

**Michigan State University  
Extension 2003-04 Annual Report  
of Accomplishments and Results**

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Director**

## **Overview**

Since its beginning, Michigan State University Extension has focused on bringing knowledge-based educational programs to the people of the state to improve their lives and communities. Today, county-based staff members, in concert with on-campus faculty members, serve every county with programming focused on agriculture and natural resources; children, youth and families; and community and economic development.

Today's problems are very complex. Solutions require the expertise of numerous disciplines and the collaboration of many partners. Operating synergistically with the Michigan Agricultural Experiment Station and other Michigan State University units, MSU Extension extends the University's knowledge resources to all Michigan citizens and assists them in meeting their learning needs through a variety of educational strategies, technologies and collaborative arrangements.

Michigan State University Extension (MSUE) uses an ecological model in approaching community needs by providing educational programs and information at multiple levels, which results in blended funding sources, programs crossing over goal areas, integration of research and educational instruction, and multiple delivery approaches (direct and indirect). For example land use in Michigan plays a critical role in agriculture, environment, and community and economic development, which is addressed by multiple resources (federal, state, county, and other) and through multiple Area of Expertise (AoE) teams. In addition, environmental factors (i.e., reduction of state and county dollars, early retirements of senior staff) have affected resources, number of staff, and the educational programs.

## **Stakeholder Input**

MSUE used stakeholder input to identify critical issues, prioritize programming, improve program designs and provide feedback (see 2004 Update to Plan of Work). During 2002 MSUE used the results of a statewide initiative of community input called "Sharpening Our Program Focus" that identified five priority areas: building strong communities; helping youth succeed; enhancing profitability in agriculture; encouraging responsible land and natural resources use; and building healthy families. A survey was done in the spring of 2002 by the Institute for Public Policy and Social Research (IPPSR) called the State of the State Survey (SOSS) that assessed a variety of public topics with one set of questions asking for reactions to the identified program priorities for MSU Extension. The 1012 random surveys were conducted in all six regions of the state. The findings supported the five priority areas with 78% of the respondents indicating helping youth succeed and building healthy families as a high priority, followed by 70% indicating high priority for encouraging responsible land and natural resource use, 62% for building strong communities, and 51% for enhancing profitability for agriculture. It is noteworthy that only 3%-5% indicated any of these areas as a low priority. Local, regional and state focus areas were used by the 29 AoE teams, in collaboration with their advisory committees,

partners and stakeholders, to strengthen existing goals, drop completed or obsolete goals, and create new initiatives. The following report describes the outcomes and impacts of the programs and initiatives that were the result of this process. Overall, MSUE:

- Impacted educational programs and applied research projects that addressed health and obesity issues, helped officials and communities deal with land use issues, taught and supported parents, provided strong mentoring and other educational programs for children and youth (including 4-H), promoted value-added agriculture, helped protect the state's environment and natural resources, and controlled or eradicated the spread of infectious diseases.
- Conducted long-term research projects affecting various agricultural and natural resource industries (including forestry and tourism) that made major contributions to the state's economy.
- Strengthened the capacity to address threats to Michigan's food security and the health of its citizens. Key examples of current research included bovine tuberculosis, West Nile virus, chronic wasting disease, hoof and mouth disease, emerald ash borer, etc.
- Worked with countless collaborations in communities, providing the educational component to complement the services provided by other organizations and agencies (e.g., FIA, MDCH, WIC, DNR and MDA). This also included mandated continuing education programs for a variety of industries.
- Strengthened the research and educational capacity of Michigan's land grant university with the loss of MSUE educators and MAES scientists.
- Strengthened the funding partnerships that created the state's land grant system of public access. These partnerships fund positions at the state and local levels and they ensure that state and local issues are addressed.

Presently the Institute for Public Policy and Social Research (IPPSR) is conducting another State of the State Survey (SOSS). Findings from this will be used as one source of stakeholder input in developing the 2007-2011 Plan of Work in the future.

## **Inputs and Resources**

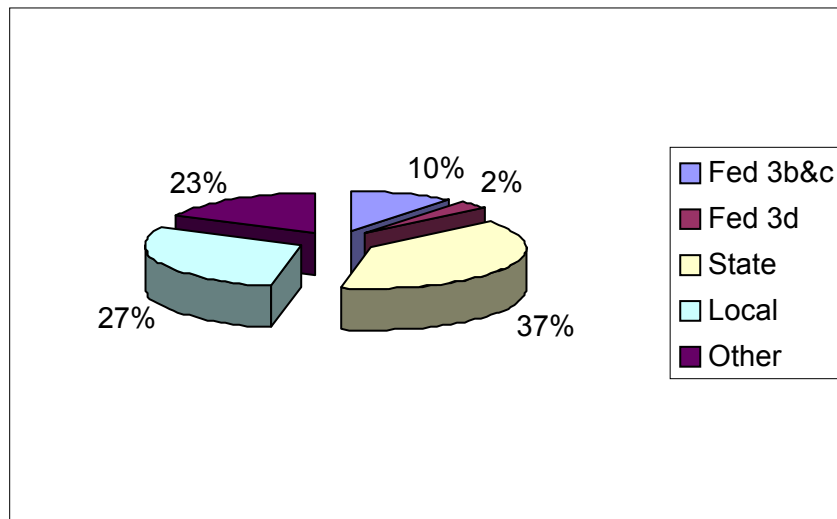
Table 1. shows the overall expenditures for MSUE for the 2003-04 federal programming year to be \$75.4 million, with \$7.5 million being Federal B and C formula dollars. These dollars have been critical in contributing to base programming in the counties as well as enhancing programs by matching state and county dollars. The match from the state is over 300%, demonstrating strong support for MSU Extension's partnership with USDA. Because Federal 3B and 3C dollars, like the state and county dollars, are integrated into virtually every MSUE program, the following report reflects the whole rather than a part. One major part that is missing from the following report is in-kind contributions,

which include volunteer time (more than 28,000 volunteers assisted programming in 2003-04) and tangible resources, such as building space, materials, and travel that would be valued in the millions of dollars.

Goal	Fed b&c	Fed 3d	State	Local	Other	Total
1) Agriculture	1,755,073	38,339	7,260,664	3,940,391	1,478,053	14,472,520
2) Food Safety	789,701	558,420	4,008,429	3,364,515	3,636,342	12,357,407
3) Food, Nutrition, and Health	751,594	1,174,788	3,472,994	4,586,619	6,860,033	16,846,027
4) Environmental	1,671,702	50,838	6,158,875	4,198,549	3,340,737	15,420,701
5) Community, Human, and Youth Development	2,497,913	19,592	7,003,201	4,439,459	2,345,363	16,305,528
<b>Total</b>	<b>7,465,982</b>	<b>1,841,976</b>	<b>27,904,163</b>	<b>20,529,533</b>	<b>17,660,528</b>	<b>75,402,183</b>

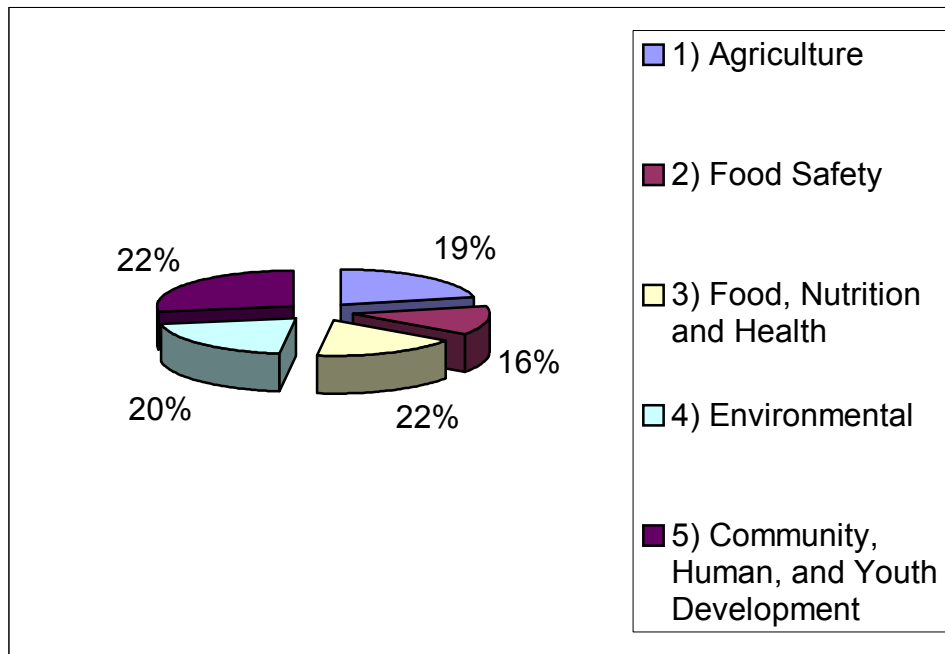
Table 1.  
Overall MSU Extension Expenditures by Source of Funding and Federal Goal

Graph 1. shows 10% of MSUE funds were **Federal 3b&c**, 2% **Federal 3d** (mainly EFNEP), 37% **State**, 27% **Local** (mainly county), and 23% **Other** (competitive grants – multiple sources with FNP being the largest),



Graph 1.  
Overall 2003-04 MSU Extension Expenditures by Source of Funding

Graph 2. shows overall funding for MSUE by Federal Goals: 19% of funding involved programs that addressed **Goal 1)** An agricultural system that is highly competitive in the global economy; 16% for **Goal 2)** A safe and secure food and fiber system; 22% for **Goal 3)** A healthy, well-nourished population; 20% for **Goal 4)** Greater harmony between agriculture and the environment; and 22% for **Goal 5)** Enhanced economic opportunity and quality of life for Americans.



