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UNIVERSITY OF MARYLAND

COLLEGE OF AGRICULTURE AND NATURAL RESOURCES ♦ OFFICE OF THE DEAN

July 14, 1999

George Cooper, Director
USDA-CSREES, Partnership Office
800 9th St., SW, Suite 400
Washington, DC 20024

c/o Bart Hewitt

Dear Sir:

Please find attached a Joint Plan of Work for Maryland Cooperative Extension, Maryland Agricultural Experiment Station and Maryland's 1890 Research and Extension Programs as required by the Agricultural Research, Extension and Education Reform Act of 1998.

The document is submitted as an original, two copies and a reference URL for web access to the HTML document. The document may be found at:

<http://www.agnr.umd.edu/intranet/plan99/powoutline.htm>

We look forward to working with CSREES as the review of this document proceeds.

Sincerely,

Handwritten signature of Thomas A. Fretz in black ink.

Thomas A. Fretz
Dean
College of Agriculture & Natural Resources
UMCP

Handwritten signature of Carolyn B. Brooks in black ink.

Carolyn B. Brooks
Dean
School of Agriculture & Natural Sciences
UMES

Attachment

MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK

Submitted to
United States Department of Agriculture
Cooperative State Reserch, Extension and Education Service
Partnership Office

under requirement of the
Agricultural Research, Extension and Education Reform Act of 1998

July 15, 1999

by

Maryland Cooperative Extension
Maryland Agricultural Experiment Station

College of Agriculture and Natural Resources
University of Maryland
College Park, MD 20742

School of Agricultural and Natural Sciences
University of Maryland Eastern Shore
Princess Anne, MD

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This document exists electronically only as an html document and is located at the following URL:

<http://www.agnr.umd.edu/intranet/plan99/powoutline.htm>

No traditional typed document was created.

MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK

(University of Maryland and University of Maryland Eastern Shore)

Introduction

The Land-grant Universities of Maryland have developed this document as the Maryland Joint Extension and Research Plan of Work. The Plan of Work is the mutual efforts of the **College of Agriculture and Natural Resources, University of Maryland, College Park (UMCP)**, and the **School of Agricultural and Natural Sciences, University of Maryland Eastern Shore (UMES)**. The Plan of Work represents a portion of the planned efforts of these two institutions through the Maryland Agricultural Research Station, Maryland Cooperative Extension and the 1890 research programs at UMES. Maryland Cooperative Extension is a joint effort of the two institutions.

This Plan of Work is submitted in compliance with the Agricultural Research, Extension and Education Reform Act of 1998.

The Plan of Work covers efforts funded under US Department of Agriculture "formula funding" as Sections 3(b)(1) and 3(c)(1) of the Smith-Lever Act of 1914 as amended, and under Section 1444 of National Agriculture Research, Extension, and Teaching Policy Act of 1977 (NARETPA), Sections 3(c)(1), 3(c)(2) and 3(c)(3) of the Hatch Act of 1887 as amended and under Section 1445 of National Agriculture Research, Extension, and Teaching Policy Act of 1977 (NARETPA).

Additional funding from state, county and other sources are not explicitly accounted in this plan.

This document is submitted as a series of linked HTML files and is made available to the CSREES only in printed form, computer disk form and at the linked Web site. Others may gain access at the linked Web site. The document is dynamic and may be modified from time to time.

The following individuals are primary participants in the development of this Plan:

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Director, Maryland Agricultural Experiment Station
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MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK
(University of Maryland and University of Maryland Eastern Shore)

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MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK (University of Maryland and University of Maryland Eastern Shore)

Organization of Plan

Maryland's Land-Grant institutions have chosen to submit one plan of work to cover the following programs which receive funding from USDA under the Hatch, Smith-Lever and related acts:

Maryland Cooperative Extension

University of Maryland, College Park
University of Maryland Eastern Shore

Maryland Agricultural Experiment Station

University of Maryland, College Park

School of Agricultural and Natural Sciences Research and Academic Programs

University of Maryland Eastern Shore

Basis of Organization

To introduce this plan and to provide a link to the issues of importance to the US Department of Agriculture, Maryland has developed a statement of **Critical Issues for Maryland**.

The Plan of Work is organized to conform with the USDA Research, Extension and Education strategic planning goals which examine five areas of critical interest to the development of American agriculture and the communities from which it gains support.

These goals which are the **Central Components of the Plan** are:

Goal 1. To achieve an agricultural production system that is highly competitive in the global economy.

Goal 2. A safe, secure food and fiber system

Goal 3. A healthy, well-nourished population

Goal 4. Achieve greater harmony (balance) between agriculture and the environment

Goal 5. Enhance economic opportunity and quality of life for Americans

Maryland's response to these goals is outlined in a section for each goal. These sections provide a situation statement and a list of specific responses for each goal. The specific responses are formed into a statement sheet which provides critical information on the expected outcomes and indicators for each response. These statements also carry information about specific internal and external collaborations. A single table provides a summary of the **resource commitments by the institutions filing this plan of work**.

Plan for Stakeholder Input

The University of Maryland, College Park, and the University of Maryland Eastern Shore have developed a **Plan for Stakeholder Input**. This process is devised to utilize input currently received on a continuous basis by existing stakeholder groups as well as to start several additional stakeholder input initiatives.

Collaboration with Institutions in Other States

Maryland as a member of several important associations of research and extension institutions that help form the basis for the communications necessary to provide a strong commitment to multi-state research and extension efforts. Maryland participating universities have been very successful with multi-state efforts and plan to continue and enhance such efforts. A brief **Report of Multi-state Cooperation** is included in the plan.

Cooperation between Research and Extension

Efforts to cooperate in research and extension efforts in Maryland are important to providing the link necessary to develop significant impacts on the critical issues identified for the state.

Multi-county Extension Programs

Maryland Cooperative Extension has developed several arrangements for multi-county extension education programs over the past 20 years. These resulted somewhat from cutbacks in funding from both federal and state sources in the past 10 years. These results are discussed in a short section titled **Multi-county Extension Programs**.

Review Process

Merit Review for Extension education programs is provided in outline form for this initial planning effort.

A discussion of Peer Review for Research programs is also provided in the **Review Process** section.

Web Development

This document was developed using the WWW to facilitate the interaction among the participating organizations and to provide a consistent method for updating the plan which is viewed as a working document. This document was developed entirely as a WWW document and can be located at the following URL: <http://www.agnr.umd.edu/intranet/mce/plan99/powoutline.htm>

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MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK (University of Maryland and University of Maryland Eastern Shore)

Critical Issues for Maryland

The Chesapeake Bay is the largest estuary in the United States. Thus, the quality of the environment, and quantity of crab, oyster, rockfish harvests, and recreational facilities are of concern to Maryland residents. The bay, however, is under siege from the pressures of increasing population, and agricultural, residential, and industrial pollution. The recent outbreak of *Pfisteria piscida* that caused fish kills in the bay area is just one example. Public officials, educators and local citizens are faced with the challenge of attempting to understand, and successfully manage land-use changes resulting from population explosion and pollution. These changes have a major impact on agriculture which is a major Maryland industry. A strong agriculture will continue to be needed to provide the world's food supply as we move into the next millennium. Producers must be prepared to respond to new challenges and take advantage of opportunities for new markets, new relationships and new technological advances.

Conflicting reports about the risks associated with various foods have consumers asking to be reassured about the safety and quality of our food supply. The President's Food Safety Initiative and Hazard Analysis Critical Control Points (HACCP) emphasize the need for improved food safety from farm to table. Agriculture and related discipline scientists and educators, therefore, are faced with the awesome challenge of providing farmers with the income warranted, while ensuring that its food products are safe, and that the state's natural resources do not suffer from practices used to produce the food, fiber, and other necessary products.

Health concerns associated with diet and nutrition are pervasive as the nation assesses its citizens' health. Diet and inactivity are related to the top five leading causes of death in Maryland. Given that cardiovascular disease accounts for 35 percent of the deaths, and cancer 25 percent, both with strong dietary risk factors, it becomes clear that consumers need integrated food and nutrition education. This education must address the interaction of nutrition, diet, fitness, and lifestyle issues to be effective in reducing chronic disease risk. Individual groups affected most by these dietary related problems include elderly, ethnic minorities, youth, and food insecure individuals.

Maryland is a diverse state in many ways including geography, demographics, and size of community. Its long history is reflected in its communities, both large and small. Strategies for strengthening strong communities and revitalizing weaker ones are essential to the quality of life in Maryland. Quality of life requires strong families as well as strong communities. Our youth need both for healthy growth and development. All Maryland residents, rural and urban of all ages, races, ethnicity and economic groups deserve opportunities to build strong families and communities.

Maryland extension, research, and academic programs are designed to address these challenges. The Maryland Cooperative Extension (MCE) is one integral organization comprised of persons and resources from the University of Maryland in College Park (UMCP) and the University of Maryland on the Eastern Shore (UMES), the 1862 and 1890 land-grant institutions. Research efforts include collaborative projects of scientists from UMCP and UMES including those through the Maryland Agricultural Experiment Station. Multi-state partnerships are established with other universities and collaborations are in place with public and private sector organizations.

Stakeholder Input into Critical Issues

Stakeholder input into this Plan of Work comes through several sources.

The College of Agriculture and Natural Resources (UMCP) utilizes an **Advisory Council** consisting of a broad cross-section of agricultural industry leaders to provide input on major directions for the College's research, teaching and extension agenda. The Advisory Council meets periodically to discuss rising issues in the State.

The administrative officers of the Maryland Agricultural Experiment Station and Maryland Cooperative Extension set on and attend a wide array of committees with the State's agricultural leaders. Such continuous contact with the agricultural leadership including the Maryland Secretaries of Agriculture, Natural Resources and Environment provides additional contact to keep research and education issues examined by the research and extension in the State's two land grant universities current. The groups include the Maryland Agricultural Commission, the Maryland Grain Producers Association, the Delmarva Poultry Industry, the Southern Maryland Agriculture Commission, the Maryland Association of Soil Conservation Districts and many other similar groups.

In the development of a state plan of work in 1997, Maryland Cooperative Extension engaged conversation with a large number of its faculty and staff. This input sought to determine from their perspective the needs of local clients both in the then current education climate and in the five years that followed.

This exercise in planning resulted in a document titled **Outcomes 2000: A Framework for Our Future**. This document is a major source of input into this document. Faculty and staff input was not the only source of input as Outcomes 2002 was developed. The document when in draft form was shared with the Maryland **Extension Advisor Council** which is comprised of a community member from each county in Maryland. These citizens were instrumental in providing additional input that solidified the final form of the report. Their input was valuable in setting programming priorities for future Maryland Cooperative Extension (UMCP and UMES combined) programs. In addition, this document was shared with the College's **Advisory Council** for additional input.

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MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK
(University of Maryland and University of Maryland Eastern Shore)

Central Components of the Plan

- **Resources Matrix**

- **Goal 1** *To achieve an agricultural production system that is highly competitive in the global economy.*
- **Goal 2** *A safe, secure food and fiber system.*
- **Goal 3** *A healthy, well-nourished population.*
- **Goal 4** *Achieve greater harmony (balance) between agriculture and the environment.*
- **Goal 5** *Enhanced economic opportunity and quality of life for Americans.*
- **Appendix** *Specific project statements are included in an appendix to the main state plan of work. This appendix is available on the WWW site, but is not included as a part of the Plan of Work document submitted to USDA/CSREES. Projects described in the Appendix are specific to the general plan as described above.*

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MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK
(University of Maryland and University of Maryland Eastern Shore)

Resource Commitments

		Multi- Institutional Research	Multi- Institutional Extension	Extension/ Research	Multi-State Research	Multi-State Extension	Grand Totals
Goal 1	FTE		5.6	47.8	2.8	12.3	
	Budget		\$500,508	\$4,004,785	\$401,990	\$194,332	
Goal 2	FTE		.9	11.0	.3	1.9	
	Budget		\$100,102	\$1,243,286	\$60,000	\$88,333	
Goal 3	FTE		.9	11.85	2.3	2.1	
	Budget		\$100,102	\$1,404,528	\$174,856	\$100,110	
Goal 4	FTE		1.7	20.25	3.9	3.8	
	Budget		\$200,203	\$2,064,000	\$794,114	\$100,550	
Goal 5	FTE		3.4	22.5	.5	7.3	
	Budget		\$200,203	\$1,379,918	\$53,154	\$105,559	
Total	FTE		1.5	113.4	9.8	27.4	163.1
Total	Budget		\$1,101,118	\$10,096,517	\$1,484,114	\$588,884	\$13,270,633

Sources:

Maryland Cooperative Extension
Maryland Agricultural Experiment Station
School of Agricultural and Natural Sciences, University of Maryland Eastern Shore

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PROJECT/PROGRAM PLAN, 2000 - 2004
MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK
(University of Maryland and University of Maryland Eastern Shore)

REE Goal 1

To achieve an agricultural production system that is highly competitive in the global economy.

- **Situation Statement**

There are 13,000 farms in Maryland, covering 2.1 million acres; 1.5 million acres are devoted to crops. Total land area in Maryland is 6.7 million acres. Maryland farms are typically small and their land is expensive. With 162 acres, the average farm in Maryland is the 10th smallest in the nation. The estimated market value of land and buildings per acre is \$2,911, the fifth most expensive in the nation. Even though Maryland has one of the most progressive Land Preservation Programs in the nation, three times more farmland is lost to development every year than is preserved. Between 1950 and 1997, the number of farms and acres of farmland has fallen 66 percent and 51 percent, respectively.

Total annual gross farm income in Maryland averages 1.5 billion dollars. The important commodities are poultry and eggs, nursery and greenhouse (fastest growing industry), feed/food/oil crops, milk and dairy products, meat animals, vegetables, tobacco, and fruit. On average, the net income per farm in Maryland is \$20,000, while off-farm income averages \$20,000. Slightly more than half of the farmers describe farming as their principal occupation. A small percentage of producers account for the vast majority of agricultural sales. Farms with gross market sales exceeding \$100,000 represent 21 percent of Maryland farms by number, but their sales represent 86 percent of the total sales.

Maryland's principal agricultural advantage is location to markets. Grain farmers benefit from the poultry industry. Fruit, vegetable, dairy, beef, swine, horticultural products, and other specialty crops are sold to the five million people in the Washington-Baltimore region. The Port of Baltimore and Baltimore-Washington International Airport facilitate the export of products.

Maryland farmers are older and aging, reflecting a national trend. Maryland farmers average 53.9 years of age, compared to the U.S. average of 53.3. Their customers, Maryland citizens, demonstrate a strong tendency to purchase locally grown commodities and value-added products, support local farmers, and preserve open space. Maryland citizens want to preserve and protect such natural resources as the Chesapeake Bay, so environmental concerns about agriculture play an increasing and significant role in the operation of Maryland farms.

