counties 	<ul style="list-style-type: none"> • Apathy <ul style="list-style-type: none"> • Lack of leadership training • Lack of understanding the issues • Lack of participation to define public problems and seek solutions • Lack of constituent input in legislative process • Lack of networking among agencies • Parents not involved 	<ul style="list-style-type: none"> • Leadership training curriculum • Programs dealing with involvement of parents • OCES involvement at the state capital
<p>Southwest District</p>	<ul style="list-style-type: none"> • Insufficient numbers of citizens willing 	<ul style="list-style-type: none"> • Home study lessons

<ul style="list-style-type: none"> • Lack of citizen involvement (13) 	<p>to take leadership roles (9)</p>	<p>fact sheets</p>
<p>Northeast District</p> <ul style="list-style-type: none"> • Citizen empowerment and involvement (10) 	<ul style="list-style-type: none"> • Lack of participation, knowledge to define public problems • Citizen apathy • Lack of knowledge on how to be an effective advocate • Lack of understanding of issues by citizens and decision makers • Lack of participation in elections 	<ul style="list-style-type: none"> • How to actively involve 4-H/youth • How to develop political support

POLICY/LEADERSHIP (con't)

<ul style="list-style-type: none"> • Northwest District <ul style="list-style-type: none"> • Community Leadership 	<ul style="list-style-type: none"> • People not willing to get involved in local elections, offices, school board (4) <ul style="list-style-type: none"> • Lack of parenting to teach importance of citizenship, leadership • Youth are not willing to get involved (2) • Finding a way to get nontraditional youth into programs • A feeling of helplessness “I can’t make a difference” (4) • Inadequate mentoring of youth & adults to maintain a legacy of leadership (2) • Burnout • Organization skills • Time management • Lack of knowledge for leadership • Number of individuals in leadership roles 	<ul style="list-style-type: none"> • Survey/poll to find interest of youth <ul style="list-style-type: none"> • Training to identify & recruit volunteers • Develop a leadership mentoring program • Policy/Leadership specialists on the state level could prepare state issues/concerns mass media releases to explain important issues/concerns affecting citizens in Oklahoma, in an objective and informational format. This would help our citizens be informed voters. • Literacy & the encouragement of literacy from all sources throughout the Extension Service could affect our leaders of tommor. Volunteers (FCE) could be encouraged to assist with voter registration/tomorrow.
<p>•SECOND MOST CRITICAL ISSUE</p> <p><u>Southeast District</u></p>		

<ul style="list-style-type: none"> Community Leadership - Six Counties <p>POLICY/LEADERSHIP (con't)</p>	<ul style="list-style-type: none"> People not willing to volunteer/take leadership roles <ul style="list-style-type: none"> Apathy Inadequate leadership development/training Lack of youth involved in leadership Lack of volunteerism is creating a lack of leadership on committees, elected positions, etc. Feeling of helplessness/lack of time 	<ul style="list-style-type: none"> Provide leadership training Leadership training curriculum Fact sheets
<p>Southwest District</p> <ul style="list-style-type: none"> Community Leadership (10) 		<ul style="list-style-type: none"> News Articles
<p>Northeast District</p> <ul style="list-style-type: none"> Need for stronger community leadership (8) 	<ul style="list-style-type: none"> Not feeling connected to the community Adult involvement in encouraging youth to become responsible citizens Declining citizen involvement in adequate mentoring of youth and adults to maintain legacy of leadership Not providing youth with opportunities to develop citizenship and leadership 	<ul style="list-style-type: none"> Volunteer opportunities Info on developing and supporting mentoring opportunities Leadership curriculum and training
<p>Northwest District • SECOND MOST CRITICAL ISSUE Citizen empowerment & involvement (6)</p>	<ul style="list-style-type: none"> Citizen apathy (2) <ul style="list-style-type: none"> Lack of participation to define public problems & seek solutions (2) Citizen concerns about ethics in leadership 	

	<p>& government</p> <ul style="list-style-type: none">• Ethics• Everyone is working• Families are crunched for time• Failure to see importance of parental leadership• Educational level• Poor voter turnout• Lack of understanding of issues• Loss of interest in civic clubs—Ambucs, FCE, etc.• Lack of constituent input in legislative process	
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APPENDIX C