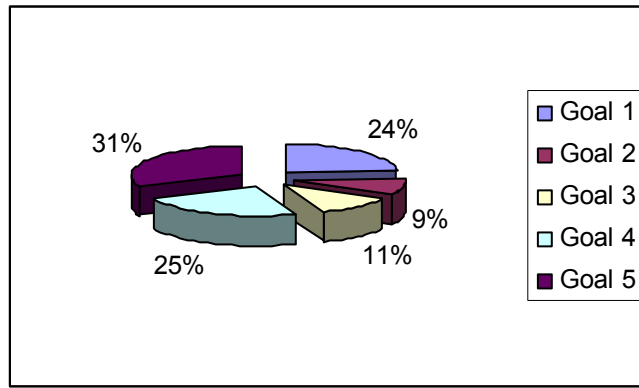
Graph 2.  
Overall 2003-2004 MSU Extension Funding by Federal Goal

Table 2. shows that in 2003-2004, MSUE staff consisted of 1,012 full time equivalents (FTE) with 50% Professional (506 FTE's), 25% Para-Professional (252 FTE's), and 25% (254 FTE's) Office and Clerical staff members. Two changes have taken place in the past three years: a decrease in senior staff (i.e., County Extension Directors, field agents, specialists, and administrators); and an increase in starting level para-professionals, which have mainly been in parenting and 4-H Food and Nutrition programs. Nine percent of the total FTE's (89 FTE's) were funded by Federal 3b&c with 79 FTE's being Professional. Twenty-four percent of the total FTE's (243 FTE'S) were county funded employees.

	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5	Total
Professional	116	46	65	123	156	<b>506</b>
Para-Professional	15	61	138	15	23	<b>252</b>
Office/Clerical	57	33	38	51	75	<b>254</b>
	<b>188</b>	<b>140</b>	<b>241</b>	<b>189</b>	<b>254</b>	<b>1,012</b>

Table 2.  
Total FTE by Professional/Para-Professional by Federal Goal

Graph 3. shows the percentage of FTE by Federal Goal for Professional Staff members, where the largest group fell in Goal 5 (Community, Human, and Youth Dev.).



Graph 3.  
Percentage of Professional FTE's by Federal Goals

## Outputs

Table 3. shows AoE teams grouped by Federal Goal. The number of participants reached for each AoE is provided:

<b>Goal 1 - Agriculture</b>	<b>Adult</b>	<b>Youth</b>	<b>Total</b>
Beef	914	6,282	7,196
Consumer Horticulture	10,549	1,399	11,948
Dairy	5,607	3,300	8,907
Equine	790	17,857	18,647
Field Crops	15,371	2,964	18,335
Floriculture	2439	130	2,569
Forage/Pasturing/Grazing	2063	28	2,091
Fruit	4,948	3,633	8,581
Livestock - Overall	3,096	1,149	4,245
Nursery/Landscape	2,103	0	2,103
Ornamentals - Overall	5,043	1220	6,263
Sheep	12	4,368	4,380
Swine	150	9,009	9,159
Turfgrass	670	130	800
Vegetables	1,874	5,449	7,323
	<b>55,630</b>	<b>56,918</b>	<b>112,548</b>
<b>Goal 2 - Food Safety</b>			
Food Safety*	<b>11,137</b>	<b>15,050</b>	<b>26,187</b>
<b>Goal 3 - Food, Nutrition, and Health</b>			
Food, Nutrition & Health*	<b>47,547</b>	<b>48,749</b>	<b>96,296</b>
<b>Goal 4 - Environmental</b>			
Forestry	3,165	5,249	8,414
Land Use	4,703	9,450	14,153
Manure	1,635	686	2,321
Renewable Resources (RREA)	325	3,377	3,702

Sea Grant	4,476	4,099	8,575
Water Quality	8,197	12,636	20,833
Christmas Trees	640	0	640
	<b>23,141</b>	<b>35,497</b>	<b>58,638</b>
<b>Goal 5 - Community, Human, and Youth Development</b>			
Community Development	10,991	2,779	13,770
Economic Development	4,472	487	4,959
Family Resource Management	4,055	13,981	18,036
FIRM	5,583	2	5,585
Human Development	13,469	17,113	30,582
LeadNet	1,419	6372	7,791
State & Local Government	3,974	20	3,994
Tourism	371	50	421
Volunteer Development	6,556	14,798	21,354
Youth Development**	10,009	19,953	29,962
	<b>60,899</b>	<b>75,555</b>	<b>136,454</b>

\* To avoid duplication, participants who received both food safety and food nutrition were counted only once.

\*\*\* To avoid duplication, youth who crossed goals were not counted again in youth development.

Table 3.

Total Participants Reached Directly by AoE by Federal Goals

In 2003-04, through the efforts of these twenty-nine AoE teams and volunteers, MSUE reached 430,123 participants directly through educational programs. This was a decrease of 9% from the previous year, which was due to reduced funding and loss of senior staff who took early retirements. Table 4. shows the number of participants reached directly for each of the five Federal Goal areas. Goal 5 (Community, Human, and Youth Development) had the largest number of participants with 136,454, followed by Goal 1 (Agriculture) and Goal 3 (Food, Nutrition, and Health). The numbers below do not include the millions of people that are educated through newsletters, TV, internet, radio and conferences on topics that include: [Emerald Ash Borer](#), [Helping Children and Their Families Cope with Disasters](#), and [MSUE Emergency Management](#).

Goal Area	Adult	Youth	Total	%
Agriculture	55,630	56,918	112,548	26.17%
Food Safety*	11,137	15,050	26,187	6.09%
Food Nutrition and Health*	47,547	48,749	96,296	22.39%
Environmental	23,141	35,497	58,638	13.63%
Community, Human and Youth Development**	60,899	75,555	136,454	31.72%
	<b>198,354</b>	<b>231,769</b>	<b>430,123</b>	

\* To avoid duplication, participants who received both food safety and food nutrition were counted only once (20% Food Safety and 80% Food, Nutrition, and Health).

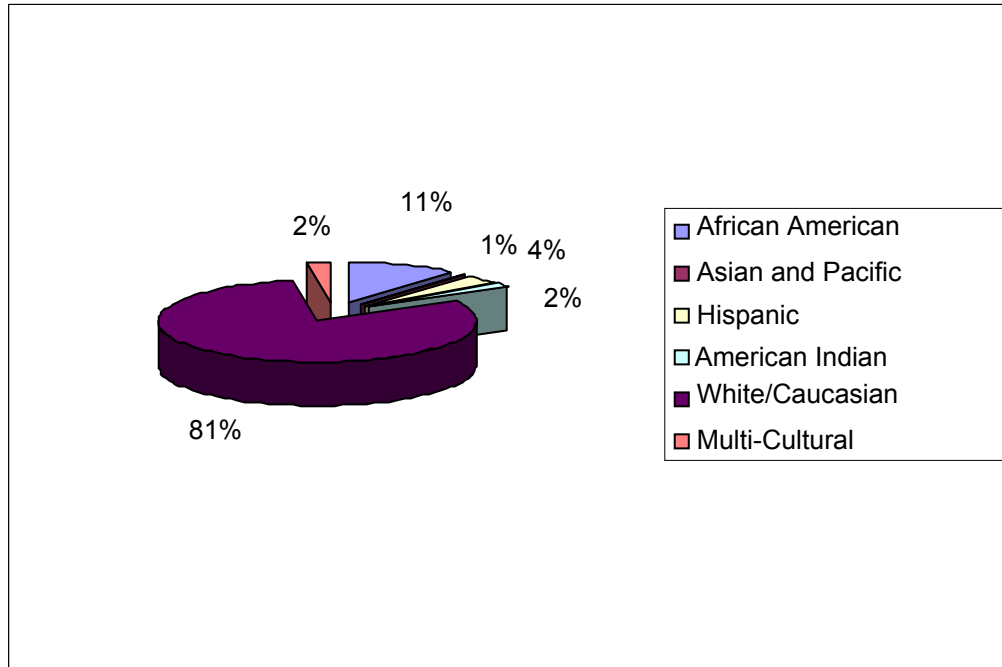
\*\* To avoid duplication, youth who crossed goals were not counted again in youth development.

Table 4.

Total Participants Reached Directly by Federal Goal

Graph 4. shows the ethnic distribution of the 430,123 participants educated directly.

Seventy-nine percent (81%) of the participants were Caucasian, 11% African American, 4% Hispanic, 2% Native American, 1% Asian, and 2% Multi-Cultural. This distribution is representative of Michigan's population: 80.9% Caucasian, 14.3% African American, 2.8% Hispanic, .6% Native American, and 1.7% Asian (Multi-Cultural was not used).



Graph 4.  
Percentage of Participants by Ethnic Groups

## Outcomes and Impacts

MSUE is dedicated to educating tomorrow's leaders and scholars. Innovative and hardworking MSUE faculty and staff members create knowledge and extend learning to serve Michigan, the nation and the international community. At MSU, faculty and staff members are expected to be active, learner-focused scholars, exemplifying scholarship across the land-grant mission. The essence of this scholarship is the thoughtful discovery, transmission and application of knowledge based in the ideas and methods of recognized disciplines, professions and interdisciplinary fields. What qualifies an activity as scholarship is that it be deeply informed by the most recent knowledge in the field, that the knowledge is skillfully interpreted and deployed, and that the activity is carried out with intelligent openness to new information, debate and criticism. The primary mechanism for educational program planning, implementation and evaluation for Michigan State University Extension is the Area of Expertise (AoE) team concept, which brings stakeholders, collaborators, faculty members, field



staff members, and communities together for community needs assessments, prioritization of MSUE programming goals, program development and implementation, and assessment of impact. Documented impacts focused on information that reflect changes in knowledge, attitudes, skills, aspirations, and communities that ultimately lead to transformational education and scholarship of discovery, integration, and application (see Figure 1.)