- **Primary Goals**

- Adopt management practices for agriculture production that improve profitability and increase efficiencies.
- Adopt improved farm business management and marketing practices.
- Increase the use of appropriate production and marketing strategies for high value products.
- Increase the investment in agricultural human capital.
- Facilitate informed debates of public issues concerning the neighborhood effects of agriculture, such as nuisance concerns and environmental impacts.

- Goal 1 - Appendix

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PROJECT/PROGRAM PLAN, 2000 – 2004

MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK

(University of Maryland and University of Maryland Eastern Shore)

Goal 1

Name: Adopt management practices for agricultural production that improve profitability and increase production efficiencies.

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research	X				
Extension	X				
Research/ Extension	X				
Multi-State	X				

Statement of Issue(s):

Maryland agriculture is affected by two major influences: the increasing number of people in the state (and resulting increase in the value of land) and concern for the environmental health of the Chesapeake Bay. Maryland has a diversified livestock and crop agriculture. Poultry continues to be the major component of agricultural income. Many farmers raise grain crops as feed for the poultry industry. Another group of farmers, located closer to the major population centers, have switched to high-value crops. Practices that improve profitability, marketing, management, and production are critically important to Maryland's agricultural producers.

Performance Goals(s):

Output Indicators:

1. Attendance at educational workshops, classes, etc.
2. Extension publications
3. Research publications
4. Professional presentations
5. Number of undergraduate and graduate students

Outcome Indicators:

1. Measurable changed behaviors
2. Adoption of research results
3. Impact statements

Note below for Source of Reporting Data

Key Program Components:

Farmers will:

1. Adopt best management practices for plant, poultry, and animals systems.
2. Choose farming systems based on productivity and environmentally sound decision-making models.
3. Better understand new technologies such as geographic information systems and biotechnology.

4. Optimize pasture and forage resources on the farm.
5. Practice economically sound alternatives to minimize the use of those agricultural practices that have the potential to degrade our natural resources.
6. Manage pasture properly, including nutrient management plans, for horses and other livestock on farmettes.

Internal and External Linkages:

1. Natural Resource Conservation Service
2. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
3. Maryland Department of Agriculture
4. USDA Beltsville Agriculture Research Center
5. Maryland commodity groups
6. Northeast land grant universities
7. U.S. land grant universities
8. Private industry
9. Non-profit groups
10. Maryland Cooperative Extension (UMCP and UMES)

Target Audiences:

1. Traditional agricultural producers
2. Small farmers
3. Limited resource farmers
4. Food distribution industry

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table

Source of Reporting Data:

Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators
Agriculture Experiment Station Research Projects – for research results:

- Metabolic relationships in the supply of nutrients for lactating cows
- Regulation of nutrient use in food-producing animals
- Advanced technology for the genetic improvement of poultry
- Spatial dynamics of leafhopper pests and their management in alfalfa
- Epidemiology and control of emerging strains of poultry respiratory disease agents
- Perennial Weeds
- Effects of density and social factors on level of disturbances and performance in broiler chicken
- Biophysical models for poultry production
- High density culture and raising of chickens may have negative impacts on growth

University of Maryland Eastern Shore – for research results:

- Enhancing health and safety through protective equipment.

MCE Focus Teams (UMCP and UMES) – for impact statements

- Dairy
- Cattle
- Poultry
- Ornamental Horticulture
- Vegetable and Fruit
- Grains and Soybeans
- Pasture and Forage

Return to Goal 1

PROJECT/PROGRAM PLAN, 2000 - 2004

MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK

(University of Maryland and University of Maryland Eastern Shore)

Goal 1

Name: Adopt improved farm business management and marketing practices.

	REE – Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research	X				
Extension	X				
Research/ Extension	X				
Multi-State	X				

Statement of Issue(s):

Good business management is critical for the financial soundness of a farm operation. Due to the competitive nature of agricultural production, farmers are always under pressure to produce at the lowest cost. Often times, they do not have sufficient record keeping systems to properly evaluate the financial health of specific enterprises and/or their farms. Many farmers are interested in pursuing these record keeping systems with computers. Related to the use of computers, is the spread of the Internet, which is a valuable source of information for farmers. Farm business decisions are also greatly affected by a myriad of state, local, and federal regulations. In addition to proper management practices, farmers are pursuing financial risk reduction through innovative marketing techniques and enterprise diversification.

Performance Goals(s):

Output Indicators:

1. Attendance at educational workshops, classes, etc.
2. Extension publications
3. Research publications
4. Professional presentations
5. Number of undergraduate and graduate students

Outcome Indicators:

1. Measurable changed behaviors
2. Adoption of research results
3. Impact statements

Note below for Source of Reporting Data

Key Program Components:

Farmers will:

1. Improve profitability, liquidity, solvency of farm operations through improved record-keeping systems, development of annual farm financial statements, and an increased ability to analyze and improve farm enterprises.
2. Establish markets for composted products.
3. Increase the use of information systems, such as automated production record keeping systems, spreadsheets, the Internet, and other computer management tools.
4. Improve long and short-term planning skills to enter or exit agriculture, enter new markets, change existing farm operations, or adjust to changing federal farm programs.
5. Properly manage agricultural enterprises through a better understanding of tax policies, federal programs, and other federal/state policies, such as land-use regulations.
6. Reduce financial risks through the increased use of forward pricing alternatives, such as futures and options contracts, crop insurance mechanisms, diversification of farm level enterprises, health care coverage and liability insurance alternatives.

Internal and External Linkages:

1. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
2. Maryland Department of Agriculture
3. Maryland commodity groups
4. Northeast land grant universities
5. U.S. land grant universities
6. Farm lending institutions
7. Private industry
8. Maryland commodity groups
9. Maryland Cooperative Extension (UMCP and UMES)

Target Audiences:

1. Traditional agricultural producers
2. Small farmers
3. Limited resource farmers
4. Agricultural input suppliers
5. Food distribution industry

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table

Source of Reporting Data:

Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators

Agriculture Experiment Station Research Projects – for research results:

- Taxes as a tool for environmental regulation
- The economic organization of agriculture in modern and traditional agriculture

MCE Focus Teams (UMCP and UMES) – for impact statements:

- Pro-Farm
- FSA Borrowers Financial Training

- Computer, Internet, and Software instruction
- Financial Record keeping
- Tax Planning
- Grain Marketing
- Dairy Marketing

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PROJECT/PROGRAM PLAN, 2000 - 2004

MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK

(University of Maryland and University of Maryland Eastern Shore)

Goal 1

Name: Increase the use of appropriate production and marketing strategies for high value products.

	REE – Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research	X				
Extension	X				
Research/ Extension	X				
Multi-State	X				

Statement of Issue(s):

Population growth has more than doubled since 1950 in Maryland. With increased development, land prices have risen. The majority of Maryland producers farm on small acreage. They need to raise and market high-value crops to be economically viable. This large population has also provided tremendous markets for Maryland farmers. Increasingly, citizens are purchasing local farm products because of their interest in supporting rural Maryland communities and they perceive local produce to be of higher quality.

Performance Goals(s):

Output Indicators:

1. Attendance at educational workshops, classes, etc.
2. Extension publications
3. Research publications
4. Professional presentations
5. Number of undergraduate and graduate students

Outcome Indicators:

1. Measurable changed behaviors
2. Adoption of research results
3. Impact statements

Note below for Source of Reporting Data

Key Program Components:

Farmers will:

1. Increase their access to markets by profitably selling high-quality ornamental horticultural products, services, fruits, and vegetables and by better using direct marketing and direct wholesaling strategies.
2. Practice properly post-harvest handling techniques to increase product quality and improve market

access.

3. Add value and/or find new uses for traditional agricultural products, develop niche markets, and expand their participation in alternative enterprises.
4. Increase their economic bargaining power through cooperative input purchasing and marketing (with special interest for small and part-time farmers).

Internal and External Linkages:

1. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
2. Maryland Department of Agriculture
3. Maryland commodity groups
4. Northeast land grant universities
5. U.S. land grant universities
6. Private industry
7. Farmer cooperatives
8. Non-profit groups
9. Maryland Cooperative Extension (UMCP and UMES)

Target Audiences:

1. Traditional farmers
2. Small, part-time farmers
3. Limited resource farmers
4. Tobacco farmers wishing to transition to alternative crops

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table

Source of Reporting Data:

Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators

Agriculture Experiment Station Research Projects – for research results:

- Rootstock and interstem effects on pome and stone fruit trees
- Post-harvest physiology of fruits
- Determinants and impacts of changing patterns of vertical coordination in the food industry

MCE Focus Teams (UMCP and UMES) – for impact statements:

- Direct Marketing
- On-farm cheese production and marketing
- Organic Marketing
- Marketing Compost
- Post-Harvest Handling Focus Team
- Southern Maryland Regional Farmers= Markets
- Mt. Pride Meat Processing Cooperative
- Frederick County Part-time Farmer Cooperative
- Harford County Alternative Agriculture

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PROJECT/PROGRAM PLAN, 2000 - 2004

MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK

(University of Maryland and University of Maryland Eastern Shore)

Goal 1

Name: Increase the investment in agricultural human capital.

	REE – Goal 1	REE – Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research					
Extension	X				
Research/ Extension	X				
Multi-State	X				

Statement of Issue(s):

Similar to trends in the United States, the average age of farmers is increasing. Maryland's land prices are also the fifth highest in the nation. The value of farmers' retirement tends to be captured in the value of the land, not in traditional retirement accounts. Because of these factors, transferring land to the next farm generation, either through family inheritance or through farm sales, is difficult. There are not many opportunities for non-farm youth or farm employees to acquire the management skills associated with running a farm operation should they get the opportunity to operate a farm. Associated with the increasing age of farmers (fewer young farmers), there appears to be a leadership vacuum for the next generation of agricultural leaders.

Performance Goals(s):

Output Indicators:

1. Attendance at educational workshops, classes, etc.
2. Extension publications
3. Research publications
4. Professional presentations
5. Number of undergraduate and graduate students

Outcome Indicators:

1. Measurable changed behaviors
2. Adoption of research results
3. Impact statements

Note below for Source of Reporting Data

Key Program Components:

1. Farmers will have a better understand issues facing agriculture and improve their leadership skills, increasing the quality and number of farm leaders in rural communities.
2. Farmers will improve personnel and management skills so as to acquire, train, and retain labor,, and deal

effectively with labor laws and regulations.

3. Farm and non-farm youth will find business opportunities/internships so as to increase their participation in and understanding of agriculture.
4. Farm employees will increase their production and management skills so as to expand their opportunities for a viable career in agriculture.
5. Farm families will improve the transfer of management skills and resources form one generation to the next through he use of inter-generational business structure/management agreements and estate plans.

Internal and External Linkages:

1. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
2. Maryland Department of Agriculture
3. Maryland commodity groups
4. Northeast land grant universities
5. Private industry
6. Non-profit groups
7. Maryland Farm Bureau
8. Rural communities
9. Maryland Cooperative Extension (UMCP and UMES)

Target Audiences:

1. Farmers
2. Young farmers
3. Land-owners
4. Young people desiring to farm

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table

Source of Reporting Data:

Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators

MCE Focus Teams (UMCP and UMES) – for impact statements:

- LEAD Maryland
- Water Resources Leadership Initiative
- Pro-Farm Personnel Management
- FarmLink
- Estate Planning

Return to Goal 1

PROJECT/PROGRAM PLAN, 2000 - 2004
MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK
 (University of Maryland and University of Maryland Eastern Shore)

Goal 1

Name: Facilitate informed debates of public issues concerning the neighborhood effects of agriculture, such as nuisance concerns and environmental impacts.

	REE – Goal 1	REE – Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research	X				
Extension	X				
Research/ Extension	X				
Multi-State	X				

Statement of Issue(s):

The public is concerned about the environmental and nuisance (noise, smells) effects of agriculture in their neighborhoods. Farmers have been concerned about non-agricultural groups affecting their "right to farm." Providing accurate educational information is an important component for all citizens to be able to make important policy decisions about their communities.

Performance Goals(s):

Output Indicators:

1. Attendance at educational workshops, classes, etc.
2. Extension publications
3. Research publications
4. Professional presentations
5. Number of undergraduate and graduate students

Outcome Indicators:

1. Measurable changed behaviors
2. Adoption of research results
3. Impact statements

Note below for Source of Reporting Data

Key Program Components:

1. Citizens will increase their knowledge and effective involvement in community decisions, particularly those relating to agriculture, by participating in public issues education.
2. Citizens will improve their understanding of the role of agriculture in providing them a safe, affordable supply of food and fiber.
3. Public officials make better informed decisions about the neighborhood effects of agriculture by participating in public issues education.

Internal and External Linkages:

1. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.

2. Maryland Department of Agriculture
3. Local and state governments
4. Maryland commodity groups
5. Northeast land grant universities
6. Private industry
7. Non-profit groups
8. Maryland Cooperative Extension (UMCP and UMES)

Target Audiences:

1. Citizens concerned about the role of agriculture in Maryland
2. County governments
3. MCE faculty
4. Maryland Department of Agriculture
5. Maryland Department of Natural Resources
6. Internal Revenue Service

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table

Source of Reporting Data:

- Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators
- Agriculture Experiment Station Research Projects – for research results:
 - Land use, water quality, and the Chesapeake Bay
- MCE Focus Teams (UMCP and UMES) – for impact statements:
 - Public Issues Education
 - Food Safety Team
 - County Agricultural Conflict Resolution Committees

Return to Goal 1

PROJECT/PROGRAM PLAN, 2000 - 2004
MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK
(University of Maryland and University of Maryland Eastern Shore)

REE Goal 2

A safe, secure food and fiber system.

• **Situation Statement**

The existence of the President's Food Safety Initiative and Hazard Analysis Critical Control Points (HACCP) highlights the need to improve food safety at all points in the food production and distribution chain. Although few data are available specifically for Maryland, the issues in our state are similar to the national issues outlined in the Food Safety Initiative. These issues affect everyone from food producers and processors to retailers, food service handlers, and consumers.

HACCP is a systematic way of implementing preventative measures to ensure food safety and includes contamination prevention, detection, and ongoing monitoring. As a part of HACCP and new food safety inspection initiatives, rapid pathogen detection and food borne illness monitoring programs will be needed from the farm to the processing plant to the retailer. Model HACCP programs for these various clientele need to be available. Extension and Experiment Station research programs need to develop better pathogen detection and monitoring techniques. The HACCP, Good Manufacturing Practices (GMP), and Sanitation Standard Operating Procedures (SSOP) requirements must be met, but the average small to medium food producer, processor, direct marketer, distributor, and retailer in Maryland will need support and training to do so.

Consumers are frequently unaware of basic tenets of food safety: the importance of cooking and storage temperatures and the need to wash hands and utensils frequently. Consequently, as much as 50 percent of food borne illness is estimated to be caused by improper handling or preparation by the consumer.

• **Primary Goals**

- Decrease the number of Maryland citizens at risk for insufficient food availability to meet nutrient needs.
- Improve consumers' knowledge and practice of safe food handling.
- Improve the knowledge and practice of safe food production and handling by commercial and public food industry.