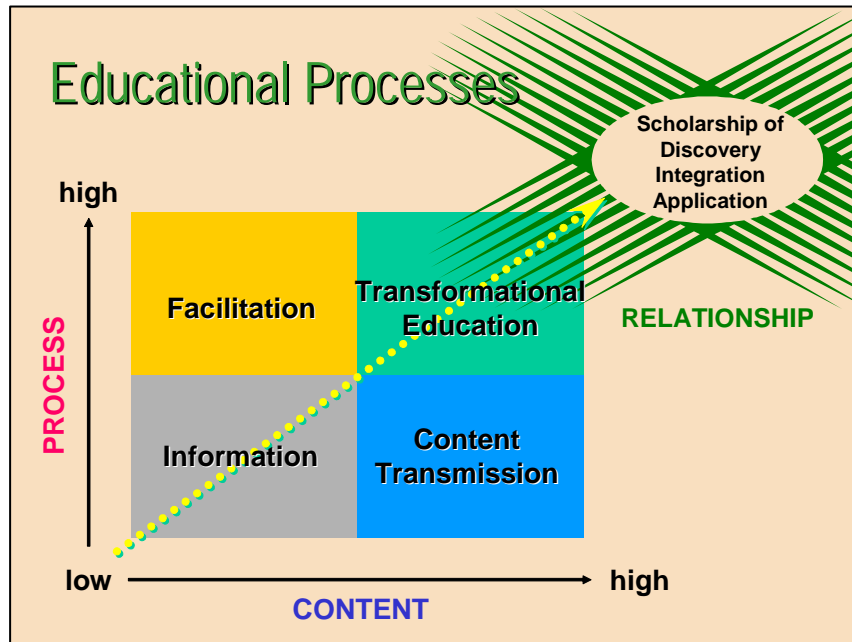
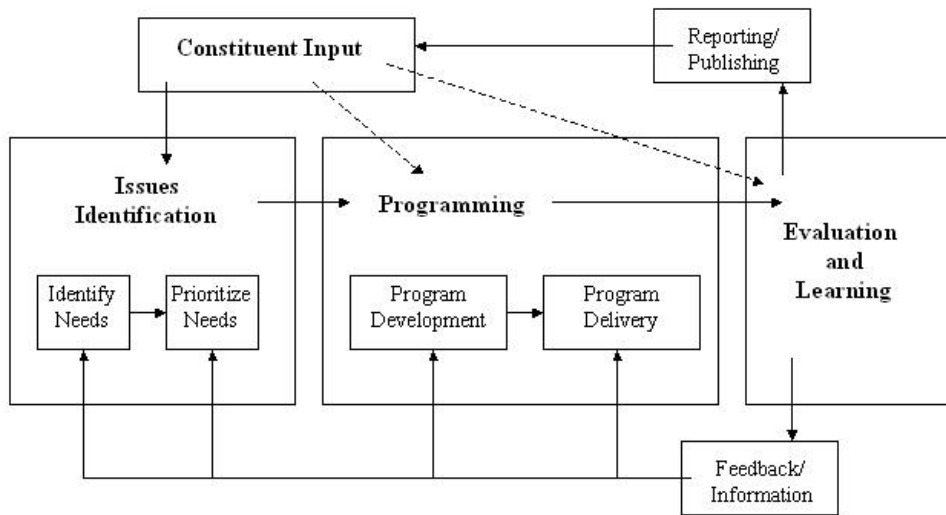


Figure 1.  
Transformation Education

In 2003-04 MSU Extension used the 29 Area of Expertise (AoE) teams as its central vehicle to assess community needs (see Figure 2.) through stakeholders, advisory groups, and community (constituents) involvement in identifying and prioritizing community needs, integrating research with program development, delivering the program, and evaluating impact and reassessing the need and situation.

## Issues Identification and Programming



Modified from Ted Ferris & Jim Kells Materials for Coaches and Co-Chairs

Figure 2.  
Constituent (Stakeholder) Input Process for  
Issues Identification and Programming

From this process, key federal areas for the AoE Teams in 2003-04 were:

- Adding Value to New and Old Agricultural Products
- Agricultural Profitability
- Animal Health
- Animal Production Efficiency
- Emerging Infectious Diseases
- Home Lawn and Gardening
- New Uses for Agricultural Products
- Ornamentals/Green Agriculture
- Plant Health
- Plant Production Efficiency
- GIS/GPS
- Food Handling
- Food Safety
- HACCP
- Human Nutrition
- Agricultural Waste

- Forest Resource Management
- Integrated Pest Management
- Land Use
- Pesticide Application
- Water Quality
- Child Care
- Youth At-Risk
- Community Development
- Leadership Training and Development
- Parenting
- Promoting Business Opportunities
- Promoting Housing Programs
- Youth Development

The following sections (organized by the five federal areas) highlight some of Michigan State University Extension's impacts in 2003-04.

## Overview of Goal 1: An agricultural system that is highly competitive in the global economy

Over 100,000 participants (112,548) were directly involved in MSUE educational programs that focused on the agricultural system with half being youth involved in 4-H. Table 5. shows the number of participants and the Federal Key Themes for each of the sixteen AoE teams that worked in Goal 1. Key themes highlighted in this report demonstrating impact were: adding value to new and old agricultural products, agricultural profitability, animal health, animal production efficiency, emerging infectious diseases, home lawn and gardening, new uses for agricultural products, ornamentals/green agriculture, plant health, and plant production efficiency.

Goal 1	Adults	Youth	Total	Federal Key Themes
Beef	914	6,282	7,196	Animal Production Efficiency, Agricultural Profitability, Emerging Infectious Diseases
Consumer Horticulture	10,549	1,399	11,948	Home Lawn and Gardening, Ornamentals/Green Ag
Dairy	5,607	3,300	8,907	Animal Production Efficiency, Agricultural Profitability, Emerging Infectious Diseases
Equine	790	17,857	18,647	Animal Production Efficiency, Adding Value
Field Crops	15,371	2,964	18,335	Adding Value, Precision Ag, Agricultural Profitability, IPM

<b>Goal 1 (continued)</b>	<b>Adults</b>	<b>Youth</b>	<b>Total</b>	<b>Federal Key Themes</b>
Floriculture	2439	130	2,569	Adding Value, Agricultural Profitability, Biotechnology, IPM, Ornamentals/Green Ag
Forage/Pasturing/Grazing	2063	28	2,091	Adding Value, Grazing, Emerging Infectious Diseases
Fruit	4,948	3,633	8,581	Adding Value, Ag Profitability, Niche Market, IPM
Livestock - Overall	3,096	1,149	4,245	Animal Production Efficiency, Agricultural Profitability, Emerging Infectious Diseases
Nursery/Landscape	2,103	0	2,103	Home Lawn and Gardening, Ornamentals/Green Ag
Ornamentals - Overall	5,043	1220	6,263	Adding Value, Agricultural Profitability, Biotechnology, IPM, Ornamentals/Green Ag
Sheep	12	4,368	4,380	Animal Production Efficiency, Small Farm Viability
Swine	150	9,009	9,159	Adding Value, Animal Production Efficiency, Manure Management
Turfgrass	670	130	800	Agricultural Profitability, Ornamental/Green Ag
Vegetables	1,874	5,449	7,323	Adding Value, Precision Ag, Agricultural Profitability, IPM
	<b>55,630</b>	<b>56,918</b>	<b>112,548</b>	

Table 5.  
Number of Participants and Key Themes by AoE for Federal Goal 1.

## Highlights

- Floriculture College of Knowledge--Greenhouse employees in Michigan's \$342 million floriculture industry had very limited educational opportunities. At the same time, there was a void in the industry for technically trained workers. Michigan State University is helping fill the demand in the greenhouse industry for certified personnel by presenting the MSU Extension Floriculture college of Knowledge Greenhouse Grower Career Development Certificate Program. The program offers 12 courses in English or Spanish for greenhouse employees who want to expand their technical knowledge and skills for career advancement. This is the only bilingual certification program of its type in the United States. To date, more than 400 people from 21 states and four countries have participated and learned more about growing greenhouse crops. Greenhouse owners have been supportive of the certificate program and willing to pay the workshop fees and provide time off work for their employees to attend classes. Owners comment that communication with employees has improved, and students demonstrate greater knowledge on the job and ask more technical questions.
- CAT-ALERT newsletter/Web site/e-mail notification system--Farmers need timely information about weather, crop and pest conditions to make informed growing season decisions about field work, purchasing inputs like fertilizers, pesticides and herbicides, and treating for unexpected insect, weed or disease pests. Michigan State University's Integrated Pest Management Program instituted the CAT (Crop Advisory Team) Alert newsletters in 1985 to provide Michigan growers with timely growing season information. Extension specialists and agents combine their knowledge of the latest research and current crop conditions to produce articles and regional updates. Separate editions are printed almost weekly throughout the season for field crop, fruit, vegetable, and greenhouse and landscape growers. The CAT Alert Web site, launched in 1998, includes a copy of each edition and allows producers to search alerts from the past five seasons. Farmers can also sign up to receive e-mail notifications that announce when new issues become available and access links to more information about their production area. The 2004 growing season brought a wet spring and cold summer. The weather conditions affected many of the pest and agronomic decisions made by growers, and the information in CAT Alerts helped producers in the decision-making process. An estimated 3,000 to 4,000 people read the Alerts each week either in print or at the program's web site.
- MSUE is helping establish an ethanol plant in southeastern Michigan that will employ more than 200 laborers and skilled-trades employees during construction and 40 high-wage workers and more than 50 truck drivers upon completion.
- In a national survey, agricultural and horticultural producers were asked, "To whom would you turn if you discovered a crop disease outbreak on your farm that you didn't recognize?" Eighty percent stated that Extension would be their first contact.

- According to surveys by the Sugar beet Advancement Program, growers who participate in the program realize a \$30 per acre enhancement of their revenue, a total increase of \$1 million each year.
- The MSU Product Center has worked closely with the west Michigan apple industry to conduct market and production research for fresh cut apple slices. In April 2004, McDonald's announced that it would offer fresh cut apple slices on its children's meals and allow restaurants to offer the product on their adult menu. A Michigan processor was one of three chosen to produce the slices. McDonald's reports that movement of fresh cut apple slices exceeded expectations, with annual consumption of 35 million pounds. MSU research has identified an additional seven potential market channels for the Michigan product.
- Consumer awareness of animal welfare issues led to the development of the Swine Welfare Assurance Program (SWAP). SWAP helps consumers understand pork producers' practices that protect animal health and lead to wholesome and safe food products. An MSUE specialist has certified five veterinarians and three Extension specialists to offer this program to farmers. More than 200 producers representing 60 percent of the swine produced in Michigan have participated in SWAP.
- MSUE has partnered with the MDA, the Michigan Department of Natural Resources and the U.S. Department of Agriculture to educate producers, veterinarians and the public about bovine TB. MAES research improved a laboratory technique for isolating the TB-causing bacteria on a farm, which makes it possible to assess whether *M. bovis* still exists there after livestock are removed.
- Soybean aphid was first confirmed in Michigan in 2000. In 2001, infestations caused yield losses of up to 40 percent. In 2003, about 40 percent of the state's crop was treated for soybean aphid according to MSUE recommendations, preventing more than \$55 million in losses. MAES research will likely lead to new soybean varieties with improved resistance to soybean aphid.