• Goal 2 - Appendix

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PROJECT/PROGRAM PLAN, 2000 - 2004

MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK

(University of Maryland and University of Maryland Eastern Shore)

Goal 2

Name: Decrease the number of Maryland citizens at risk for insufficient food availability to meet nutrient needs

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research					
Extension		X			
Research/ Extension					
Multi-State		X			

Statement of Issue(s):

Four key groups -- youth, ethnic minorities, elderly, and food insecure individuals (those who lack sufficient food resources to meet nutrient needs) -- are at special risk and merit specific attention in the programming developed to address issues involving diet and optimal health. Youth increasingly make food choices for themselves and family members and are in more out-of-home feeding situations. They comprise a key target audience because they can affect the whole family. Nutrition education programs must involve team nutrition and school lunch providers and consider youth peer educators.

Maryland is becoming more multi-ethnic, and Hispanic American and Asian American populations are growing rapidly. Ethnic groups (African Americans, Hispanic Americans, and Asian Americans) have a greater risk of developing some chronic diseases and, therefore, need culturally relevant diet and healthy lifestyle educational programming and materials. The growing elderly population is at increased risk of nutritional inadequacy, nutrient-drug interactions, and food insecurity due to the physiological, economic, and health changes that can come with aging. Rising levels of food insecurity increase the number of Maryland citizens at risk for inadequate nutrition. Changing federal welfare and nutritional intervention programs may decrease the "safety net" for low-income consumers, who generally lack the practical knowledge to stretch food resources by choosing and preparing low cost, high-quality foods. Programming for food-insecure groups needs to involve Team Nutrition, 4-H, the Expanded Food and Nutrition Education Program (EFNEP), the federal Women, Infants and Children program (WIC), and other appropriate partners.

Performance Goals(s):

Output Indicators:

1. Attendance at workshops, classes, demonstrations, etc.
2. Extension publications
3. Research publications

Outcome Indicators:

1. Measurable changed behaviors
2. Generation of research results
3. Impact statements

Key Program Components:

Food -insecure individuals will:

1. Choose low cost, nutritious foods.
2. Prepare nutritious meals for families using less expensive and less processed foods.
3. Have fewer low birthweight outcomes.

Internal and External Linkages:

1. Maryland Food Council
2. Department of Social Services
3. Maryland Department of Human Resources
4. School systems
5. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
6. Northeast land grant universities
7. U.S. land grant universities
8. Private industry
9. Non-profit groups
10. Maryland Cooperative Extension (UMCP and UMES)
11. Family and Consumer Sciences program and 4-H Youth Development program
12. Center for Poverty Solutions' Super Pantry Program
13. Maryland Food Bank, Capitol Food Bank

Target Audiences:

1. Traditional extension families
2. Expanded Food and Nutrition Education Program (EFNEP) participants
3. Limited resource families
4. Food distribution industry
5. Farmers' market merchants and consumers
6. Welfare-to-Work clients
7. WIC participants
8. Super Pantry participants, Maryland Food Bank and Capitol Food Bank participants

Program Duration: FY 2000 – 2004

Allocated Resources:

See Resource Table.

Source of Reporting Data:

1. Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators
2. EFNEP reporting system
3. MCE Focus Teams (UMCP and UMES) – for impact statements
4. Nutrition

Return to Goal 2

PROJECT/PROGRAM PLAN, 2000 - 2004

MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK

(University of Maryland and University of Maryland Eastern Shore)

Goal 2

Name: Improve consumers' knowledge and practice of safe food handling.

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research		X			
Extension		X			
Research/ Extension		X			
Multi-State		X			

Statement of Issue(s):

A large percentage of meals are now consumed away from home (at restaurants, picnics, barbecues, or take-out-to-eat) and contribute to the 10 million estimated cases of foodborne illnesses a year. "Voluntary" food service handlers in summer camps, fairs, church functions, and adult and child day care settings frequently have no training in safe food handling practices and sanitation and are increasingly sources of foodborne illness outbreaks. No standardized training is required for these food handlers in Maryland, and only one person per shift (the manager or supervisor) in commercial food service settings must have certified food safety training, which is provided through the National Restaurant Association or by Maryland Department of Health certified trainers. And even if they have received training in safe food handling, preparation, and sanitation practices, food service handlers in both commercial and volunteer settings do not always follow them.

Performance Goals(s):

Output Indicators:

1. Attendance at workshops and classes
2. Extension publications
3. Research publications
4. Number of students who join the UMES food science program
5. Number of students who take the certified food safety professional (CFSP) credential exam.

Outcome Indicators:

1. Measurable changed behaviors
2. Generation of research results
3. Impact statements

Key Program Components:

1. Identify proper food storage and preparation techniques.
2. Identify environmental issues relative to food safety
3. Increase the frequency of safe food handling practices and sanitation.
4. Follow proper food preservation techniques.

Internal and External Linkages:

1. Maryland Food Hospitality Education Foundation
2. Restaurant Association of Maryland
3. National Restaurant Association
4. Maryland Department of Health
5. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
6. Northeast land grant universities
7. U.S. land grant universities
8. Private industry
9. Non-profit groups
10. Maryland Cooperative Extension (UMCP and UMES)
11. Family and Consumer Sciences program, 4-H Youth Development program, and agriculture program.
12. USDA (FSIS and FNIC/NAL)

Target Audiences:

1. Traditional extension families
2. Expanded Food and Nutrition Education Program (EFNEP) participants
3. Limited resource families
4. Food distribution industry
5. Farmers' market merchants and consumers
6. Welfare-to-Work clients
7. WIC participants
8. Super Pantry participants, Maryland Food Bank and Capitol Food Bank participants
9. Restaurant workers
10. Food service workers at child care centers, nursing homes, schools
11. Volunteers at fairs, church dinners, community feasts
12. Partnership for Food Safety Education
13. County Health Departments and local sanitarians
14. UMES Department of Hotel and Restaurant Management

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table.

Source of Reporting Data:

1. Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators
2. University of Maryland Eastern Shore – for food safety academic program results
3. University of Maryland Eastern Shore – for research results:
 - Quality and safety of poultry and seafood products
4. MCE Focus Teams (UMCP and UMES) – for impact statements
 - Food Safety
 - Nutrition

Return to Goal 2

PROJECT/PROGRAM PLAN, 2000 - 2004

MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK

(University of Maryland and University of Maryland Eastern Shore)

Goal 2

Name: Improve the knowledge and practice of safe food production and handling by commercial and public food industry.

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research		X			
Extension		X			
Research/ Extension		X			
Multi-State		X			

Statement of Issue(s):

Food borne illness caused by pathogenic microorganisms has heightened concern about the safety of food. Developing methods to prevent pathogenic microorganisms associated with poultry and seafood products is a prime goal for UMES food science researchers. Also, HACCP training and other efforts to address safe food production and handling in the food industry are offered by MCE.

Performance Goals(s):

Output Indicators:

1. Attendance at workshops and classes
2. Extension publications
3. Research publications
4. Number of students who join the UMES food science program

Outcome Indicators:

1. Measurable changed behaviors
2. Generation of research results
3. Impact statements

Key Program Components:

Food producers, food processors, direct marketers, distributors, retailers, and commercial and voluntary food service handlers will

1. Initiate or increase their use of safe food handling practices such as Hazard Analysis Critical Control Points (HACCP), Good Manufacturing Practices (GMP), and Sanitation Standard Operating Procedures (SSOP).

Internal and External Linkages:

1. FDA, ARS, and UMES scientists will work together in evaluating research data

2. JIFSAN
3. University of Minnesota and UMES
4. Maryland Department of Health
5. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
6. Northeast land grant universities
7. U.S. land grant universities
8. Private industry
9. Non-profit groups
10. Maryland Cooperative Extension (UMCP and UMES)
11. Family and Consumer Sciences program, 4-H Youth Development program, and agriculture program.
12. USDA (FSIS and FNIC/NAL)

Target Audiences:

1. Food producers
2. Food processors
3. Institutional food service employees
4. University students
5. Food distribution industry
6. County Health Departments and local sanitarians

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table.

Source of Reporting Data:

1. Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators
2. University of Maryland Eastern Shore – for food safety academic program results
3. University of Maryland Eastern Shore – for research results:
 - Quality and safety of poultry and seafood products
4. MCE Focus Teams (UMCP and UMES) – for impact statements
 - Food Safety
 - Nutrition

Return to Goal 2

PROJECT/PROGRAM PLAN, 2000 - 2004
MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK
(University of Maryland and University of Maryland Eastern Shore)

REE Goal 3

A healthy, well-nourished population.

- **Situation Statement**

Research has indicated that there is a direct link between nutrition and good health. Healthy eating habits combined with active life-style can increase one's resistance to communicable diseases, reduce the risk of chronic disease, developmental disabilities, and infant mortality. The adage, "an ounce of prevention is worth a pound of cure", is very true in that the cost of treatments for medical problems brought about by improper/poor eating habits far exceed the cost of educating consumers, especially youth and elderly, about appropriate nutritional habits. There is a large body of scientific evidence showing that positive dietary and life-cycle changes are directly related to preventing disease and premature death, and to maintaining a high quality of life.

Given that habits and patterns of healthy living are formed during childhood and adolescence, it is important that higher education professionals (nutritionist, dietitians, and family and consumer science educators) forge partnerships with schools, families, communities, and social service agencies to promote positive attitudes and behaviors towards health. Several risk factors are known to affect one's commitment to healthy living including economic deprivation, neighborhood disintegration, poor family management practices, peer influence, low expectations for success, and academic failure. Therefore, it is imperative that higher education institutions develop a pool of human nutrition, family and consumer science professionals, and food scientists to work with Maryland's citizenry to improve their quality of life. According to the USDA's report "Employment Opportunities for College Graduates in Food and Agricultural Sciences", there is an annual shortage of 4 percent for dietitians and nutritionists. Demand for these workers will increase in relation to U.S. population growth with emphasis targeted for the rapidly expanding elderly population.

- **Primary Goals**

- Improve Maryland citizens' knowledge and practice of diet and nutrition behaviors.

Goal 3 - Appendix

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PROJECT/PROGRAM PLAN, 2000 - 2004
MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK
 (University of Maryland and University of Maryland Eastern Shore)

Goal 3

Name: Improve Maryland citizens' knowledge and practice of healthy diet and nutrition behaviors.

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research			X		
Extension			X		
Research/ Extension			X		
Multi-State			X		

Statement of Issue(s):

Among the top five leading causes of death in Maryland (from the 1996 Healthy Maryland 2000 report) are diet and inactivity, microbes, and toxic agents. Cardiovascular disease, which has strong dietary risk factors, accounts for 35 percent of deaths in Maryland, while cancer accounts for 25 percent, causing Maryland to rank fifth for cancer mortality in the United States. Low birth weight as a cause of neonatal deaths in Maryland is 117 percent of the U.S. average. Over the last 5 years, deaths from breast and lung cancer and low birthweight have increased in Maryland while deaths from heart disease, excess weight, and high blood pressure have not improved.

The number of overweight and obese people in the United States has increased. According to new National Center for Health Statistics figures, 36 percent of all adult females are overweight or obese, with an even greater incidence among African American (52 percent) and Hispanic American (50 percent) females. Over the last five years, the percentage of youth who are overweight or obese increased nearly twofold to 14 percent of children and 12 percent of adolescents.

According to Maryland Department of Health statistics, only 23 percent of Maryland residents consume five or more servings of fruits and vegetables per day -- a key food behavior to decrease the risk of heart disease and cancer. Based on an annual survey by the Maryland Food Committee, requests for short-term assistance from food banks and soup kitchens in 1996 were up 21 percent from 1995.

Consumers need to choose healthier food behaviors because heart disease, cancer, excess weight and obesity, and osteoporosis lead to increased morbidity, lower quality of life, and, ultimately, premature death. People need to understand food composition and preparation techniques to select and prepare nutritious foods. Otherwise, they may avoid nutritious foods and use more expensive and less nutritious foods or mistake the description "low fat" for "low calorie." Consumers need integrated food and nutrition education programming, which must address the interaction of nutrition, diet, fitness, and lifestyle issues, particularly physical fitness, to be successful in reducing chronic disease risk.

Performance Goals(s):

Output Indicators:

1. Attendance at workshops, classes, health fairs, etc
2. Extension publications

3. Research publications

Outcome Indicators:

1. Measurable changed behaviors
2. Generation of research results
3. Impact statements

Key Program Components:

Consumers will:

1. Follow the recommendations of the U.S. Dietary Guidelines and Food Guide Pyramid, including the consumption of five fruits and vegetables per day.
2. Correctly use food labels to follow the U.S. Dietary Guidelines and the Food Guide Pyramid.
3. Access Extension information on diet, nutrition, and healthy lifestyles.
4. Reduce their incidence of diet-related health problems by
 - Evaluating their eating patterns and lifestyle practices relative to cardiovascular disease, cancer, diabetes, obesity, and osteoporosis risks and
 - Identifying low-risk dietary and lifestyle factors to minimize cardiovascular disease, cancer, diabetes, obesity, and osteoporosis incidence.
5. Limit their fat intake to 30 percent or less of energy intake.
6. Increase their consumption of calcium-rich food sources.
7. Increase physical activity and physical fitness and achieve or maintain a healthier weight.

Internal and External Linkages:

1. Health Departments
2. Social Services Departments
3. Maryland Department of Human Resources
4. Eastern Shore Health Education Center
5. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
6. Northeast land grant universities
7. U.S. land grant universities
8. Private industry
9. Non-profit groups
10. Maryland Cooperative Extension (UMCP and UMES)
11. Family and Consumer Sciences program and 4-H Youth Development program
12. School systems

Target Audiences:

1. Traditional extension families
2. Expanded Food and Nutrition Education Program (EFNEP) participants
3. Limited resource families
4. Food distribution industry
5. Farmers' market merchants and consumers
6. Welfare-to-Work clients
7. WIC participants
8. Super Pantry participants, Maryland Food Bank and Capitol Food Bank participants
9. 4-H youth and school children
10. Infants, young children

Program Duration: FY 2000 - 2004**Allocated Resources:**

See Resource Table.

Source of Reporting Data:

- 1. Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators**
- 2. Agriculture Experiment Station Research Projects – for research results:**
 - Metabolic Milk Avoidance behavior and taste preferences in Black and White females
 - Zinc needs and homeostasis during lactation
 - Applying information processing models to assess consumer understanding of the new food label
- 3. University of Maryland Eastern Shore – for research results**
- 4. MCE Focus Teams (UMCP and UMES) – for impact statements**
 - Nutrition

Return to Goal 3

PROJECT/PROGRAM PLAN, 2000 - 2004
MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK
(University of Maryland and University of Maryland Eastern Shore)

REE Goal 4

Achieve greater harmony (balance) between agriculture and the environment.

- **Situation Statement**

Maryland has abundant water resources. Surface water provides more than 80 percent of the state's water supply; however, ground water supplies approximately 85 percent of the total water used in Southern Maryland and the Eastern Shore. Studies have shown that both ground and surface waters contain high levels of the nutrients nitrogen and phosphorus (N and P), which adversely affect water quality, aquatic organisms, fisheries, and human health. Under the Chesapeake Bay agreement, there is to be a 40 percent reduction in nutrient loading into the bay by the year 2000.

In agriculture areas, there are concerns about the management of inorganic and organic sources of nutrients and chemicals. In urban areas, nutrients and pesticides enter Maryland's water supply through excessive use of pesticides and fertilizers in horticultural landscape applications (commercial, public, and private). According to the 1990 census, one in five residences in Maryland have private septic systems bringing the state's total to 316,000. It is estimated that 60 percent of these systems are failing and that they contribute substantial amounts of nitrate to ground water. Other water-related issues include salt water intrusion in coastal areas caused by high water demand and competition for finite supplies of water among residential, agricultural, and industrial uses.

Economic and demographic changes have led to a continuing loss of agricultural and forest land. These losses raise concerns about the continuing viability of agricultural and forest industries, green ways, open space for wildlife, recreational areas, amenities, and environmental quality in general. And the losses are likely to continue to the year 2020 at a rate of over 10,000 acres per year.

Maryland's population is expected to reach 5.5 million by the year 2000. This population growth and redistribution, as well as commercial and industrial development, will consume farm, horticultural, and forest land. At the same time, this growing population also will demand more services and products from agricultural, horticultural, and forest industries. Conflicts between agricultural and urban land uses and their impacts on natural resources occur as development takes place in once-rural areas. As development occurs, farm and forest land is fragmented and/or lost, reducing the open space and biological diversity of the area. This forest and habitat fragmentation reduces our ability to manage and maintain the resources of a healthy state. Currently, land-use planning and management issues are being addressed by a wide variety of public and private organizations, which often lack coordination and consistency among their programs and policies. Integrated resource management and landscape diversity are key components of land-use planning, but are often not considered.

The contamination of surface and subsurface water supplies due to non-point source agricultural runoff is among the most serious environmental problems facing American agriculture today. About 60% of the rivers and lakes in the United States are polluted by agricultural runoff; rivers primarily by sediments, and lakes by nutrients. Additionally, surface and groundwater are contaminated by a variety of pesticides, and nutrient sources such as fertilizers and manure. Non-point load of nutrients to surface waters in different regions of the U.S.A. is among the highest priorities in the country. One of the challenges for developing economically sustainable agriculture is to simultaneously reduce non-point source pollution problems and maintain farm and rural industrial incomes at reasonable levels. One solution is watershed-scale planning and management which makes it possible to target Best Management Practices (BMPs) for the greatest improvement in water quality even though watershed planning is much more complicated than field or

farm scale planning.

As an 1890 Land Grant institution, UMES is committed to continue the services and applied research we provide our area farmers, watermen and resort residents (Eastern Shore tourism industry). We expect to bridge the agricultural, environment, and renewable natural resource programs and find ways that farmers and businessmen can be economically enhanced while not harming the environment and do so with concern and sensitivity to all facets. Presently many of our scientists (and those at College Park) are seeking solutions to resolve a recent Delmarva disaster that placed farmers, watermen and environmentalists at odds, and resulted in what is believed by the poultry industry to be a rush to judgment by politicians. During the summer of 1997, Delmarva made national news because of fish kills and lesionous fish in the Pocomoke River. The river provides a habitat for numerous fish species and other aquatic organisms and it serves as a source of revenue and recreation for the inhabitants of its watershed. *Pfiesteria Piscidia* has been implicated as the cause of the lesions and subsequent death of hundreds of fish. Toxins produced by this microbe are also thought to be deleterious to human health.

- **Primary Goals**

- Adopt management practices for agricultural production that enhance natural resources.
- Improve the application and adoption of land-applied biosolids, manures, composted materials, and other organic byproducts.
- Improve water quality through the adoption of sound environmental stewardship practices by the public and municipalities.
- Maintain a water supply capable of supporting both commercial and private needs today and in the future by protecting and conserving surface and ground-water resources.
- Promote environmentally sound land use plans that manage growth and value the benefits to society of farms and forest lands.
- Increase recycling and appropriate product disposal.
- Promote the use of rural and urban forest stewardship practices to maintain a sustainable forest resource.
- Improve fish and wildlife habitat and species diversity, as well as promote the use of new management techniques that manage wildlife and control damage to property, crops and people.

- Goal 4 - Appendix

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PROJECT/PROGRAM PLAN, 2000 - 2004

MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK

(University of Maryland and University of Maryland Eastern Shore)

Goal 4

Name: Adopt management practices for agricultural production that enhance natural resources.

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research				X	
Extension				X	
Research/ Extension				X	
Multi-State				X	

Statement of Issue(s):

Maryland agriculture contributes to the nutrient and pesticide runoff in the Chesapeake Bay. Developing and implementing best management practices on farms and with other agricultural producers is critical to the health of the state's environment. The following subject areas have been deemed critical to soil and water quality: plant pest control (insects, diseases, and weed), nutrient management, other BMPs, cropping systems, genetically modified organisms, feed management, plant and animal breeding, precision agriculture, and engineering.

Performance Goals(s):

Output Indicators:

1. Attendance at educational workshops, classes, etc.
2. Extension publications
3. Research publications
4. Professional presentations
5. Number of undergraduate and graduate students

Outcome Indicators:

1. Measurable changed behaviors
2. Adoption of research results
3. Impact statements

Note below for Source of Reporting Data

Key Program Components:

With emphasis on soil and water quality:

1. Best management practices for plant, poultry, and animals systems.
2. Farming systems based on productivity and environmentally sound decision-making models.

3. Economically sound alternatives to minimize the use of those agricultural practices that have the potential to degrade our natural resources.
4. Manage pasture properly, including nutrient management plans, for horses and other livestock on farmettes.
5. Implement natural/alternative/biological/cultural/biotechnical systems to supply crop nutrients and control pests.

Internal and External Linkages:

1. Natural Resource Conservation Service
2. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
3. Maryland Department of Agriculture
4. USDA Beltsville Agriculture Research Center
5. Maryland commodity groups
6. Northeast land grant universities
7. U.S. land grant universities
8. Private industry
9. Non-profit groups
10. Northeast SARE
11. Maryland Cooperative Extension (UMCP and UMES)

Target Audiences:

1. Traditional agricultural producers
2. Small farmers
3. Limited resource farmers
4. Food distribution industry

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table

Source of Reporting Data:

1. Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators
2. Agriculture Experiment Station Research Projects – for research results:
 - Development and application of comprehensive agriculture ecosystems models
 - Biological and cultural management of plant parasitic nematodes
 - Characterization and mechanisms of plant responses to ozone in the NE US
 - Integrated turfgrass management for environmental enhancement and resource conservation
 - Diversity and interaction of beneficial bacteria and fungi in the rhizosphere
 - Integrating cover crops, cultivation, and herbicides to optimize weed control
3. University of Maryland Eastern Shore Research Projects – for research results:
 - Developing alternative sustainable technology for controlling corn earworm damage in soybeans.
 - Effects of best management practices on primary nutrient delivery pathways in the Manokin River Basin.
 - Graduate research enhancement projects: biocontrol and nutrient management strategies for a

safe ecosystem.

4. MCE Focus Teams (UMCP and UMES) – for impact statements:

- Dairy
- Cattle
- Poultry
- Ornamental Horticulture
- Vegetable and Fruit
- Grains and Soybeans
- Pasture and Forage

Return to Goal 4

PROJECT/PROGRAM PLAN, 2000 - 2004

MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK

(University of Maryland and University of Maryland Eastern Shore)

Goal 4

Name: Improve the application and adoption of land-applied biosolids, manures, composted materials, and other organic byproducts.

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research				X	
Extension				X	
Research/ Extension				X	
Multi-State				X	

Statement of Issue(s):

Managing organic wastes from municipalities and agricultural producers is a major issue in Maryland. Proper application and appropriate rates are important in determining its value as a resource and for mitigating against its movement off the land into fragile water bodies. The Maryland Legislature passed the Water Quality Improvement Act of 1998 which requires all producers to have nutrient management plans and to implement them. Another important component of that law is the Phosphorus Site Index which dictates how much nutrients can be spread on a given soil under certain management practices. In some cases, nutrient application will be forbidden on certain soils. In those cases, farmers need to find alternative uses for their manure beyond field application on their own farms.

Performance Goals(s):

Output Indicators:

1. Attendance at educational workshops, classes, etc.
2. Extension publications
3. Research publications
4. Professional presentations
5. Number of undergraduate and graduate students

Outcome Indicators:

1. Measurable changed behaviors
2. Adoption of research results
3. Impact statements

Note below for Source of Reporting Data

Key Program Components:

1. Farmers increase their use of nutrient management plans.
2. Farmers avoid increasing phosphorus above current levels in soils that have previously overloaded due to concentrated livestock and poultry production.
3. Agricultural producers, communities, municipalities, and homeowners will increase the proper application of composted materials, manure, and other organic products to the land.

Internal and External Linkages:

1. Natural Resource Conservation Service
2. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
3. Maryland Department of Agriculture
4. USDA Beltsville Agriculture Research Center
5. Maryland commodity groups
6. Northeast land grant universities
7. U.S. land grant universities
8. Private industry
9. Non-profit groups
10. Northeast SARE
11. Maryland commodity groups
12. Maryland Cooperative Extension (UMCP and UMES)

Target Audiences:

1. Agricultural producers
2. Communities
3. Municipalities
4. Homeowners

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table

Source of Reporting Data:

Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators

Agriculture Experiment Station Research Projects – for research results:

- Managing dairy waste with constructed wetlands
- Environmental and economic impacts of nutrient flows in dairy forage systems

MCE Focus Teams (UMCP and UMES) – for impact statements:

- Agricultural Nutrient Management B Field Crops
- Agricultural Nutrient Management B Nursery and Greenhouse
- Phosphorus Use and Movement in Soils
- Composting Poultry Litter
- Composting Dairy Manure

Return to Goal 4

PROJECT/PROGRAM PLAN, 2000 - 2004
MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK
 (University of Maryland and University of Maryland Eastern Shore)

Goal 4

Name: Improve water quality through the adoption of sound environmental stewardship practices by the public and municipalities.

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research				X	
Extension				X	
Research/ Extension				X	
Multi-State				X	

Statement of Issue(s):

Maryland has abundant water resources. Studies have shown that there are high nutrient levels (N&P) in both ground and surface waters of the State, which adversely effect the water quality, aquatic organisms, fisheries and human health. Under the Chesapeake Bay agreement, there is to be a 40% reduction in nutrient loading into the Bay by the year 2000. There are nutrients and pesticides entering Maryland's water supply, through excessive horticultural landscaping applications (commercial & public) of pesticides and fertilizers in urban areas. Urban areas and developments create large amounts of impervious surfaces, thus creating significant runoff problems. Through storm water runoff, large amounts of nutrients and debris enter our water system creating a drinking water and flooding problem. It is estimated that 1 in 5 homes in Maryland have private septic systems and approximately 60% are failing. These systems contribute substantial amounts of nitrate to ground water. Erosion and sediments from agriculture, forestry and construction activities pose a problem to the waters of the State. Through the proper use of BMP's and new technology, farmers and forest management activities can control erosion and sediments.

Performance Goals(s):

Output Indicators:

1. Attendance at educational workshops, classes, etc.
2. Extension publications
3. Research publications
4. Professional presentations
5. Number of undergraduate and graduate students

Outcome Indicators:

1. Measurable changed behaviors
2. Adoption of research results
3. Impact statements

Note below for Source of Reporting Data

Key Program Component:

1. Maryland residents will apply the proper amount of fertilizer and increase their use of integrated pest management strategies to control pests, weeds, and diseases in their landscapes and homes.
2. Increase the use of acceptable pet waste disposal techniques.
3. Homeowners, builders, and potential home buyers will increase their knowledge about innovative septic treatment systems, such as denitrification systems, the relationship between failing septic systems and water quality, and proper maintenance requirements of septic systems, and will adopt appropriate practices.
4. Municipalities will adopt and use environmentally sound practices of waste and nutrient management.
5. Municipalities and developers will install new technologies in storm water management and manage surface water.
6. Green industries, such as commercial, landscape, and lawn management businesses, will practice bay-wise management techniques and adopt recommended nutrient management and IPM techniques.
7. Developers, farmers, loggers, and landowners will reduce soil erosion and sediments entering waterways through the adoption of soil conservation measures and best management practices.
8. Developers, farmers, loggers, and landowners will manage existing riparian buffers and install new buffers, where appropriate, to improve the quality of ground and surface waters.

Internal and External Linkages:

1. Natural Resources Conservation Service
2. Maryland Department of Environment
3. Chesapeake Bay Program
4. Soil and Water Conservation Districts
5. Local Municipalities
6. State Tributary Teams
7. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
8. Maryland Cooperative Extension (UMCP and UMES)

Target Audiences:

1. Homeowners
2. Municipalities
3. Commercial horticultural industry
4. Forester loggers
5. Landowners
6. Developers
7. Farmers

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table

Source of Reporting Data:

Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators

Agriculture Experiment Station Research Projects – for research results:

- Taxes as a tool for environmental regulation

MCE Focus Teams (UMCP and UMES) – for impact statements:

- HomeWork
- Bay-Wise Landscaping
- Home and Garden Information Center
- Master Gardeners
- Urban Nutrient Management
- Riparian Buffers

Return to Goal 4

PROJECT/PROGRAM PLAN, 2000 - 2004

MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK

(University of Maryland and University of Maryland Eastern Shore)

Goal 4

Name: Maintain a water supply capable of supporting both commercial and private needs today and in the future by protecting and conserving surface and ground-water resources.

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research					
Extension				X	
Research/ Extension				X	
Multi-State				X	

Statement of Issue(s):

Maryland's population is rapidly increasing and greater pressure is being put upon the State's water resources. With this high increase in demand for water resources, there is competition for human consumption, irrigation for agricultural and horticultural activities, and industrial uses. In coastal areas, where there is a significant increase in water usage, there is a long-term problem with saltwater intrusion. During periods of low rainfall, mandatory water restrictions are put in place. Large areas of forested buffers, which once protected many water supplies in the State, have been lost due to urban and agricultural expansion.

Performance Goals(s):

Output Indicators:

1. Attendance at educational workshops, classes, etc.
2. Extension publications
3. Research publications
4. Professional presentations
5. Number of undergraduate and graduate students

Outcome Indicators:

1. Measurable changed behaviors
2. Adoption of research results
3. Impact statements

Note below for Source of Reporting Data

Key Program Component:

1. Communities and individuals will adopt water conservation practices.

2. Communities and municipal officials will receive training in ground-water protection standards under the National Drinking Water Act and adopt appropriate practices.