### **Examples of Impact in Goal 1.**

**Key Theme: Agriculture Profitability**

**Educational Initiative Title: Legume-Grass Mixtures for Pasture and Hay Production in The Upper Peninsula of Michigan**

**Doo-Hong Min: Upper Peninsula Region**

### **Description of Program**

The Upper Peninsula (UP) of Michigan has a relatively shorter growing season and lower temperatures than the Lower Peninsula, which results in fewer selections of forage species and lower forage yield. However, there is very good snow cover over the winter period, sometimes resulting in better winter survival in

the UP region than the Lower Peninsula. Soil types in the UP region of Michigan are diverse from sandy to heavy clay soil so there is a limit in selecting certain species for both hay and pasture production. Perennial ryegrass and festulolium (a cross of meadow fescue and either perennial ryegrass or annual ryegrass) are relatively new cool-season grasses in the Upper Peninsula of Michigan as compared to orchard grass, tall fescue, and timothy. The objective of this program was to evaluate the best performing legume-grass mixtures suitable for pasture and hay production in the central and western Upper Peninsula of Michigan and disseminate the findings to farmers through Extension training programs throughout the UP.

## **Impact**

A field study was conducted in 2001 through 2003 to evaluate the best performing legume-grass mixtures suitable for pasture and hay production in the central and western Upper Peninsula of Michigan. In the central Upper Peninsula of Michigan (MI), alfalfa, red clover, and kura clover were seeded with either perennial ryegrass or festulolium. In the western Upper Peninsula of Michigan, birdsfoot trefoil, red clover, and kura clover were seeded with either perennial ryegrass or festulolium. Based on production year data, alfalfa-festulolium had significantly higher forage yield than kura clover with perennial ryegrass and festulolium mixtures and red clover-festulolium mixture. There was no significant yield difference between perennial ryegrass and festulolium within alfalfa, red clover, and kura clover, respectively. Alfalfa and red clover-grass mixtures generally had higher crude protein than kura clover-grass mixtures. Fiber contents were not affected by different legume-grass mixtures. In the western Upper Peninsula of Michigan, based on a two year average, birdsfoot trefoil, red clover, and kura clover with festulolium had significantly higher yields than those with perennial ryegrass. In particular, there was a more obvious difference in yield between perennial ryegrass and festulolium during the drought year of 2003. No difference was found in forage yield of festulolium mixtures with birdsfoot trefoil, red clover, and kura clover. This was also true for perennial ryegrass. In conclusion, alfalfa and red clover with either perennial ryegrass or festulolium in the central Upper Peninsula of MI, and birdsfoot trefoil and red clover with festulolium in the western Upper Peninsula of MI appear to be better performing legume-grass mixtures. The ability to assess suitable annual forage crops in different regions of the Upper Peninsula of Michigan will allow dairy and livestock producers to save in future feed costs and make the farming system more sustainable and profitable in an estimated economic impact of \$3.5 million annually. This information was disseminated to over 120 UP farmers and presented at the American Forage and Grassland Council Annual Meeting in Roanoke, VA.

## **Source of Funds**

Smith-Lever 3b&c, state, county



## **Scope of Impact**

State

**Key Theme: Agriculture Profitability**  
**Educational Initiative Title: Five State Beef Initiative**  
**AoE Beef Team, Larry Sheridan: State**

## **Description of Program**

The Five-State Beef Initiative (FSBI) was formed to address common concerns and issues impacting profitability and sustainability of the beef cattle industry in the Eastern Corn Belt. The FSBI is a unique partnership between producers, beef cattle associations, land grant universities, state departments of agriculture, Farm Bureaus and a livestock marketing cooperative in Illinois, Indiana, Kentucky, Michigan, and Ohio. The goal is to help beef producers capture more value from their cattle by meeting consumer expectations through a responsive production, marketing and information sharing system. Beginning as part of two USDA grants in 2000, the FSBI created action teams consisting of producers and partner group members to address the following areas of regional beef improvement: Producer Certification for Beef Quality Assurance (BQA); animal health; animal handling and well-being; environmental stewardship; genetics; and use of performance, carcass and economic data. There are both face-to-face and online formats of the training and certification. Genetic requirements have been developed using performance and carcass Power Scores for sires. The objective is to increase the likelihood that calves will meet production and economic targets set by the initiative.

## **Impact**

The AoE beef team delivered a state wide program that targeted cow/calf producers. The emphasis of the program was long term sustainability of Michigan cow/calf producers. Discussion areas included herd health, marketing, and increased profitability. More than 75 producers were in attendance at the conference and of those 85% said that they had learned more than one thing that will directly impact their feedlot operation. The largest impact seemed to be in the area of feedlot health. Over 90% of attendees gained knowledge on feedlot health.

## **Source of Funds**

Smith-Lever 3b&c, state, county

## **Scope of Impact**

Multi-State

## **Key Theme: Agriculture Profitability**

### **Educational Initiative Title: Sugar beet Advancement Program**

**Steven S. Poindexter and Murari Suvedi, East Central Region**

## **Description of Program**

The sugar beet industry in Michigan was an industry at risk when profitability declined for both producers and companies. Yields had declined for a multitude of reasons. To turn this situation around, the Sugar beet Advancement Program was formed. The mission of the Sugar beet Advancement Program was to utilize research and education in revitalizing the Michigan sugar beet industry through a cooperative effort involving MSU, sugar companies, and producers. The Advancement committee identified critical production problems. Its major efforts were to conduct on-farm research and increase educational opportunities for sugar beet producers. The Sugar beet Advancement Program is funded through an assessment of fees to sugar beet producers and companies. The program also received grant dollars from Project GREEN along with MSUE, and Experiment Station.

## **Impact**

The Sugar beet Advancement Program has finished its third year. A formal evaluation was conducted to measure the impact of the research and educational efforts. The results indicate production practices have changed and improved grower profitability. In addition, the program was considered the most reliable source of sugar beet production information. A survey was conducted by the Center for Evaluative Studies under the direction of Murari Suvedi. The major findings for the study include: Most respondents indicated receiving quarterly newsletter/or bulletins [92 percent], and the "ON-farm Research and Demonstration: Sugar beet Advancement" publication [89 percent], while 80 percent attended sugar beet related farm meeting/workshops. The results indicated the quality of educational programs have been high. Most respondents [81 percent] agreed that the program provided research-based information, 74 percent agreed the program provided information not readily available elsewhere and 72 percent indicated they gained new information and skills on beet production. About one-fifth of the respondents indicated that their yields have increased because of advancement efforts. This translates into a potential economic impact of \$2,376,025 for the growers. About 10 percent of the growers indicated savings in beet production cost ranging from \$100 to \$5000 with a mean of \$2330. Many growers indicated that they changed/modified and/or adopted one or more of the ten sugar beet practices surveyed because of Advancement efforts. The percentage of these practices are as follows: leafspot control 69%, variety recommendation 56%, herbicide use 52%, pelleted seed 45%, increased plant population 40%, tillage practices 34%, date of planting 27%, planter modification 16%, fertilizer practices 19%, and other 4%. Two-thirds of the respondents considered the Sugar beet Advancement Program as the most credible and/or reliable source of sugar beet production information, while one-fourth considered the processing company. Nearly half [46 percent] of the

growers felt there was an improvement in the quality of the Extension services as a result of the Advancement program. The audience is made up of 1600 sugar beet producers that produce about 200,000 acres of beets annually.

***Source of Funds***

Smith-Lever 3b&c, state, county

**Scope of Impact**

State

The AoE teams in Goal 1 met its 2003-04 Plan of Work goals by reaching its targeted population. The team and members have become more active in recruiting stakeholder input and involving collaborators in setting priorities and designing and implementing programs. Examples of collaborators included Michigan Cattlemen's Association, Department of Natural Resources, Michigan Department of Agriculture, Michigan Farm Bureau, Farm Credit Services, Michigan Bean Commission, Upper Peninsula Potato Growers Association, Soil Conservation District, Citizens Bank, Saginaw Valley State University/SBDC, Michigan Pork Producers, Michigan Department of Career Development, Michigan Grape Society, Cornell University, Ohio State University, Rutgers University, Michigan Apple Commission, and Michigan Migrant Legal Services.

## Overview of Goal 2: A safe and secure food and fiber system

Funding and programming for Goal 2. overlaps Goal 3. by approximately 80% through EFNEP (Expanded Food and Nutrition Education Programs) and FNP (Family Nutrition Program) which provide education in both food safety and food nutrition. For this reason, it is difficult to separate the two goals without duplication. On the other hand, it is clear that the majority of effort in each of these programs is focused on food nutrition (approximately 80% of the effort is spent on nutrition). Therefore, the estimate of 26,187 participants is low for food safety and does not include the majority of participants who receive both food safety and food nutrition instruction. Table 6. shows the number of participants and Key Themes addressed by the Food Safety AoE Team.

Goal 2	Adults	Youth	Total	Key Themes
Food Safety*	11,137	15,050	26,187	Food Handling, Food Safety, HACCP
Goal 3				
Food, Nutrition & Health*	47,547	48,749	96,296	Birth Weight, Human Health, Human Nutrition

\* To avoid duplication, participants who received both food safety and food nutrition were counted only once (20% Food Safety and 80% Food, Nutrition, and Health).

Table 6.  
Number of Participants and Key Themes by AoE for Federal Goal 2. and Goal 3.