Internal and External Linkages:

1. Soil and Water Conservation Districts
2. Maryland Department of Environment
3. Maryland Department of Agriculture
4. Department of Natural Resources: Water Resources
5. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
6. Maryland Cooperative Extension (UMCP and UMES)

Target Audiences:

1. Communities
2. Municipalities
3. Limited resource families

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table

Source of Reporting Data:

Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators

MCE Focus Teams (UMCP and UMES) – for impact statements:

- Testing Drinking Water for Limited Resource Families
- Bay-Wise Landscaping
- Home and Garden Information Center

Return to Goal 4

PROJECT/PROGRAM PLAN, 2000 - 2004

MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK

(University of Maryland and University of Maryland Eastern Shore)

Goal 4

Name: Promote environmentally sound land use plans that manage growth and value the benefits to society of farms and forest lands.

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research				X	
Extension				X	
Research/ Extension				X	
Multi-State				X	

Statement of Issue(s):

Important land use decisions are made at the county level by planning and zoning and government officials. However, state government programs have imposed large demands on county government in the interest of controlling growth and improving conservation. In many cases, local government and citizens lack sufficient knowledge and resources to make sound land use plans that consider the value of rural forest and farmlands. In addition, state agencies and private nonprofit organizations, involved in conservation easements and other land conservation efforts are unsure how to encourage economically viable forest and farm landscapes.

Performance Goals(s):

Output Indicators:

1. Attendance at educational workshops, classes, etc.
2. Extension publications
3. Research publications
4. Professional presentations
4. Number of undergraduate and graduate students

Outcome Indicators:

1. Measurable changed behaviors
2. Adoption of research results
3. Impact statements

Note below for Source of Reporting Data

Key Program Components:

1. Officials will increase their knowledge of how land is being used in the state, understand their planning and zoning options, and adopt appropriate practices.
2. Citizens will gain knowledge in the process of developing land-use policies and understand land-use options

and consequences.

3. Citizens and officials will improve their knowledge of the economic and ecological importance of agricultural, forest, and wildlife resources.

Internal and External Linkages:

1. Maryland Environmental Trust
2. Local land trusts
3. County planning and zoning officials
4. DNR Forest Service.
5. Maryland Office of Planning and Zoning
6. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
7. Maryland Cooperative Extension (UMCP and UMES)

Target Audiences:

1. Citizens
2. County officials for land-use planning
3. State officials for land-use planning
4. Non-profit groups

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table

Source of Reporting Data:

Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators

Agriculture Experiment Station Research Projects – for research results:

- Land use, water quality, and the Chesapeake Bay
-

MCE Focus Teams (UMCP and UMES) – for impact statements:

- Land Use, Zoning, and Preservation
- Wildlife Habitat
- Wildlife IPM
- Urban Forestry

Return to Goal 4

PROJECT/PROGRAM PLAN, 2000 - 2004

MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK

(University of Maryland and University of Maryland Eastern Shore)

Goal 4

Name: Increase recycling and appropriate product disposal.

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research					
Extension				X	
Research/ Extension				X	
Multi-State				X	

Statement of Issue(s):

Maryland residents generate approximately 5 million tons of solid waste annually. This is approximately 1 ton of waste per year for each resident. Landfill space in Maryland is dwindling. The municipal solid waste in heavily populated areas is typically 18-22% yard waste, 31-37% paper, 6-7% food waste and 37-43% other (grass, plastic & wood). With 50% of municipal waste being yard & paper waste, utilizing composting technology at the public, private and commercial levels can extend the life of Maryland's landfills. In 1988, Maryland enacted the "Recycling Act", that requires Maryland counties to develop recycling strategies. These strategies included large municipalities recycling 20% of their waste and small municipalities recycling 15%. Farm and household hazardous waste continue to be a disposal problem statewide.

Performance Goals(s):

Output Indicators:

1. Attendance at educational workshops, classes, etc.
2. Extension publications
3. Research publications
4. Professional presentations
5. Number of undergraduate and graduate students

Outcome Indicators:

1. Measurable changed behaviors
2. Adoption of research results
3. Impact statements

Note below for Source of Reporting Data

Key Program Components:

1. Citizens will improve their knowledge of recycling and purchasing environmental sensitive products and adopt these measures.
2. Citizens will learn which household products are toxic to the environment and dispose of them properly.

Internal and External Linkages:

1. Municipalities
2. State Tributary Teams
3. County Recycling Boards
4. Maryland Department of the Environment
5. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
6. Maryland Cooperative Extension (UMCP and UMES)

Target Audiences:

1. Maryland citizens
2. Maryland counties
3. Local governments

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table

Source of Reporting Data:

Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators

MCE Focus Teams (UMCP and UMES) – for impact statements:

- Household Hazardous Wastes.

Return to Goal 4

PROJECT/PROGRAM PLAN, 2000 - 2004

MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK

(University of Maryland and University of Maryland Eastern Shore)

Goal 4

Name: Promote the use of rural and urban forest stewardship practices to maintain a sustainable forest resource.

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research				X	
Extension				X	
Research/ Extension				X	
Multi-State				X	

Statement of Issue(s):

Ninety percent of Maryland's forests are owned by 125,000 private landowners that have a diverse range of objectives. The future stewardship of forests depends on the actions of these landowners. Unfortunately, only about 30 percent of the forest harvests in the state include a professional forester. Landowners need sound information to make forest stewardship decisions, especially those that include forest harvesting. Natural resource professionals need to be kept up to date on new technologies and issues that will improve their ability to provide services to landowners and communities. The increasing interest in urban forests require that citizens, tree professionals, and community leaders have access to needed information on urban forest stewardship.

Performance Goals(s):

Output Indicators:

1. Attendance at educational workshops, classes, etc.
2. Extension publications
3. Research publications
4. Professional presentations
5. Number of undergraduate and graduate students

Outcome Indicators:

1. Measurable changed behaviors
2. Adoption of research results
3. Impact statements

Note below for Source of Reporting Data

Key Program Components:

1. Forest landowners, youth, urban citizens, and conservation groups will gain knowledge and skills in forest stewardship and/or urban and community forestry and become active educational volunteers.
2. Forest landowners will develop and implement a forest management plan and improve forest management

practices.

4. Forest landowners will use a professional forester for developing a management, forest harvest, and/or reforestation plan and utilize best management practices when implementing a forest harvest or reforestation plan.

5. Forest landowners will gain knowledge about alternative income enterprises that utilize their natural resources and implement appropriate practices.

6. Natural resource professionals will gain knowledge and enhance skills in forest management, alternative income enterprises, technological applications, and public policy conflict resolution in natural resource management.

7. Communities will increase the use of trees in urban planning and new site development, improve forest protection from insects and disease, and enact tree maintenance plans.

Internal and External Linkages:

1. DNR Forest Service
2. DNR Wildlife Division
3. Maryland Forests Association
4. Association of Forest Industries
5. Northeast Extension Forest Resource Extension Council.
6. Cooperative Extension Services in Pennsylvania, Virginia, West Virginia, Delaware, and New Jersey
7. Maryland Cooperative Extension (UMCP and UMES)

Target Audiences:

1. Forest landowners
2. Youth
3. Urban citizens
4. Conservation groups
5. Natural resource professionals Communities

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table

Source of Reporting Data:

Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators

Agriculture Experiment Station Research Projects – for research results:

- Conservation and establishment of forest and riparian buffers

MCE Focus Teams (UMCP and UMES) – for impact statements:

- Forestry Management
- Natural Resources Income Alternatives
- Urban Forestry
- Coverts Project

Return to Goal 4

PROJECT/PROGRAM PLAN, 2000 - 2004

MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK

(University of Maryland and University of Maryland Eastern Shore)

Goal 4

Name: Improve fish and wildlife habitat and species diversity, as well as promote the use of new management techniques that manage wildlife and control damage to property, crops, and people.

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research					
Extension				X	
Research/ Extension				X	
Multi-State				X	

Statement of Issue(s):

Wildlife provide a vital connection for many citizens to their natural environment. Wildlife habitat is a primary motivator for why people buy rural forest and farmland, and implement forest stewardship planning. It also explains why many urban/suburban dwellers spend millions on bird feeders and other wildlife habitat improvements. Unfortunately, the expansion of development has destroyed or altered habitat for many wildlife species. Deer, geese, and beaver have caused significant economic damage to crops and landscapes, along with safety and health issues. Different stakeholders affected by wildlife have widely divergent opinions on how to manage wildlife in suburban/urban areas, which creates conflict. While technical methods to manage and control wildlife exist, there is a greater need for public issues education to help stakeholders reach consensus on how to implement management practices to solve problems.

Performance Goals(s):

Output Indicators:

1. Attendance at educational workshops, classes, etc.
2. Extension publications
3. Research publications
4. Professional presentations
5. Number of undergraduate and graduate students

Outcome Indicators:

1. Measurable changed behaviors
2. Adoption of research results
3. Impact statements

Note below for Source of Reporting Data

Key Program Components:

1. Rural landowners will gain knowledge and skills in wildlife management and improve wildlife habitat and biodiversity.
2. Urban citizens will improve their knowledge of urban wildlife management and become active educational volunteers.
3. Natural resource professionals will gain knowledge and improve their skills in wildlife management, technological applications, and public policy conflict resolution in natural resource management.
4. Urban and rural homeowners and agricultural businesses will increase their knowledge and understanding of deer and other problem wildlife species and employ wildlife damage control techniques.
5. Natural resource professionals, local governments, and legislators will gain knowledge about deer and develop successful management strategies and policies.

Internal and External Linkages:

1. DNR Wildlife Division
2. NE Wildlife Damage Control Cooperative
3. Private wildlife contractors
4. NRCS
5. County government officials
6. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
7. Maryland Cooperative Extension (UMCP and UMES)

Target Audiences:

1. Rural landowners
2. Urban citizens
3. Natural resource professionals
4. Agricultural businesses
5. Local governments
6. Legislators

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table

Source of Reporting Data:

Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators

MCE Focus Teams (UMCP and UMES) – for impact statements:

- Wildlife IPM
- Coverts Project
- Public Information Education
- Home and Garden Information Center

Return to Goal 4

PROJECT/PROGRAM PLAN, 2000 - 2004
MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK
(University of Maryland and University of Maryland Eastern Shore)

REE Goal 5

Enhanced economic opportunity and quality of life for Americans.

• **Situation Statement**

Maryland youth, families, and communities are the core components in increasing quality of life and economic opportunity. Currently, 13 percent of Maryland children ages 18 and under live in poverty. More than one fifth of families with children are headed by a single parent. Increases in parenting outside of marriage continue to create difficult consequences for women, children, and taxpayers. Thirty-four of every 1,000 teenage girls between ages 15 and 17 gave birth in Maryland in 1995; 85 percent of these young mothers were unmarried.

The current welfare-to-work effort in Maryland requires families to develop the skills and resources needed for independent living by placing a 60-month maximum time limit for welfare benefits. As parents leave welfare to go to work, additional childcare providers are needed.

Maryland ranks 11th nationally in the amount of outstanding bank card debt. According to the Administrative Office of the Courts, more than 20,000 Maryland residents declared personal bankruptcy in 1996, a 24 percent increase over the previous year.

The process of public decision-making is currently a source of much dissatisfaction to citizens and policy makers alike. Land use, food safety, and childcare are examples of potential issues involving public decision-making. Because of the inherent difficulty of the situation, it is not uncommon for critical public decisions to be postponed, indefinitely tabled, or solved in uninformed ways.

Societal and governmental needs are growing more complex, fractionated, and global. Increasingly, citizens are asked to share leadership roles in their communities. New and replacement intergenerational leaders must be prepared for these civic challenges. Youth and adult leaders must have the skills, confidence, and ability to lead diverse groups in difficult situations involving polarization of opinion, civic disengagement, and conflict.

Volunteers provide educational, economic, social, and psychological benefits to families, individuals, organizations, and communities. About 4,000 adults and 2,000 youth leaders serve as Extension volunteers. Effective selection, training, involvement, and management are essential steps in maintaining and strengthening all volunteers.

• **Primary Goals**

- Resolve differences between competing interests
 - Increase ability of Extension faculty to lead public issues education programs
 - Increase the abilities of Extension volunteers to successfully carry out Extension programs
 - Adopt effective leadership practices
 - Increase leadership ability
 - Adopt effective and responsive policies and programs
-

- Strengthen skills and knowledge to achieve economic stability
 - Develop and accept individual, parental, home, financial, and/or community responsibility through work, family, and community involvement.
-
- Enhance the attractiveness of Maryland youth to potential employers to enable youth to be productive, contributing members of a global society
 - Increase the ability of Maryland youth to have caring relationships with family members, peers, and others in their communities
 - Increase the abilities of Maryland youth to be competent youth leaders with a strong commitment to civic and social responsibility
 - Strengthen Maryland youth's understanding of the importance of good health and safe and healthy lifestyles.

- Goal 5 - Appendix

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PROJECT/PROGRAM PLAN, 2000 - 2004
MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK
 (University of Maryland and University of Maryland Eastern Shore)

Goal 5

Name: Resolve differences between competing interests

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research					
Extension					X
Research/ Extension					
Multi-State					

Statement of Issue(s):

Many issues require problem solving by persons who represent different perspectives and needs. To arrive at decisions or actions that work, it is important to discuss, understand and resolve conflicting differences.

Performance Goals(s):

Output Indicators:

1. Attendance at workshops, classes, etc
2. Extension publications
3. Research publications

Outcome Indicators:

1. Measurable changed behaviors
2. Generation of research results
3. Impact statements
4. Public disputes solved

Key Program Components:

Groups will:

1. Understand how to get involved in the process.
2. Identify policy alternatives and their consequences.
3. Learn and demonstrate negotiating skills.
4. Identify common ground.
5. Plan and implement steps to reduce friction.
6. Appraise community benefits resulting from resolution of differences.

Internal and External Linkages:

1. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.

2. Northeast land grant universities
3. U.S. land grant universities
4. Private industry
5. Non-profit groups
6. Maryland Cooperative Extension (UMCP and UMES)
7. Family and Consumer Sciences, 4-H Youth Development, Agriculture and Natural Resources programs
8. Institute for Governmental Service
9. Local and State of Maryland governments
10. 10 Maryland Tributary Teams
11. USDA and USEPA
12. National Public Issues Dispute Resolution team of Extension faculty and administrators
13. MCE's Public Issues Education Committee
14. Maryland Department of Natural Resources
15. Maryland Department of Agriculture
16. Northeast Rural Development Center
17. Chesapeake Bay Foundation
18. Maryland Department of the Environment
19. Extension Service in North Carolina
20. National Public Issues
21. Dispute Resolution Team
22. Maryland Commission of Alternative Dispute Resolution
23. USDA
24. USEPA

Target Audiences:

1. Traditional extension audiences
2. Public and private leaders for solving public disputes

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table.