## Highlights

- In the past two years, MSUE provided more than 700 Michigan food producers and processors with intense training on agricultural security. MSUE is helping prepare the industry for a variety of scenarios, including contamination of the food supply and potential pathogens.
- Hazardous Analysis and Critical Control Points (HACCP) training is provided by MSUE and required for all 500 Michigan food processors. MSU faculty members and MSUE educators ensure that microprocessors with limited resources have access to this training, along with the major food manufacturers. Sixty-five completed the training last year.

## **Examples of Impact in Goal 2.**

**Key Theme: Food Safety and Human Nutrition**  
**Educational Initiative: Family Nutrition Program**  
**Karen Martin: State**

### **Description of Program**

Michigan State University Extension (MSUE) worked in collaboration with the state of Michigan's Family Independence Agency (FIA) to provide education through the Family Nutrition Program (FNP) for persons eligible for or receiving food stamps in all of Michigan's 83 counties during the 2003-04 program year. The educational efforts of FNP did not duplicate or supplant the efforts of other food and nutrition education programs such as the United States Department of Agriculture's (USDA) Expanded Food and Nutrition Education Program (EFNEP), Supplemental Nutrition Program for Women, Infants and Children (WIC), or the Commodity Supplemental Food Program (CSFP). In counties that have both FNP and EFNEP, FNP provided education to audiences not reached through EFNEP, such as seniors without children. FNP enabled county Extension Educators to reach a more diverse audience. The primary objective of the FNP was to provide education to help individuals and families eligible for or receiving food stamps make safe, nutritious, and economical food choices. Education provided through FNP addressed four of the core elements identified by the Food and Nutrition Service (FNS) of the USDA: dietary quality, food resource management/shopping behaviors, food safety, and food security. The fifth core element, systems and environmental change, was addressed in a variety of ways. Examples include working with the Michigan Department of Community Health, Michigan Department of Education – Commodity Supplemental Food Program, Michigan Office of Services to the Aging, and three Indian Tribal Organizations to pilot the Senior Farmers' Market Nutrition Program.

### **Impact**

FNP educated 52,614 participants directly during 2003-2004. These direct contacts included adults reached through either a series of lessons (7,348 adults) or one-time presentations (44,383 adults). There was a total of 53,923 direct educational contacts with youth. Over 5,000 adult participants who received a series of lessons completed both pre and post surveys. Results regarding food safety from this tool indicated: 45% fewer participants reported thawing frozen meat on the counter; 25% fewer participants reported letting food such as milk or meat sit out for more than two hours; and 17% more participants reported washing their hands before preparing or eating food.

### **Source of Funds**

Smith-Lever 3b&c, federal, state, county

### **Scope of Impact**

State

**Key Theme: Food Safety and Food Handling**  
**Educational Initiative Title: Food Service Employees and ServSafe**  
**Jean Nichols: Hillsdale County**

**Project Description**

Food service establishments must follow certain criteria when serving the public, according to the FDA Food Code that took effect Nov. 8, 2000. Food service owners/managers need to have their employees and very often times themselves trained in serving safe food so that they comply with the Food Code and pass the local food sanitarian's inspections. The local Community Health Agency asked for collaboration and assistance in training food establishment employees/managers/owners on food safety practices to prevent possible food-borne illnesses. MSU Extension developed a four hour training on food safety, personal hygiene, purchasing, receiving and storing, preparing, cooking and serving, and cleaning and sanitizing.

**Impact**

An evaluation of 82 participants found 75% increased their knowledge regarding which foods are potentially hazardous, 63% improved in their ability to calibrate a thermometer, 63% improved in their ability to measure the correct internal temperature of food, and 50% changed their knowledge about how long foods can remain in the temperature danger zone. In 2004, over 1,000 participants were trained in ServSafe.

**Source of Funds**

Smith-Lever 3b&c, state, local, county

**Scope of Impact**

State

**Key Theme: Food Safety and Food Handling**  
**Educational Initiative Title: Fresh Produce Production: Reducing Risks**  
**Brenda Reau: Monroe County**

**Description of Program**

Consumer awareness regarding the safety of fresh produce has risen sharply over the last 10 years in response to media coverage of microbial contamination in fruits and vegetables. Retailers in southeastern Michigan and northern Ohio who purchase fresh produce are placing more demands on local growers to ensure a safe produce supply in the supermarket. In response to these issues MSUE with the help of the Monroe County Environmental Health Sanitarian and a MSUE specialist designed a multidisciplinary program called, "Fresh Produce Production: Reducing Risks," to assist producers in ensuring the produce they grow and market remains free of microbial contamination.

**Impact**

In a written post workshop evaluation, a significant number of producers said they planned to make changes in their operation to ensure produce safety as a result of what they learned in the workshop. A one year follow-up mail survey was conducted to determine the outcome. There was a 70% response rate. One hundred percent of respondents reported that they had changed at least one management practice in their operations. Fifty seven percent made two or more changes in their management practices. Examples of the kinds of management practices that were instituted included monitoring of chlorine level of water in which produce is washed or rinsed, developing a procedure for sanitation of the packing area, and providing workers with training. The most significant management practice that was adopted was instituting a hand washing policy in the operation. One hundred percent of respondents had developed and adopted a hand washing policy for their produce handlers. Growers who participated in the program represented over 2000 acres of produce production in the Monroe county area and employed approximately 400 workers in their operations. Given the scope of the growers who were involved in this program and the reported changes they made in their operations in the past year this program has demonstrated a major impact on fresh produce safety in Monroe county as well as southeastern Michigan as most of the growers supply produce to the metro Detroit area.

**Source of Funds**

Smith-Lever 3b&c, state, local, county

**Scope of Impact**

Multi-State

The Food Safety AoE team in Goal 2 met its 2003-04 Plan of Work goals by reaching its targeted population. The team and members have become more active in recruiting stakeholder input and involving collaborators in setting priorities and designing and implementing programs. Examples of collaborators included U.S. Food and Drug Administration, Health Departments, Substance Abuse Rehabilitation Centers, schools, juvenile centers and courts, Oakland Livingston Human Services Agency, Older Persons Commission, Child and Family Services of Southwest Michigan, University of Michigan, USDA, Kalamazoo Loaves & Fishes, Child Care Network, Great Lakes Indian Fish and Wildlife Commission, food banks, Hunger Action Coalition, Michigan Partnership for Community Caring, Michigan Department of Agriculture, and Salvation Army.



### Overview of Goal 3: A healthy, well-nourished population

As previously stated, funding and programming for Goal 2 overlaps Goal 3 by approximately 80%. EFNEP (Expanded Food and Nutrition Education Programs) and FNP (Family Nutrition Programs) provide education in both food safety and food nutrition. For this reason, it is difficult to separate the two goals without duplication. It is estimated that 109,872 received both nutrition and safety information. Table 7 shows the number of participants and Key Themes addressed by the Food, Nutrition, and Health AoE Team.

Goal 2	Adults	Youth	Total	Key Themes
Food Safety*	11,137	15,050	26,187	Food Handling, Food Safety, HACCP
Goal 3				
Food, Nutrition & Health*	47,547	48,749	96,296	Birth Weight, Human Health, Human Nutrition

\* To avoid duplication, participants who received both food safety and food nutrition were counted only once (20% Food Safety and 80% Food, Nutrition, and Health).

Table 7.  
Number of Participants and Key Themes by AoE for Federal Goal 2. and Goal 3.

### Highlights

- Nearly 9,000 low-income families learned how to improve health through nutrition in 2004 as participants in MSUE nutrition education programs.\*
- The Expanded Food and Nutrition Education Program (EFNEP) provides direct nutrition education to low income families. Every \$1 invested in EFNEP reduces health care costs by \$10.64. For the number of families reached, EFNEP saves Michigan about \$158.5 million annually in health care costs. As a health bonus, more than 60 percent of program participants increase consumption of fruits and/or vegetables.\*
- Project FRESH gave farmers' market coupons to 34,000 low-income women and children — 63 percent reported eating more fruits and vegetables.\*
- WIC-eligible women who participated in MSUE's Breast-feeding Initiative show double the rate of breast-feeding compared with non-participants, saving \$2.3 million annually in Medicaid and HMO costs.\*
- In 2004, more than 800 Michigan schools participated in Team Nutrition, an effort spearheaded by MSU Extension and the Michigan Department of Education and carried out in collaboration with a variety of other partners. Participating schools reported improvements in their school nutrition and physical

activity environments. Team Nutrition has secured more than \$1,900,000 in grants and more than \$65,000 in private contributions since 1996.

- More than 6 million federal dollars were brought into Michigan during 2004 by leveraging state funding for Food Stamp Nutrition Education (FSNE). The FSNE program provided direct education to more than 60,000 adults and more than 50,000 youths in all of Michigan's 83 counties. FSNE , in partnership with private companies, state agencies and MSU faculty members provided education focused on nutrition and physical activity, obesity prevention, food safety and food resource management. More than 200 partners collaborated to reach more than 200,000 people with messages about the importance of eating breakfast.
- More than 5,000 pregnant or breast-feeding women completed MSU Extension's Breastfeeding Initiative, a mother-to-mother peer education program, between 1994 and 2004. Among the women enrolled in the program in 2003-2004, about 95 percent initiated breast-feeding, compared with 44 percent of women in the overall Michigan WIC population. At six months old, twice as many babies enrolled in the program were still breastfeeding when compared to the overall Michigan WIC population. A research study has estimated that for every infant that breastfeeds exclusively for the first 12 weeks of life (instead of formula feeding), HMO medical cost savings would be \$331-\$475 dollars during the child's first year. Another study found savings to Medicaid and WIC of \$478 in the first 6 months of life for infants exclusively breastfed for the first 12 weeks.
- More than 9,000 parents of young children enrolled in MSUE nutrition education programs in 2004. Upon completion, 53 percent of participants reported making healthier family food choices, and 23 percent reported that their children ate breakfast more often.

### **Examples of Impact in Goal 3.**

**Key Theme: Human Nutrition**  
**Educational Initiative: Family Nutrition Program**  
**Karen Martin: State**

#### **Description of Program**

Michigan State University Extension (MSUE) worked in collaboration with the state of Michigan's Family Independence Agency (FIA) to provide education through the Family Nutrition Program (FNP) for persons eligible for or receiving food stamps in all of Michigan's 83 counties during the 2002-03 program year (see full description in Food Safety).

## **Impact**

Results regarding nutrition and food preparation for adults in series (6 lessons):

- 57% of participants more often planned meals in advance
- 42% more often compared prices when shopping
- 37% less often ran out of food before the end of the month
- 48% more often used a list for grocery shopping
- 52% more often thought about healthy food choices when deciding what to feed their family
- 30% more often prepared foods without adding salt
- 58% more often used the “Nutrition Facts” on food labels to make food choices
- 30% reported their children ate breakfast more often

Results regarding nutrition and food preparation for adults in presentations (one time):

- As a result of presentations on Dietary Quality:
  - 77.4% of participants stated they were motivated to do things differently
  - 61.4% developed new ways of doing things
  - 56.2% stated their attitudes changed “quite a bit” or “a lot”
  - 86.5 % stated they intended to use the practices they learned
- As a result of presentations on Food Resource Management:
  - 59.6% of participants stated they were motivated to do things differently
  - 59.9% developed new ways of doing things
  - 53.9% stated their attitudes changed “quite a bit” or “a lot”
  - 87.4% stated they intended to use the practices they learned
- As a result of presentations on Food Safety:
  - 42.3% of participants stated they were motivated to do things differently
  - 63.9% developed new ways of doing things
  - 58% stated their attitudes changed “quite a bit” or “a lot”
  - 84.9% stated they intended to use the practices they learned

## **Source of Funds**

Smith-Lever 3b&c, Smith-Lever 3d, state, county, local

## **Scope of Impact**

State

**Key Theme: Human Nutrition**  
**Educational Initiative: Breastfeeding Initiative**  
**Karen Martin: State**

### **Program Description**

Breastfeeding rates are low among limited income women. Low income mothers have higher infant mortality rates, premature births and low birth weight infants. Breastfeeding has been identified as one of the most important contributors to infant health, yet breastfeeding is not a well established practice in low income communities. There is a significant lack of role models, family/community support and knowledge of the practice of breastfeeding. This need was identified by the state WIC, local health departments, community programs and local hospitals serving indigent and limited income populations. MSUE responded through a breastfeeding initiative with two main program goals: to increase breastfeeding rates among low income mothers; and lengthen the time mothers breastfeed.

### **Impact**

During the 2003-04 program year, 97% of the 1,677 pregnant/breastfeeding mothers who enrolled in the Mother-to-Mother breastfeeding project reported initiating breastfeeding. At the end of two months, 58 % reported that they were still breastfeeding, at the end of 6 months 34% reported that they were still breastfeeding and 24% still breastfeeding after 9 months. The average duration of breastfeeding among participants was 20 weeks for this program year compared to 18 weeks last year.

### **Source of Funds**

Smith-Lever 3b&c, federal, state, county, local

### **Scope of Impact**

State

**Key Theme: Human Nutrition**  
**Educational Initiative: Grants to Enhance and Expand Elementary School Nutrition Education**  
**Norma Stewart: Manistee County**

**Program Description**

Many elementary schools in rural Manistee County do not have enough students receiving free and reduced lunch to qualify for FNP programming. There is a need for nutrition education among all students, even those who are not from limited income households. Survey results found 75% of Michigan adults and 79% of students surveyed ate less than the recommended 5 servings of fruits and vegetables per day. Michigan ranked 3rd worst among the states for the rate of obesity in 2004 and has been among the 10 heaviest states for the past 14 years. Nine out of ten MI adults have one or more of the major cardiovascular disease risk factors. Based on these needs the Manistee County Community Foundation funded MSU Extension to develop and implement the Pyramid Between the Pages program at two elementary schools that focused on food safety, food guide pyramid, meal planning, and the importance of exercise.

**Impact**

Three hundred and forty-two students were educated through the program. Using the evaluation form provided by the curriculum and grant both students and parents were asked questions about what they had learned from the program. Results for the children indicated that 84% were able to identify the food guide pyramid, 92% were able to name two foods in each of the major food groups, and 69% could state why it is important to eat foods from the different food groups each day (in order to stay healthy). Parents indicated the tip sheet that was sent home was worthwhile and should continue to be sent home with students (84%), and 57% of them found the article "interesting to read."

**Source of Funds**

Smith-Lever 3b&c, local

**Scope of Impact**

State

The Food, Nutrition, and Health AoE teams in Goal 3 met its 2003-04 Plan of Work goals by reaching its targeted population. The team and members have become more active in recruiting stakeholder input and involving collaborators in setting priorities and designing and implementing programs. Examples of collaborators included WIC, Head Start, Work First, Early On, pregnant teen programs, Michigan Family Independence Agency, Michigan Department of Public Health, hospitals, Commodity Foods, shelters, Sault Tribe of Chippewa Indians Youth Services, Alpena Community College, U.S. Food and Drug Administration, Health Departments, Substance Abuse Rehabilitation Centers, schools, juvenile centers and courts, Oakland Livingston Human Services Agency, Older Persons Commission, Child and Family Services of Southwest Michigan, USDA, Kalamazoo Loaves & Fishes, Child Care Network, Great Lakes Indian Fish and Wildlife Commission, food banks, Hunger Action Coalition, Michigan Partnership for Community Caring, Michigan Department of Agriculture, and Salvation Army. In addition, the team is engaged in identifying underserved populations and developing strategies, collaborations, and programs to address these populations.

## Overview of Goal 4: Greater harmony between agriculture and the environment

Forty six thousand, three hundred ninety (58,630) participants received direct training on key themes in Goal 4. Table 8. shows the AoE Teams in this area, the number of participants, and the federal key themes for Goal 4.

Goal 4	Adults	Youth	Total	Key Themes
Forestry	3,165	5,249	8,414	Forest Crops, Forest Resource Management
Land Use	4,703	9,450	14,153	Land Use, IPM, Natural Resources
Manure	1,635	686	2,321	Agricultural Waste, Water Quality
Renewable Resources(RREA)	325	3,377	3,702	Recycling, Forest Resource Management
Sea Grant	4,476	4,099	8,575	Water Quality, Natural Resources Management
Water Quality	8,197	12,636	20,833	Water Quality, Riparian Management, Nutrient Management
Christmas Trees	640	0	640	Forest Crops, IPM, Water Quality
	<b>23,141</b>	<b>35,497</b>	<b>58,638</b>	

Table 8.  
Number of Participants and Key Themes by AoE for Goal 4.

### Highlights

- Citizen Planner--Local Planning Commissioners and Zoning Boards of Appeals are often called upon to make important decisions to guide the growth and development of their communities. Issues surrounding land use planning and regulation, and the tools and techniques available within Michigan to address them, have become increasingly complex. To help local, often volunteer land use decision makers, MSU Extension developed the Citizen Planner program. The seven-week, non-credit course series leads to an optional certificate of competency. Earning the certificate involves the successful completion of seven core courses and the performance of community-oriented service and land use planning or related activities. Curriculum was developed in partnership with the Michigan Society of Planning, and in each location it is offered, the base

curriculum is supplemented with topics related to local planning challenges. Since 2001, more than 2,000 citizens and elected officials representing 76 Michigan counties have learned about tools available to conserve land while allowing community growth and development through the Citizen Planner program. Nearly two-thirds (64 percent) of those participants are serving on local planning and zoning boards, and they indicated that they paid closer attention to legal issues after attending the program. The Michigan Municipal Risk Management Association spent \$15 million in the past 10 years on legal fees and damages because of flawed planning and zoning decisions.

- Studies have shown that fourth grade students in Michigan generally have little understanding of the Great Lakes and local water resources. At the same time, science education is a critical component of elementary education and Michigan teachers need programs that can help them meet state guidelines for science education while giving their students the chance to “get turned on” to science. Michigan Sea Grant Extension offers fourth-grade students the opportunity to experience the Great Lakes Education Program. The program introduces students to the unique features of the Great Lakes through a combination of classroom learning and hands-on experience. It is designed to stimulate interest in the Great Lakes and help students understand their role in protecting these vital freshwater resources. The program integrates elements of geography, history, biology and physical sciences. Participants go aboard ship on a field trip to take plankton samples, test water clarity, practice marine knot tying, take temperature readings, and more. Using data they've collected on the field trip, students conduct experiments and discuss what they've learned. More than 50,000 students, teachers, adult chaperones, and volunteers in southeast Michigan have participated in the Great Lakes Education Program since it began in 1991. In a fall 2004 participant satisfaction evaluation teachers rated the overall GLEP experience at 3.89 on a 1 (poor) to 4 (excellent) scale. The GLEP curriculum received an Excellent rating in the Great Lakes Fisheries Assessment and Summary of Needs published by the Great Lakes Fishery Trust.
- Water use reporting--2004 brought Michigan farmers new legislation in water use reporting and new generally accepted agricultural management practices (GAAMPS) for irrigation as part of the Michigan Right-to-Farm Act. The water use reporting legislation relies heavily on the management practices outlined in the irrigation GAAMPS. MSU Extension staff members were integral in more than a dozen educational meeting opportunities that gave producers the chance to learn more about the new legislation and changes in agricultural water use requirements. MSU Extension educators developed seven educational fact sheets to help farmers accurately estimate water use and other factors required in the water use reporting process. More than 1,200 farmers gained information and a better understanding of new water use reporting legislation during the educational meetings. Nearly 5,000 copies of the water use fact sheets have been distributed to farmers. During 2004 MSU Extension educators created 16 or more educational opportunities for irrigation users to learn more about the management practices outlined in the GAAMPS. Five new fact sheets on best management practices were developed and presented at these events. Four



events offered in-field training about irrigation management practices for irrigators and agency personnel. Two MSU Extension-maintained Web sites provide electronic copies of the fact sheets, computerized irrigation system evaluation tools and presentation materials for use by agency personnel and farmers.