Source of Reporting Data:

Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators

MCE Focus Teams (UMCP and UMES) – for impact statements

Return to Goal 5

PROJECT/PROGRAM PLAN, 2000 - 2004

MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK

(University of Maryland and University of Maryland Eastern Shore)

Goal 5

Name: Increase ability of Extension faculty to lead public issues education programs

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research					
Extension					X
Research/ Extension					
Multi-State					X

Statement of Issue(s):

People affected by public decisions are sometimes uninvolved or poorly represented in the process of public decision-making; issues and vested interest groups often become polarized. It is not uncommon for critical public decisions to be postponed, indefinitely tabled, or solved in uninformed ways. However, there are constructive ways to address public issues through the careful and deliberate use of the public issues process. In 1995, the Maryland Cooperative Extension established a Public Issues Education (PIE) Committee to facilitate the implementation of PIE programs across all issue areas in Maryland.

Performance Goals(s):

Output Indicators:

1. Attendance at workshops, classes, etc
2. Extension publications
3. Research publications

Outcome Indicators:

1. Measurable changed behaviors
2. Generation of research results
3. Impact statements

Key Program Components:

Extension faculty will:

1. Understand policy development and appropriate roles for educators.
2. Learn and use public issues processes.
3. Learn and use conflict management, negotiating, and collaboration skills.
4. Frame public policy issues and include public issues education (PIE) in scope of work.
5. Implement and evaluate PIE programs at the local, regional, or state level.
6. Use the network of colleagues within Extension who have an interest and expertise in PIE.

Internal and External Linkages:

1. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
2. Northeast land grant universities
3. U.S. land grant universities
4. Private industry
5. Non-profit groups
6. Maryland Cooperative Extension (UMCP and UMES)
7. Family and Consumer Sciences, 4-H Youth Development, Agriculture and Natural Resources programs
8. Institute for Governmental Service
9. Private Industry
10. Maryland Community Centers for Dispute Resolution
11. Maryland Commission for Alternative Dispute Resolution
12. Public Issues Education committee

Target Audiences:

1. Traditional extension audiences
2. Community organizations and institutions
3. Special interest groups
4. Representatives of governmental, economic, and community sectors

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table.

Source of Reporting Data:

Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators

MCE Focus Teams (UMCP and UMES) – for impact statements

Return to Goal 5

PROJECT/PROGRAM PLAN, 2000 - 2004
MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK
 (University of Maryland and University of Maryland Eastern Shore)

Goal 5

Name: Increase the abilities of Extension volunteers to successfully carry out Extension programs

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research					
Extension					X
Research/ Extension					
Multi-State					X

Statement of Issue(s):

Volunteers provide educational, economic, social, and psychological benefits to families, individuals, organizations, and communities. The majority of Extension volunteers are involved with the 4-H Youth Development program, but others serve in other program areas, including Master Gardening, Financial Counseling, and the Maryland Association of Family and Community Education. Effective selection, training, involvement, and management are essential steps in maintaining and strengthening all Extension volunteers.

Performance Goals(s):

Output Indicators:

1. Attendance at workshops, classes, etc
2. Extension publications
3. Research publications

Outcome Indicators:

1. Measurable changed behaviors
2. Generation of research results
3. Impact statements

Key Program Components:

Extension volunteers will:

1. Represent the diverse populations they serve.
2. Improve skills in leadership and program management as evidenced by increased responsibilities.
3. Increase subject-matter expertise as evidenced by program evaluations.

Internal and External Linkages:

1. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
2. Northeast land grant universities
3. U.S. land grant universities
4. Private industry
5. Non-profit groups
6. Maryland Cooperative Extension (UMCP and UMES)
7. Family and Consumer Sciences, 4-H Youth Development, Agriculture and Natural Resources programs
8. Institute for Governmental Service
9. Volunteer associations such as the Maryland 4-H Volunteers Association

Target Audiences:

1. Traditional extension audiences
2. Volunteer associations
3. Community groups

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table.

Source of Reporting Data:

Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators

MCE Focus Teams (UMCP and UMES) – for impact statements

Return to Goal 5

PROJECT/PROGRAM PLAN, 2000 - 2004

MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK

(University of Maryland and University of Maryland Eastern Shore)

Goal 5

Name: Adopt effective leadership practices

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research					
Extension					X
Research/ Extension					
Multi-State					X

Statement of Issue(s):

Societal and governmental needs are growing more complex, fractionated, and global. Increasingly, citizens re asked to share leadership roles in their communities. New and replacement intergenerational leaders must be prepared for these civic challenges. Youth and adult leaders must have the skills, confidence, and ability to lead diverse groups in difficult situations involving polarization of opinion, civic disengagement, and conflict.

Performance Goals(s):

Output Indicators:

1. Attendance at workshops, classes, etc
2. Extension publications
3. Research publications

Outcome Indicators:

1. Measurable changed behaviors
2. Generation of research results
3. Impact statements

Key Program Components:

Youth and adults will:

1. Assess their leadership skills and develop a personal leadership plan.
2. Learn techniques of team building, conflict management, communication, and leadership.
3. Practice leadership skills through the implementation of a planned and monitored project.
4. Work with a mentor to evaluate strengths and continue to increase skills.
5. Increase confidence as a leader by participating in team and community activities.
6. Participate in and complete "Leadership Academy" programs.

Internal and External Linkages:

1. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.

2. Northeast land grant universities
3. U.S. land grant universities
4. Private industry
5. Non-profit groups
6. Maryland Cooperative Extension (UMCP and UMES)
7. Family and Consumer Sciences, 4-H Youth Development, Agriculture and Natural Resources programs
8. Institute for Governmental Service
9. Maryland Department of Agriculture
10. Maryland Department of Environment
11. Maryland Department of Natural Resources
12. Maryland Farm Bureau
13. Maryland Agriculture Education Foundation
14. National Network of 26 states
15. North Carolina Extension Service
16. USEPA
17. Private businesses
18. New Jersey Extension Service

Target Audiences:

1. Traditional extension audiences
2. Youth
3. Community members
4. Organizational members

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table.

Source of Reporting Data:

Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators

MCE Focus Teams (UMCP and UMES) – for impact statements

Return to Goal 5

PROJECT/PROGRAM PLAN, 2000 – 2004
MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK
 (University of Maryland and University of Maryland Eastern Shore)

Goal 5

Name: Increase leadership ability

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research					
Extension					X
Research/ Extension					
Multi-State					X

Statement of Issue(s):

Extension faculty must assume leadership roles within the community and the university. Skills in volunteer management and team building are also valuable.

Performance Goals(s):

Output Indicators:

1. Attendance at workshops, classes, etc
2. Extension publications
3. Research publications

Outcome Indicators:

1. Measurable changed behaviors
2. Generation of research results
3. Impact statements

Key Program Components:

Extension faculty will:

1. Increase confidence and skills in personnel and volunteer management, motivation, and team building.
2. Use leadership skills to undertake roles within the college and in their communities.
3. Implement and evaluate leadership programs at the local, regional, and state level.

Internal and External Linkages:

1. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
2. Northeast land grant universities
3. U.S. land grant universities

4. Private industry
5. Non-profit groups
6. Maryland Cooperative Extension (UMCP and UMES)
7. Family and Consumer Sciences, 4-H Youth Development, Agriculture and Natural Resources programs
8. Institute for Governmental Service
9. Northeast Extension Leadership Development program

Target Audiences:

1. Extension faculty

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table.

Source of Reporting Data:

Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators

MCE Focus Teams (UMCP and UMES) – for impact statements

Return to Goal 5

PROJECT/PROGRAM PLAN, 2000 - 2004

MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK

(University of Maryland and University of Maryland Eastern Shore)

Goal 5

Name: Adopt effective and responsive policies and programs

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research					
Extension					X
Research/ Extension					
Multi-State					

Statement of Issue(s):

Newly elected officials often enter office without a working understanding of the functions of government; many have never dealt with the public or handled the type of complex issues that affect jurisdictions today. Their lack of knowledge, experience, and understanding can inadvertently cause serious problems in the delivery of public services and programs.

Performance Goals(s):

Output Indicators:

1. Attendance at workshops, classes, etc
2. Extension publications
3. Research publications
4. Number of completions of requirements for "Excellence in Governance Certificate Program"

Outcome Indicators:

1. Measurable changed behaviors
2. Generation of research results
3. Impact statements

Key Program Components:

Local officials and decision makers will:

1. Initiate and complete strategic planning processes.
2. Improve management practices through improved financial management, performance measures, and organizational climate.
3. Assess and interpret local needs.
4. Evaluate the effectiveness of programs and implement changes.
5. Complete the requirements for the "Excellence in Governance Certificate Program."

Internal and External Linkages:

1. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
2. Northeast land grant universities
3. U.S. land grant universities
4. Private industry
5. Non-profit groups
6. Maryland Cooperative Extension (UMCP and UMES)
7. Family and Consumer Sciences, 4-H Youth Development, Agriculture and Natural Resources programs
8. Institute for Governmental Service
9. Local Governments
10. Maryland Municipal League
11. Maryland Association of Counties
12. Local Government Insurance Trust
13. National Association of Counties
14. National Association of Towns and Townships
15. Maryland General Assembly
16. Maryland Office of the State Comptroller
17. Maryland Environmental Service
18. American Farm Foundation
19. Private industry

Target Audiences:

1. Elected local county and municipal officials, especially newly elected
2. Appointed local government officials

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table.

Source of Reporting Data:

Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators

MCE Focus Teams (UMCP and UMES) – for impact statements

Return to Goal 5

PROJECT/PROGRAM PLAN, 2000 - 2004

MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK

(University of Maryland and University of Maryland Eastern Shore)

Goal 5

Name: Strengthen skills and knowledge to achieve economic stability

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research					
Extension					X
Research/ Extension					
Multi-State					X

Statement of Issue(s):

Many people have little or no established financial safety net. Average Americans save less than 5 percent of their disposable income. Twenty percent of Americans have saved nothing for retirement even though the average retiree spends 18 years in retirement.

Performance Goals(s):

Output Indicators:

1. Attendance at workshops, classes, etc
2. Extension publications
3. Research publications

Outcome Indicators:

1. Measurable changed behaviors
2. Generation of research results
3. Impact statements

Key Program Components:

Individuals and families will:

1. Identify individual/family financial goals, time lines, and/or dollar costs (e.g., budgeting, record keeping, credit use, insurance coverage, estate and retirement planning, savings and investments, housing and home maintenance, and tax management).
2. Develop and use a spending plan to meet stated goals.
3. Manage individual/family debt in a manner consistent with resources.
4. Maintain and/or increase individual/family savings.
5. Access and optimize use of available human, community, and financial resources (e.g., upgrading skills, using free or low-cost community programs, starting a home-based business, taking advantage of work-related benefits).

Internal and External Linkages:

1. Financial industry
2. Department of Social Services
3. Maryland Department of Human Resources
4. School systems
5. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
6. Northeast land grant universities
7. U.S. land grant universities
8. Private industry
9. Non-profit groups such as the Center for Poverty Solutions
10. Maryland Cooperative Extension (UMCP and UMES)
11. Family and Consumer Sciences program and 4-H Youth Development program

Target Audiences:

1. Traditional extension families
2. Welfare-to-work clients
3. Limited resource families
4. Youth

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table.

Source of Reporting Data:

Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators

MCE Focus Teams (UMCP and UMES) – for impact statements

- Family finance

Return to Goal 5

PROJECT/PROGRAM PLAN, 2000 - 2004

MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK

(University of Maryland and University of Maryland Eastern Shore)

Goal 5

Name: Develop and accept individual, parental, home, financial, and/or community responsibility through work, family, and community involvement.

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research					
Extension					X
Research/ Extension					
Multi-State					X

Statement of Issue(s):

For families to fully contribute to society; children to grow to be productive, happy, and competent individuals; and elders to live comfortably in their later years, we must acknowledge the stressors faced by families today and strengthen their ability to function. Families have growing needs related to issues such as managing personal finances, finding and affording child care, and understanding and constructively dealing with family stressors.

Increases in parenting outside of marriage continue to create difficult consequences for women, children, and taxpayers. Thirty-four of every 1,000 teenage girls between ages 15 and 17 gave birth in Maryland in 1995; 85 percent of these young mothers were unmarried.

There are indications that the basic needs of some children are not being met. The Centers for Disease Control report that 22 percent of two-year-olds in Maryland were not fully immunized in 1995.

Performance Goals(s):

Output Indicators:

1. Attendance at workshops, classes, etc
2. Extension publications
3. Research publications

Outcome Indicators:

1. Measurable changed behaviors
2. Generation of research results
3. Impact statements

Key Program Components:

Parents, family members, and other child care providers will:

1. Care for themselves by managing personal stress, time, and other family resources; asking for and accepting support from others; recognizing personal and parenting strengths; having a sense of purpose in setting child-rearing goals; and cooperating with child-rearing partners.
2. Observe and understand children and their development by increasing their knowledge of child development and early childhood education, discipline and guidance, nutrition and health, child safety, and other related topics.
3. Guide family members by modeling appropriate behavior, establishing and maintaining reasonable limits, providing children with appropriate ways to learn responsibility, teaching problem-solving skills, and monitoring children's activities.
4. Nurture family members by expressing affection and compassion, fostering self-respect and hope, listening and attending to feelings and ideas, teaching kindness, providing for family members' basic needs, and sharing family history and cultural heritage.
5. Motivate family members by teaching children about themselves and others; stimulating curiosity, imagination, and the search for knowledge; creating beneficial learning conditions; and teaching how to process and manage information.
6. Advocate for families by finding and using community resources; stimulating social change to create supportive environments for children and families; building relationships with family, neighborhood, and community groups; and collaborating with agencies and community groups in support of families.

Internal and External Linkages:

1. Family agencies
2. Department of Social Services
3. Maryland Department of Human Resources
4. School systems
5. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
6. Northeast land grant universities
7. U.S. land grant universities
8. Private industry
9. Non-profit groups
10. Maryland Cooperative Extension (UMCP and UMES)
11. Family and Consumer Sciences program and 4-H Youth Development program

Target Audiences:

1. Traditional extension families
2. Welfare-to-work clients
3. Limited resource families
4. Youth
5. Child care providers

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table.

Source of Reporting Data:

Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators

MCE Focus Teams (UMCP and UMES) – for impact statements

- Family life

Return to Goal 5

PROJECT/PROGRAM PLAN, 2000 - 2004

MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK

(University of Maryland and University of Maryland Eastern Shore)

Goal 5

Name: Enhance the attractiveness of Maryland youth to potential employers to enable youth to be productive, contributing members of a global society

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research					
Extension					X
Research/ Extension					
Multi-State					X

Statement of Issue(s):

Too many Maryland youth are unprepared for employment or discover that they must work in jobs with no future. In order for youth to reach their full potential, they need to have a sound foundation of knowledge, skills, and competencies. Recent governmental reports indicated that there are educational deficiencies of youth in basic skills and higher level intellectual skills. Business and military leaders find that employees require remedial education and training in basic skills. The Cooperative Extension Service can be a partner with business, community, industry, and schools to develop experiential learning opportunities to attract and direct students who find it difficult to learn effectively in the present school environment.