- Volunteer Stream Monitoring--Water quality is a major concern in a state like Michigan. Citizens interested in helping protect surface waters, waterfront property owners and members of environmental protection organizations are a few of the groups who are interested in maintaining Michigan's lakes, streams and rivers. With help from MSU Extension's Water Quality Team, MSU Extension educators at MSU's W.K. Kellogg Biological Station Land and Water Program developed and delivered "Introduction to Volunteer Stream Monitoring", an intensive, hands-on training program for southwestern Michigan citizens interested in becoming volunteer stream monitors. Residents of nine counties attended the course and improved their water monitoring skills dramatically. For example, when asked to compare water sample collection skills before and after the program, participants reported a fifty-percent increase in skill level. The ability to design a stream study increased by 61 percent.
- More than 3,000 people have participated in the Sustainable Forestry Education (SFE) program, which teaches forest ecology, silviculture techniques, forest water quality management and safety practices. Virtually every load of raw wood moved on Michigan roads will have been produced by an individual who has participated in MSUE's Sustainable Forestry Education program. Every industrial private landowner that MSUE reaches represents up to 600,000 acres of forestland.
- MSU Extension led efforts to secure the designation of the Detroit River as an American Heritage River. The presidential designation has resulted in government and business investments of more than \$40 million.
- MSUE, through the Michigan Natural Features Inventory, provided expert guidance to Oakland County officials to guide them in selecting conservation areas. Through the ecologically based multivariable analysis, areas were designated as having high, medium and low priority for conservation. This study provided information that was useful to land planners and local nature conservancies in directing conservation efforts.
- Through a partnership with the Michigan Department of Agriculture, the Natural Resources Conservation Service, conservation districts and AmeriCorps, MSUE is training Michigan Groundwater Stewardship Program (MGSP) technicians across the state and developing educational materials related to pesticide and fertilizer use. These technicians worked with more than 650 farmers to identify and minimize groundwater risks through the Farm\*A\*Syst program during FY 2004. In the same year, the MGSP sponsored Clean Sweep household and farm chemical disposal program collected nearly 200,000 pounds of outdated pesticides and fertilizers.

## **Examples of Impact in Goal 4.**

**Key Theme: Nutrient Management and Water Quality**  
**Educational Initiative Title: Nutrient Management Training**  
**Natalie Rector: State**

### **Description of Program**

The Nutrient Management Training class on June 22 and 23, 2004 was conducted to fulfill a new requirement by the national and state NRCS whereby they are seeking to serve farmers through trained private consultants, called Technical Service Providers (TSPs). There are certain activities in which a TSP needs to take part in order to be considered qualified to do nutrient management plans for a livestock producer. For example, there are web based classes they need to take, in addition to a 2-day, classroom session to fulfill their requirements. The goal of the NRCS Nutrient Management Training was to train industry, agency and soil conservation district consultants, and NRCS and private consultants in nutrient management. The training was specifically geared towards how nutrients relate to manure being recycled for crop production. This included background on general crop production nutrients such as nitrogen, phosphorus and potassium from both fertilizers and manures. The students were taught this basic information, and then were taught how to utilize this information for development of a 12-month manure and fertilizer application plan for a livestock producer. Classroom lectures, in-class worksheet/assignments and even a take home assignment assist in their comprehension of the topics. Any consultant or agency person who worked with producers on nutrient management benefited from this practical background on soils and nutrient management in Michigan, including in class exercises. The second day of training focused on developing a nutrient management plan for producers, including both fertilizer and manure nutrients, that is agronomical and environmentally sound. These plans would be applicable for producers seeking Comprehensive Nutrient Management Plans (CNMPs).

### **Impact**

Eighty-three people attended the two-day training event. At the end of the two-day event, a questionnaire was distributed to participants to evaluate the usefulness of the training by measuring change in knowledge of specific topics from the course. Topics included knowledge about soil surveys, confidence in soil sampling and using MSU fertilizer recommendations, understanding of nutrient recommendation philosophies, and affects of pH on nutrients. Other areas covered during the training included topics on Nitrogen and Phosphorus, using manure and other organic fertilizers, and developing a 12 month nutrient plan for farmers. The results indicated the highest change in knowledge was “understanding various nutrient recommendation philosophies”, which had a change in mean score from 2.81 to 3.96 and a t-value of 9.92. The topic with the second highest change was “confidence level to make a fertilizer recommendation using MSU recommendations and information of soil test

reports". The mean score changed from 2.61 to 3.65 and had a t-value of 9.83. Other significant changes were "understanding how pH affects nutrient availability" and "knowledge about methods of Nitrogen soil testing". The training fulfilled the new requirements for national and state Natural Resource Conservation Services (NRCS).

### **Source of Funds**

Smith-Lever 3b&c, state, county

### **Scope of Impact**

State

### **Key Theme: Manure Management**

### **Educational Initiative Title: Comprehensive Nutrient Management Plan (CNMP)**

**Charles Gould, Ottawa County**

### **Program Description**

In 1999, a family dairy operation located in Ottawa County, which milks 450 head and raises corn silage, grain corn and alfalfa hay over 1,223 acres, had an accidental manure discharge into a stream that resulted in a fish kill. Consequently, the MDEQ became involved. The farm was required to pay a fine. Michigan State University Extension helped the farm develop and complete a Comprehensive Nutrient Management Plan (CNMP) to address the problem.

### **Impact**

As a result of following the CNMP recommendations, the farm reduced the amount of commercial fertilizer purchased for the 2001 growing season by \$20,000. No phosphorus was purchased for any of the ground and only the recommended amounts of nitrogen and potash were applied. They also implemented a recordkeeping system. In January, NRCS will begin developing a conservation plan for the farm that entails primarily grassed waterways and filter strips. Lessons learned were: some farms can cut back on commercial fertilizer and not have yield losses, which save significant dollars; there are some better environmentally friendly practices; CNMP takes significant time and effort, but if developed correctly can be a valuable decision-making tool for the producer. The learning process and the story from this incident has helped others in understanding the need for CNMP as well as what is involved in planning and implementing it. Producers in the county are currently working on receiving their "environmentally assured" designation from the Michigan Agricultural Environmental Assurance Program.

## **Source of Funds**

Smith-Lever 3b&c, state, county

## **Scope of Impact**

State

## **Key Theme: Manure Management**

### **Educational Initiative Title: Kalamazoo Watershed**

**G. William Robb, Allegan, Barry, Branch, Calhoun, Hillsdale, Jackson, and Kalamazoo Counties**

## **Description of Program**

In the past five years the phosphorous rate in the Kalamazoo River has decreased by 50%. At the same time MSU Extension has conducted several trainings to farms on manure management. As a project of the Agriculture subcommittee of the Kalamazoo TMDL, a survey of livestock farms in the Kalamazoo watershed was undertaken in early 2004 to investigate the phosphorus feed and fertilizer practices. The main objective was to document the changes in phosphorus management practices on these livestock farms. Utilizing MSU Extension mailing lists, 204 potential livestock farms in Allegan, Barry, Calhoun, Eaton, Hillsdale, Jackson and Kalamazoo counties were identified and mailed a two page survey.

## **Impact**

The results of the survey found conservation practices were common for the dairy and beef farms with nearly 90% conducting conservation tillage. Dairy farms reported phosphorus feeding rates averaged slightly higher than present recommended rates, however they were lower than reported in a survey of feed representatives in 1999. The average 100 grams of P fed per cow per day was slightly higher (125%) than requirement for milk production (1 gram required per # milk produced per day). Several farms had completed planning MMSPs or CNMPs, which was only a portion of the 12 known MMSP completed by MSU Extension for farms in the watershed. Six of the farms reported decreased phosphorous feeding rates compared to five years. The change of 33% of the farms reducing phosphorous feeding rates and reported nutrient practices strongly suggest the educational programs have contributed to helping protect the watershed.

## **Source of Funds**

Smith-Lever 3b&c, state, county

## **Scope of Impact**

### State

The AoE Teams in Goal 4. met their 2003-04 Plan of Work goals by reaching their targeted population. All teams and members have become more active in recruiting stakeholder input and involving collaborators in setting priorities, and designing and implementing programs. Examples of collaborators have included: Northwest Michigan Council of Governments, planning departments, Western Michigan University, watershed groups, Rotaries, Chambers of Commerce, League of Women Voters, Farm Bureau, schools, DNR, U.S. Forest Service, drain commissioners, and Michigan Milk Producers Association.

## Overview of Goal 5: Enhanced economic opportunity and quality of life for Americans

Table 9 shows the AoE Teams, number of program participants, and federal key themes address by the AoE teams for Goal 5. It is important to note that youth were distributed by the content area and were not duplicated in Goal 5., whereby an additional 95,315 youth from Goals 1 through 4 should be added to make the total number of youth to be 231,769.

Goal 5	Adults	Youth	Total	Key Themes
Community Development	10,991	2,779	13,770	Community Development
Economic Development	4,472	487	4,959	Promoting Business Opportunities
Family Resource Management	4,055	13,981	18,036	Family Resource Management, Children, Youth and Families at Risk
FIRM	5,583	2	5,585	Agricultural Financial Management
Human Development	13,469	17,113	30,582	Parenting, Child Care
LeadNet	1,419	6372	7,791	Leadership Training
State & Local Government	3,974	20	3,994	Community Development, Leadership Training
Tourism	371	50	421	Tourism
Volunteer Development*	6,556	14,798	21,354	Youth Development, Leadership Training
Youth Development**	10,009	19,953	29,962	Youth Development/4-H, Character Education, Children, Youth and Families at Risk
	<b>60,899</b>	<b>75,555</b>	<b>136,454</b>	

\* Number of adult volunteers who were trained on specific topics (i.e., youth development, conflict resolution). A total of 21,801 adults volunteered for 4-H and 3,122 for Master Gardeners contributed to MSUE in 2003-04.

\*\* To avoid duplication, youth who crossed goals were not counted again in youth development.

Table 9.  
Total Participants Reached Directly by AoE for Federal Goal 5.