Performance Goals(s):

Output Indicators:

1. Membership in 4-H clubs, special interest, camping, etc
2. Attendance at workshops, classes, etc
3. Research and extension publications

Outcome Indicators:

1. Measurable changed behaviors
2. Generation of research results
3. Impact statements

Key Program Components:

Youth will:

1. Gain basic skills which allow them to function effectively in a work environment.
2. Work with parents to develop strategies for education and training beyond high school.
3. Strengthen their educational commitment and achievement through participation in 4-H programs, projects, and educational activities.

Internal and External Linkages:

1. School systems
2. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
3. Northeast land grant universities
4. U.S. land grant universities
5. Private industry
6. Maryland Cooperative Extension (UMCP and UMES)
7. Youth serving organizations
8. Community organizations

Target Audiences:

1. All youth
2. Underserved youth
3. Adult and youth volunteers

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table.

Source of Reporting Data:

Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators

MCE Focus Teams (UMCP and UMES) – for impact statements

- 4-H curriculum teams

Return to Goal 5

PROJECT/PROGRAM PLAN, 2000 - 2004
MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK
 (University of Maryland and University of Maryland Eastern Shore)

Goal 5

Name: Increase the ability of Maryland youth to have caring relationships with family members, peers, and others in their communities

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research					
Extension					X
Research/ Extension					
Multi-State					X

Statement of Issue(s):

Traditionally the family has been the most effective and economical system for caring, nurturing, and rearing children and it continues to play a major role in guiding young people toward a productive and self-reliant adulthood. Today, however, families face unprecedented challenges and changes, including the increase in families with both parents in the work force and the growth of single parent families. Young people spend less time in the supervised care of adults and more time watching television and in other unsupervised environments. The Maryland Cooperative Extension can be a partner with children, youth, families, and community groups to provide opportunities for children and youth to build and strengthen the foundations they need to grow up successfully.

Performance Goals(s):

Output Indicators:

1. Membership in 4-H clubs, special interest, camping, etc
2. Attendance at workshops, classes, etc
3. Research and extension publications

Outcome Indicators:

1. Measurable changed behaviors
2. Generation of research results
3. Impact statements

Key Program Components:

Youth will:

1. Understand themselves and appreciate individual differences.
2. Make positive peer group friends.
3. Develop skills for interpersonal communication with peers and adults, including conflict resolution skills.

4. Increase internal assets for positive development.
5. Learn skills and adopt attitudes that demonstrate character.

Families will:

1. Demonstrate care for and responsiveness to each other and build assets in youth.

Communities will:

1. Foster environments that demonstrate care for and responsiveness to youth needs.

Internal and External Linkages:

1. School systems
2. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
3. Northeast land grant universities
4. U.S. land grant universities
5. Private industry
6. Maryland Cooperative Extension (UMCP and UMES)
7. Youth serving organizations
8. Community organizations

Target Audiences:

1. All youth
2. Underserved youth
3. Adult and youth volunteers

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table.

Source of Reporting Data:

Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators

MCE Focus Teams (UMCP and UMES) – for impact statements

- 4-H curriculum teams

Return to Goal 5

PROJECT/PROGRAM PLAN, 2000 - 2004

MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK

(University of Maryland and University of Maryland Eastern Shore)

Goal 5

Name: Increase the abilities of Maryland youth to be competent youth leaders with a strong commitment to civic and social responsibility

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research					
Extension					X
Research/ Extension					
Multi-State					X

Statement of Issue(s):

Since 1990, arrests for violent juvenile crimes in Maryland have increased more than 35 percent.

During this period there were also significant increases in shoplifting, property damage, school violence, and crime against citizens. Many youth are at risk due to their behavior, environment, and other characteristics that prevent them from being responsible individuals.

Performance Goals(s):

Output Indicators:

1. Membership in 4-H clubs, special interest, camping, etc
2. Attendance at workshops, classes, etc
3. Research and extension publications

Outcome Indicators:

1. Measurable changed behaviors
2. Generation of research results
3. Impact statements

Key Program Components:

Youth will:

1. Understand citizenship and leadership and discover ways to become active citizens and leaders.
2. Form partnerships with adults to develop and implement programs, projects, and services that will benefit youth and other citizens of the community.
3. Learn to control emotions and gain greater self control.
4. Become aware of the public issues of the community and discover effective methods of addressing them.

Internal and External Linkages:

1. School systems
2. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
3. Northeast land grant universities
4. U.S. land grant universities
5. Private industry
6. Maryland Cooperative Extension (UMCP and UMES)
7. Youth serving organizations
8. Community organizations

Target Audiences:

1. All youth
2. Underserved youth
3. Adult and youth volunteers

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table.

Source of Reporting Data:

Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators

MCE Focus Teams (UMCP and UMES) – for impact statements

- 4-H curriculum teams

Return to Goal 5

PROJECT/PROGRAM PLAN, 2000 - 2004
MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK
 (University of Maryland and University of Maryland Eastern Shore)

Goal 5

Name: Strengthen Maryland youth's understanding of the importance of good health and safe and healthy lifestyles.

	REE - Goal 1	REE - Goal 2	REE - Goal 3	REE - Goal 4	REE - Goal 5
Research					
Extension					X
Research/ Extension					
Multi-State					X

Statement of Issue(s):

Safety and healthy living practices are special concerns for Maryland youth. Youth potentially reduce their life span by using unsafe and unhealthy practices in agriculture, the home, transportation, personal health, nutrition, and the environment. Many health and safety issues are bound by community, family, educational, and societal influences. Youth are faced with decisions that will have a direct influence on their future health and well-being.

Performance Goals(s):

Output Indicators:

1. Membership in 4-H clubs, special interest, camping, etc
2. Attendance at workshops, classes, etc
3. Research and extension publications

Outcome Indicators:

1. Measurable changed behaviors
2. Generation of research results
3. Impact statements

Key Program Components:

Youth will:

1. Understand the relationship between nutrition, fitness, and health.
2. Adopt healthy food and physical fitness practices.
3. Understand of the role of technology in food handling, food preparation, and food safety.
4. Avoid the use of tobacco, alcohol, and other drugs.
5. Acquire knowledge and gain skills in personal safety and safety related to the home.
6. Use safety procedures when using transportation equipment in on- and off-road situations.
7. Remain safe when working with animals, chemicals, and equipment associated with

agriculture.

Internal and External Linkages:

1. School systems
2. Cooperative Extension Services in Virginia, West Virginia, Delaware, New Jersey, and Pennsylvania.
3. Northeast land grant universities
4. U.S. land grant universities
5. Private industry
6. Maryland Cooperative Extension (UMCP and UMES)
7. Youth serving organizations
8. Community organizations

Target Audiences:

1. All youth
2. Underserved youth
3. Adult and youth volunteers

Program Duration: FY 2000 - 2004

Allocated Resources:

See Resource Table.

Source of Reporting Data:

Maryland Cooperative Extension Reporting System (UMCP and UMES) – for output indicators

MCE Focus Teams (UMCP and UMES) – for impact statements

- 4-H curriculum teams

Return to Goal 5

MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK (University of Maryland and University of Maryland Eastern Shore)

STAKEHOLDER INPUT

The Maryland Stakeholder Input Plan for FY00 is comprised of several components. It includes input from traditional audiences and from nontraditional audiences that represent the diverse population and interests of the state.

Advisory Committees

Stakeholder input into this Plan of Work comes through several sources. In the development of a state plan of work in 1997, Maryland Cooperative Extension engaged conversation with a large number of its faculty and staff. This input sought to determine from their prospective the needs of local clients both in the then current education climate and in the five years that followed.

The College of Agriculture and Natural Resources (UMCP) utilizes an **Dean's Leadership Council** consisting of a broad cross-section of agricultural industry leaders to provide input on major directions for the College's research, teaching and extension agenda. The Advisory Council meets periodically to discuss rising issues in the State.

The administrative officers of the Maryland Agricultural Experiment Station and Maryland Cooperative Extension sit on and attend a wide array of committees with the State's agricultural leaders. Such continuous contact with the agricultural leadership including the Maryland Secretaries of Agriculture, Natural Resources and Environment provides additional contact to keep research and education issues examined by the research and extension in the State's two land grant universities current. The groups include the Maryland Agricultural Commission, the Maryland Grain Producers Association, the Delmarva Poultry Industry, the Southern Maryland Agriculture Commission, the Maryland Association of Soil Conservation Districts and many other similar groups.

Extension Advisory Councils

The **Maryland Extension Advisory Council** (MEAC) is comprised of a community member from each county in Maryland. These individuals also serve on the **Extension Advisory Council** (EAC) of their counties or Baltimore City. The county level EAC's provide substantial input into the planning of programs at the local level for Maryland Cooperative Extension. Membership is broadbased and diverse. Each county/city unit has developed a local unit plan to provide guidance for program planning. EAC members are major contributors to these unit plans. The Extension Advisory Councils can also provide input into future planning for research and extension.

Outcomes 2002

In the development of a state plan of work in 1997, Maryland Cooperative Extension engaged conversation with a large number of its faculty and staff. This input sought to determine from their prospective the needs of local clients both in the then current education climate and in the five years that followed.

This exercise in planning resulted in a document titled **Outcomes 2000: A Framework for Our Future**. This document is a major source of input into this document. Faculty and staff input was not the only source of input as Outcomes 2002 was developed. The document when in draft form was shared with the **Maryland Extension Advisor Council**. These citizens were instrumental in providing additional input that solidified the final form of the report. Their input was valuable in setting programming priorities for future Maryland Cooperative Extension (UMCP and UMES combined) programs.

Key Informant Process

In a joint effort to further identify stakeholder input into the goals of research and extension in the State, the two

Maryland Land-grant institutions will seek input from key groups using a process known as the Key Informant process. To provide consistency across the component groups, a standard methodology will be used. The community assessment tool of key informant interviews is the core of the methodology.

The groups that will be represented by the key informant interviews are:

1. **Family and youth community**
2. **Agriculture community**
3. **Extension Advisory Councils (EAC)**
4. **Commodity groups and other traditional constituency groups**

The selection of key informants will be different for the four groups. Ten or so community key informants in selected counties will be chosen by the county family and youth extension educators for one or more communities using guidelines in the protocol. Ten or so agriculture key informants in each of selected counties will be chosen by the county agriculture extension educator using guidelines in the protocol. At least three of the agriculture and three of the family and youth key informants will represent underserved populations. One EAC key informant will be chosen randomly from each county EAC for a total of 24 interviews. The commodity and traditional constituency groups will be listed and then selected by a standard random process, with representation by the organization's president or someone he or she designates.

A set of interview questions will be asked of key informants in each of the four groups. The set of questions will be different for each group but will center around identifying what the key informants feel will be critical research and education issues in the coming five years.

Interviews with agriculture and family/youth groups will be conducted by county extension educators who are familiar with the communities. They will record responses and summarize findings as part of their scholarship activities. The EAC and traditional group interviews will be conducted by state and regional personnel.

The Maryland POW for FY00 is based upon input from many sources through the processes used in 1997 to compose the Maryland five-year extension plan entitled **Outcomes 2002: A Framework for Our Future** and other on-going inputs from EACs, commodity groups, and other standard processes. This proposed key informant process is a new effort to obtain input not only from traditional groups but also a wider array of persons who are representative of more diverse views. It is anticipated that this effort will begin in FY00 and will take two years to complete.

Customer Questionnaire

A simple, two-page questionnaire will be sent to at least 200 persons acquainted with the extension program. Questions will relate to the relevance and performance of the program; respondents will be asked to prioritize issues and program topics. In addition, the questionnaire will be posted on the MCE Web site so that visitors to the site can express their views.

User Input through WWW

The Maryland joint research and extension planning project will work to initiate a process of seeking stakeholder input through a user questionnaire developed as a WorldWideWeb process. This effort will provide opportunity for input from a much wider group of participants in the efforts of research and extension from throughout the State and in other participating areas.

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MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK (University of Maryland and University of Maryland Eastern Shore)

Multi-State Collaboration

Maryland's two Land-grant institutions have sought to collaborate with other states in providing the highest of quality research and extension education programs possible. These efforts are essential to efficient use of resources and in establishing sound research methodology. Maryland has been a participant in the Northeast Regional Research program for a number of years. Joint Research programs have been developed using the regional research approach. These projects are well established in the region.

- Northeastern Groups
 - NorthEast Research Association (NERA)
 - NorthEast Extension Directors (NEED)
- NorthEast Region Joint Research-Extension Plan
- Regional Projects
 - NorthEast Research Extension Project (NEREP)
 - NorthEast Research Project (NERP)
 - NorthEast Research Extension and Academic Projects (NEREAP)
- 1890 Region
 - Association of Research Directors

ARD was formed and incorporated in 1972 to coordinate most of the food and agricultural research activities among the 1890 Land-grant Universities, USDA , and other colleges and universities. Through this body, regional research projects are formulated whereby several interested institutions participate. Over the years three such efforts have occurred and supported by several 1890 Land-Grant universities on high priority issues.

- 1890 Extension Directors'

Report on Multi-state Collaborations

- Research
- Extension

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DRAFT

Northeast Research and Extension Program Framework February 2, 1999

Based on USDA-REE Strategic Plan Goals

GOAL 1 - An agricultural production system that is highly competitive in the global economy

1. Components of the food and fiber system will be profitable through
 - Increased production efficiency
 - Develop more value-added products
 - Diversity export and domestic markets
 - Satisfying the consumer
1. The public will understand and value agriculture and its relationship to their daily lives.
2. Production, marketing and financial risks are managed effectively by producers.
3. Appropriate technology is developed and adopted by the components of the food and fiber system.

GOAL 2 - A safe, secure food and fiber system

1. Eliminate food borne illness
2. Eliminate non-pathogen health risks
3. Appropriate use of production inputs
4. Secure food system (Available, accessible, dependable, nutritionally adequate, safe and affordable)

GOAL 3 - A health, well nourished population

1. Prevent nutritionally related chronic diseases

"TIME"

[short prenatal – year 4]

horizon for deliverables

Target (expression state by state)

Reduce incidence of CVD in 50-59 year olds by _____ %

2004 (time)

2. Maximize health through a nutritious diet and effective physical activity (across life span)

Deliverable:

Reduced disease treatment costs
Reduced work days lost to illness

Indicator:

- 10% increase in Americans engaged in effective physical activities by year
- 25% increase in Americans consuming 5 or more fruits and vegetable servings a day
- Reduced physician visits
- 40% of Americans consume low fat pork products instead of high fat products

3. Reduce nutritionally related health risks through research and educational programs that change behavior

(Education and research actions that promote changed behavior)

Obesity

GOAL 4 - Greater harmony between agriculture and the environment

1. Safe and adequate water supply
2. Land conservation for preserving future options
3. Healthy ecosystems are maintained
4. Clean air
5. Public policy decision are informed by science
6. Environmental literacy

GOAL 5 - Enhanced economic opportunity and quality of life for Americans

1. Economically strong, stable, and caring communities
2. Quality, assessable childcare
3. Quality, assessable eldercare
4. Access to quality healthcare
5. Increase economic opportunities for limited resource residents
6. Improve quality of life and economic viability of rural populations
7. Engage youth in activities preparing them to be productive members of society
8. Well-trained and skilled workforce

PROJECT/PROGRAM PLAN, 2000 - 2004
MARYLAND JOINT EXTENSION AND RESEARCH PLAN OF WORK
(University of Maryland and University of Maryland Eastern Shore)

Cooperation between Research and Extension in Maryland

Substantial cooperation exists between research and extension in Maryland's two land-grant institutions. This cooperation starts with the administrative level linkages and includes joint appointments and a competitive grants program.

MCP Administration. This cooperation is directed by the administration of Maryland Cooperative Extension and the Maryland Agricultural Experiment Station which are managed by Dr. Thomas A. Fretz, Dean of the College of Agriculture and Natural Resources, Director of Maryland Cooperative Extension and Director of the Maryland Agricultural Experiment Station, and his designated Associate Directors. They form a single management team of agriculture research, extension and education at the University of Maryland, College Park.

UMES Administration. The MCP administrative team works closely with the agricultural extension and research administrative team of the University of Maryland Eastern Shore. Dr. Henry Brooks is the Administrator of 1890 Extension Programs at UMES where extension is a campus wide effort. Dr. Henry Brooks reports directly to the UMES President. He is also a part of the MCE administrative team. Dr. Carolyn Brooks is the Dean of the School of Agricultural and Natural Sciences at UMES. She also works closely with MCP administrative team to bring closer ties to MAES.

Joint Appointments. A number of MCP academic department faculty members are jointly funded by MCE and MAES. These joint appointments provide for integrated approaches to applied research and extension. Most State Specialists (all faculty members in academic departments) with MCE appointments have at least a partial appointment in MAES. Scientist/Specialists with such appointments are in a position to assess the needs of agricultural and related clientele through personal contacts or through MCE field faculty (Extension Educators). They can with these assessments design both applied research approaches and extension education programs to meet the needs identified. A strength of these appointments in academic departments is the synergy of work relationships with research scientist working on more basic research needs.

Competitive Grants Program. MAES provides primary funding for and manages a competitive grants program for agricultural and natural resources research scientists in Maryland. Funding is open to any University of Maryland System institution. the competitive grants program is jointly managed by UMES and UMCP. The program encourages cooperative research/extension submission. Faculty members with primarily MCE appointments have been major recipients of funding through these grant efforts. Each year a set of funding priorities are established which seek to address priority needs in the state. Field faculty are encouraged to participate in the program and often collaborate with research scientists and extension specialists to request funding.

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Multi-County Extension

Multi-County Assignments

Maryland has developed a funding and program development mechanisms that promote Multi-county Extension education programs. These efforts were enhanced in the early 1990's when decreased federal and state funding forced Maryland Cooperative Extension to reduce the number of faculty members in field positions throughout the state. Perhaps, the most significant results of these changes is the introduction of "regional specialists" and the development of the Home and Gardening Information Center.

- **Regional Specialist** are individuals placed at Maryland's four major Research and Education Centers (REC's) who specialize in providing educational programs in special interest areas. MCE has approximately 12 individuals that function as regional specialists. They provide applied and problem solving research to enhance their educational programs. These individuals are usually educated to the Master's level and have been successful in a county function and possess extra skills in reaching special interest groups. These groups include commercial greens industry, vegetable producers, water quality concern groups, natural resources, and farm business management. These individuals carry the appropriate agent rank. They nominally serve a region of 7 to 9 counties. In reality, they provide educational programs to meet client needs throughout the state. They are all in the agriculture and natural resources programming area.
- Maryland also has a few **Area Extension Educators (Agents)** who provide educational programs to more than one county usually two or three. In general, these positions are less specific in client base than the regional specialist positions. These types of positions result primarily from situations where agents in the specific programming area can not be funded in adjacent counties because of budget shortfalls.
- **State Specialists** (Departmental assigned, professor titled individuals) serve as programming specialists on both the UMCP and UMES campuses. A few are assigned to Regional Research and Education Centers. These individuals program throughout the state to meet the needs of clients in any area of the state. Most specialists work closely with regional specialists, area extension educators and county extension educators to provide educational programs aimed at solving specifically identified issues. Other Specialists work more directly with the clients. Many State Specialists have appointments on both extension and research and research funds.
- **Extension Educator (Agent)** expectations are for multi-county cooperation in programming. Maryland Cooperative Extension values and rewards teamwork from its employees. The majority of salary on all Extension Educators are from State and federal funds. Thus, expectations of cross county cooperation in program can be evaluated and rewarded. MCE is fortunate to be able to report that the vast majority of Extension Educators do cooperate across county lines in developing and sharing educational programming responsibilities.

Regional Programs

Several multi-county programming teams have evolved from mutual needs. These teams also form across programming areas in some cases. Specific multi-county teams include **Pasture Management, Commercial Ornamental Horticulture and Farm Family Financial Management**. Some of these efforts are specifically address in various components of the Plan of Work.

Home and Garden Information Center. In addition MCE operates a centralized Home and Garden Information Center which field homeowner questions from throughout the state on toll free telephone lines. This center fields some 50,000 calls per year. In addition the HGIC is aggressively developing WWW based services for the homeowners and other interested in issues associated with ornamental and gardening food plants. The HGIC has active in developing a multi-county network of volunteers through the Maryland Master Gardeners Program. Many of the issues addressed by the Center are related to appropriate use of environmentally sensitive materials. This effort assists providing educational materials

to assist in improving Chesapeake Bay water quality.

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Review Processes

Merit Review Process

Maryland Cooperative Extension like other Cooperative Extension System institutions has not historically developed a wide ranging merit review process in the past. The Plan of Work represents a first attempt to articulate MCE's approach to the issue of Merit Review.

MCE will ask selective individuals to provide a review of the Joint Extension/Research Plan of Work to establish their evaluation of the merit of the Plan. Selected individuals will include Cooperative Extension program leaders in other states, an 1890 administrator from another state and selected clientele members in the state. The merit review process will focus on the three primary programming areas of MCE; Agriculture and Natural Resources, Family and Consumer Sciences and 4-H Youth Development.

In addition, MCE will seek to have a detailed program review of each of the above program areas listed above at least every 5 to 8 years. The first such review occurred in MCE in the fall of 1996 when a detailed review of the 4-H Youth Development program was conducted. This review, conducted by a panel of 4-H Youth Development professionals from other states, resulted in a review document that is currently being used to guide major changes in the program directions of the program. A **4-H Review Summary** is provided as a part of this Plan of Work.

MCE initiate similar program reviews in Agriculture and Natural Resources and Family and Consumer Sciences programming areas over the next five years. These reviews while costly provide considerable guidance to the administration on formulating programming responses to the plan of work.

Peer Review Process

Peer Review has long been a part of the Maryland Agricultural Experiment Station's approach to funding research as required under the Hatch Act. This process will be continued on all specific projects.

- **Hatch Projects.** All state research projects funded by federal formula funds are reviewed externally by peers in compliance with the guidelines of USDA.
- **Regional Research Projects.** All regional research projects funded by federal formula funds are reviewed by a peer committee in compliance with the guidelines of USDA.
- **Northeast Research, Extension and Academic Programs.** All NREAP and related projects funded by federal formula funds are reviewed by a peer committee in compliance with the guidelines of USDA.
- **MAES/MCE Competitive Grants.** All projects funded through the MAES/MCE Competitive Grants program are reviewed in accordance with the federal guidelines for project review by a panel of scientist from UMCP, UMES and other research institutions located in Mid-Atlantic region including USDA-BARC, Johns Hopkins University, University of Delaware and Virginia Polytechnic Institute and State University.

In addition, this specific Plan of Work will be sent to panel of agricultural scientist to assess the proposed research plans.

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Executive Summary

Maryland State 4-H External Review

Background:

An external review team of six experienced 4-H administrators and faculty visited the Maryland 4-H program in December, 1996. They spent a week interviewing 4-H administrators, faculty, volunteers, members and individuals from collaborating organizations. In March, 1997, they issued a report that contained 94 recommendations for the Maryland 4-H program. Recommendations were in the areas of: youth development, program development, volunteer development and management, faculty and staff development, organizational support, communications, resource development, marketing and program accountability.

Implementation Process:

The Maryland 4-H community set about quickly to implement the recommendations. An implementation team was formed and subcommittees, that included volunteers and 4-H members, took responsibility for separate chapters of the report. Each of the 94 recommendations was reviewed. Existing committees and units were used to implement the changes. In all, about 75 people were involved in the study and implementation of the recommendations.

The goal of the implementation team was a response report to be released one year from the date of the external review report. At the half-year mark, October 1997, a Phase I report containing all the responses to date was presented to the 4-H faculty to garner their support and ideas for the final implementation. This final report, issued March 1998, lists all of the recommendations and the responses taken by the Maryland 4-H community.

Outcomes:

A primary outcome of the review is the intensive study and discussion of the recommendations. The report did not sit on the shelf. A large number of the 4-H community worked on implementing the recommendations. People studied, discussed, internalized and applied the recommendations. In the long run, it will be this internalization of the recommendations that will influence and shape the directions of the program.

There are three themes that emerged as we worked on the recommendations. They are:

1. The core of our mission is youth development. We have verified and documented this in many ways beginning with the adoption of a youth development model as the base or foundation for our program. We also are striving to enhance every opportunity for youth-adult partnerships and youth representation throughout the organizational structure.
2. Our traditional programs and audiences are valued. As we move to include new programs or audiences, there will need to be additional resources through grants, corporate sponsorship, donations to the Foundation or other avenues. The current program is effectively reaching important clientele with strong programs and can not be sacrificed to move new directions.
3. Communication is key to effective and efficient programming. We have had many efforts this year to move to electronic communication whenever possible. Much of our communication among faculty is now done by E-mail. Our Homepage now carries our new monthly newsletter and also major reference documents such as the activities book. New methods, such as the Web Board and Chat room, for faculty communication are also being employed.

In summary, we have made many strides toward a stronger program. Extension educators and state faculty are leading the way with their creativity and incredible devotion and dedication to the youth of our state.

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Appendix

This appendix contains descriptions of specific projects or programs to be undertaken in completion of this plan of work.

Hard copy versions of these descriptions are not included in the plan as submitted to the USDA-CSREES. The descriptions are available at the plan of work WWW site. Lists of the projects are attached for the conveyance of the review panels.

Project and Program Matrices

- Appendix for Goal 1 - To achieve an agricultural production system that is highly competitive in the global economy.
- Appendix for Goal 2 - A safe, secure food and fiber system.
- Appendix for Goal 3 - A healthy, well-nourished population.
- Appendix for Goal 4 - Achieve greater harmony (balance) between agriculture and the environment.
- Appendix for Goal 5 - Enhanced economic opportunity and quality of life for Americans.

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APPENDIX - GOAL 1

To achieve an agricultural production system that is highly competitive in the global economy.

- Metabolic Relationships in Supply of Nutrients for Lactating Cows
- Regulation of Nutrient Use in Food-Producing Animals
- Advance Technologies for the Genetic Improvement of Poultry
- Spatial Dynamics of Leafhopper Pests and Their Management on Alfalfa
- Epidemiology and Control of Emerging Strains of Poultry Respiratory Disease Agents
- Perennial Weeds
- Effects of density and social factors on level of disturbance and performance in broiler chickens
- Biophysical Models for Poultry Production Systems
- High density culture and raising of chicken may have a negative impact on growth
- Enhancing health and safety through protective equipment.
- Taxes as a tool for environmental regulation
- The economic organization of agriculture in traditional and modern agriculture
- Rootstock and Interstem Effects on Pome and Stone Fruit Trees
- Postharvest Physiology of Fruits
- Determinates and Impacts of Changing Patterns of Vertical Coordination in the Food Industry
- Land use, water quality, and the Chesapeake Bay.

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APPENDIX - GOAL 2
A SAFE, SECURE FOOD AND FIBER SYSTEM

- Improve consumers' knowledge and practice of safe food handling
- Food Safety Academic Programs and Partnerships
- Effects of Phosphates solutions on the physical, sensory, microbial properties of chicken breasts during frozen storage
- Effects of environment and diet on the nutrient composition of striped bass and tilapia
- Poultry litter as a soil amendment: Possible link to foodborne diseases

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APPENDIX - GOAL 3
A HEALTHY, WELL-NOURISHED POPULATION

- Dietary Guidelines, Dietary Reference Intakes and the Food Guide Pyramid
- Nutrition and Infants, Young Children
- A healthy, well-nourished population
- Milk Avoidance Behavior and Taste Preferences in Black and White Females
- Zinc Needs and Homeostasis during Lactation
- Applying Information Processing Models to Assess Consumer Understanding of the New Food Label

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APPENDIX - GOAL 4
**ACHIEVE GREATER HARMONY (BALANCE) BETWEEN AGRICULTURE AND
THE ENVIRONMENT.**

- Development and Application of Comprehensive Agricultural Ecosystems Models
- Biological and Cultural Management of Plant-Parasitic Nematodes
- Characterization and Mechanisms of Plant Responses to Ozone in the NE US
- Integrated Turfgrass Management for Environmental Enhancement and Resource Conservation
- Diversity and interactions of beneficial bacteria and fungi in the rhizosphere
- Integrating Cover Crops, Cultivation and Herbicides to Optimize Weed Control
- Developing alternative sustainable technology for controlling corn earworm damage in soybeans
- Effects of Best Management Practices on Primary Nutrient Delivery Pathways in the Manokin River Basin
- Graduate research enhancement projects: biocontrol and nutrient Management strategies for a safe ecosystem
- Managing Dairy Waste With Constructed Wetlands
- Environmental and Economic Impacts of Nutrient Flows in Dairy Forage Systems
- Taxes as a tool for environmental regulation
- Land use, water quality, and the Chesapeake Bay
- Conservation and establishment of forest and riparian buffers

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APPENDIX
GOAL 5
ENHANCED ECONOMIC OPPORTUNITY AND QUALITY OF LIFE FOR
AMERICANS.

- Academy for Excellence in Local Governance
- Local Government Capacity Building
- Economic Development District
- Enhanced economic opportunity and quality of life for Americans.
- Conflict Management Training
- Child Care
- Preparing to Retire and Managing Finances in Retirement.
- From Welfare to Well-being
- Health...It's Your Choice Curriculum
- 4-H Clover Program
- Teen Leadership Development
- 4-H Camping Program
- 4-H Natural Resources Program
- 'Are you Into It' – National 4-H Advertising Campaign
- 4-H Service Learning
- Workforce Preparation
- Maryland Cooperative Extension Volunteer Policy Educational Program (Volunteer Management)
- 4-H Volunteer Development

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