### Highlights

- 4-H is Michigan's largest out-of-school-time program, involving more than 230,000 youth and nearly 22,000 adult volunteers. Volunteers donate an average of 150 hours per year. The estimated value of volunteer time is \$17.19 an hour\*, yielding approximately \$55,698,178 in time spent working with Michigan youth each year (\*source: Independent Sector). 4-H volunteers are effective because of

the infrastructure support provided by MSUE, including needs assessment, program quality standards, grant writing, 4-H curriculum and extensive volunteer training.

- Nearly 20,000 Michigan young people have been involved in 4-H character education since 1997. MSUE staff members have worked with hundreds of community organizations in 78 counties to address bullying behaviors and build caring school and community climates. Students and teachers involved with these efforts report fewer discipline problems and improved attitudes. For example, in a Tuscola County elementary school, school officials report that negative behaviors such as bullying decreased by 70 percent.
- 4-H youth development programs work with the Department of Human Services and family and/or juvenile courts in seven counties to offer mentoring experiences to at-risk youth. In Macomb County, mentoring efforts are credited with saving taxpayers approximately \$3.7 million annually because youth are being diverted from the youth home system. Mentoring programs for vulnerable youth are expanding or beginning in at least 10 additional Michigan counties. Michigan 4-H youth development community-based programs will provide educational opportunities for at least 230,000 children, using the talents of approximately 22,000 adult volunteers. These programs will provide a wide variety of positive, productive, hands-on learning experiences to explore career and life options, offer age-appropriate life skill development, emphasize research-based experiential learning, involve community partners and families, and reach diverse and underserved audiences in rural and urban areas.
- 4-H Club Read --The need to better prepare children to read well is critical across Michigan. About 35,000 students from kindergarten through third grade in 24 Michigan counties developed reading skills through the 4-H Club Read program since the start of the program in 2001. At least 78 percent of participants were from low-income families. Ninety percent of the children in Club Read's in-school tutor/mentoring programs improved reading skills by at least one grade level. Seventy-seven percent of the children in the out-of-school tutor/mentoring programs improved their reading skills by at least one grade level.
- Disaster Response and Emergency Management Education--Disasters can strike communities. They can be natural, like tornadoes or floods, or manmade, like chemical spills, fires, and acts of terrorism. When disaster happens, Extension is there to assist with local resources and university support. The national Extension Disaster Education Network (EDEN), a collaboration of Extension systems across the nation, is there to help provide resources and training to state and local Extension staff, so that they are better prepared to respond. EDEN now includes 49 Land Grant Universities in 46 states, Guam and

Puerto Rico. An MSU Extension specialist led the 17-state USDA grant to train Extension staff members in homeland security and emergency management from 2002-2004. Since 9/11, MSU Extension has provided general emergency management, homeland security, and wildfire training to more than 300 township officials, municipal clerks, migrant councils, and shelter directors for abused women and children. Staff members have also trained more than 30 county commissioners in general and agricultural emergency management, and are currently working with the MSU College of Human Medicine and the Michigan Association of Local Public Health to jointly offer general emergency management training and public health/security training to county commissioners.

- The MSUE-supported Small Town Design Initiative is helping communities reinvent commercial or other public areas while preserving character and history. Since 2001, the program has supported in-depth planning for 35 communities in 22 Michigan counties, helping them plan for brighter futures through improved infrastructure, more inviting commercial districts and attractive living spaces.
- MSUE educators helped communities secure more than \$4 million in grants to rebuild or develop new infrastructure and redevelop industrial brownfield sites. They've also helped Michigan businesses secure strengthening or expansion grants of nearly \$6.5 million. They've trained volunteers to conduct assessments with more than 100 business owners to explore options to maintain or expand operations in communities across Michigan.
- Since 1968, MSUE, in collaboration with the Michigan Association of Counties (MAC), has provided training for newly elected county commissioners following the November general election. Over the past three decades of training, 78 percent of newly elected county commissioners have completed the training. An evaluation of the program found new commissioners increased their knowledge significantly in boards, finances, community resources, and local government.
- Declining resources at the local level require increasing efficiency in the delivery of community services. Examining alternative institutional arrangements for service delivery offers viable options to local communities to maintain or expand community services. In the past two years, MSUE local government specialists have assisted 65 communities and 450 local officials in examining production and provision options such as intergovernmental contracting and functional consolidation of services (e.g. fire and emergency services). MSUE has provided the research and technical information on the economic impact of alternative arrangements and facilitated community discussions that have resulted in 10 new intergovernmental arrangements involving 30 communities, which have permitted local governments to maintain or increase service levels without raising taxes.



**Key Theme: Promoting Business Programs and Agricultural Profitability**  
**Educational Initiative Title: Profitable Farms Build Community**  
**Dennis Stein: East Central Region**

**Program Description**

Rural communities are limited in resources and support by individuals and firms that service these areas. This makes it more difficult to develop new ventures that will be successful in rural areas. Building strong sustainable communities is tied to keeping or developing employment opportunities within the community. Michigan State University Extension addressed this need by developing educational programs that teach farmers how to develop business plans for sustaining and growing their farm businesses. The program engages farm family members in understanding the process and steps in the development of a useable business plan through a detailed analysis of the farm business financial history and how that information could be used to project future expansion options.

**Impact**

In a case study of one family farm that went through the program found the farm was able to expand through a conversion of coarse grains into food and fiber that changed the value of the farm production. This was made possible through the development of a business plan that led to a loan that allowed an expansion from \$4,000,000 to \$10,000,000. This impact was not only on the local farm, but local economy that included employment for an additional seven employees. The farmer reported, "Without MSUE support and efforts this expansion of our dairy farm would not have happened!" "Our dairy farm is now in a position that we will be able to compete on a positive basis in the future."

***Source of Funds***

Smith-Lever 3b&c, state, county

**Scope of Impact**

State

**Key Theme: Children, Youth and Families At-Risk**  
**Educational Initiative Title: Family Outreach Program**  
**April Freed: Branch County**

**Introduction**

The Family Outreach Program was initiated in collaboration with the Family Independence Agency and with the support of the Family Services Network in 1998. The program reaches out to low-income families in Branch County that

have been referred by the Family Independence Agency's Children's Protective Services. The program is designed to provide supportive intervention and collaboration of services to the families referred by Children's Protective Services through direct services and by working in collaboration with other community and state agencies. The Family Outreach Program provides families the opportunity to improve parenting skills, develop self-sufficiency skills, and build individual and family strengths and education on community resources and services. Many families are unaware of the services available to them and how to access these services.

When the Family Outreach Program was initiated in 1998, Branch County recognized a need for a program that incorporated not only direct services, but one that also worked in collaboration with other agencies and organizations to provide early intervention services for families that were at risk for continued intervention by Children's Protective Services. The program was initially funded for a three-year period, but due to its success the program has been continued and expanded. Goals of the project focused on three major goals: ninety percent (90%) of the families served will not have a substantiated abuse/neglect complaint while participating in the program; eighty percent (80%) of families served will not have a substantiated abuse/neglect complaint within the 12 months that immediately follow completion of the services; and eighty percent (80%) of families will report satisfaction with the services received.

## **Impact**

Since the start of the program 202 parents and 327 youth have been served by the program. An evaluation of the program found ninety-three percent (93%) of the families who received services did not have a substantiated abuse or neglect complaint while participating in the program; ninety six percent (96%) of the families that completed the program did not have a substantiated abuse or neglect complaint within the twelve months that immediately followed completion of services; and ninety percent (90%) of the families reported satisfaction with the services they received.

Examples of parent quotes:

"I feel like I am taking control of my life again."

"I am proud of my family and the positive changes we have made."

"The mentor has really helped my child and our family."

Quotes from children participating in the Mentor Program:

"I do fun stuff with my mentor and she listens to me."

"My mentor does things that I like to do."

"I get to do things with my mentor that I have never got to do before."

In 2004, one thousand eight hundred fifty-five adults and 1,227 youth were trained in parenting programs in Michigan

### **Source of Funds**

Smith-Lever 3b&c, state, county

### **Scope of Impact**

State

**Key Theme: Children, Youth and Families At-Risk**  
**Educational Initiative Title: Preparing for Retirement**  
**Jean Nichols: Hillsdale County**

### **Project Description**

More than half of American families are not saving enough to preserve their standard of living in retirement. Sixty-nine percent (69%) of Americans plan to work in their retirement years (AARP 2002). Between 1983 and 1998 two-thirds of the defined benefit or traditional pension plans in the U.S. were terminated (EBRI 2002). More than half of American workers between the ages of 45 and 54 did not have any kind of retirement account in 1998. Data compiled in 2000 showed half of those in the 55-64 age range had balances of less than \$33,000 (Lakeland Ledger 2002). The fastest growing age group in Hillsdale County in 2004 was the 45-64 year olds. Based on the statistics described above and input from local stakeholders, a family resource program was developed and implemented.

### **Impact**

Evaluation of the project using pre and post tests found: before the workshop 50% had a will or trust, after the program 93% had or are planning on getting one; 39% said they had basic legal documents such as power of attorney and health care power of attorney before the workshop and 87% after; 28% had reviewed their insurance needs for retirement before the workshop and 67% had reviewed them after the workshop; none of the participants had made a decision on purchasing long-term care but after the program 33% made a decision on purchasing or not purchasing long-term care; and 34% knew which changes in their life would require a review for an enjoyable retirement on the pretest and 80% afterwards.

A six month post evaluation found 91% had reviewed their Social Security Statement, 64% had identified later life financial goals, discussed later life needs and goals with others, organized financial records and built more than one source of income for later life; 55% had established or revised saving and

investment goals; 45% had determined later life income needs, identified health insurance options after retirement, identified the risks, costs, and financing options to protect against changes in health, including long term care and reviewed insurance coverage and property ownership; 36% had initiated or increased their contributions to any savings plans, prepared or updated their will and prepared or reviewed a plan for protecting and for distributing their assets, 27% had initiated or increased their contributions to their employer-provided retirement plans, updated their list of beneficiaries, prepared a power of attorney and advance health directive and discussed estate plans with aging parents; 18% had developed a plan for managing the risk of long term care, whereas before the workshop no one had made a decision in this area; 91% had shared the information with other people, and 100% responded that as a result of this program, they knew where to find information to help them make decisions about later life.

### **Source of Funds**

Smith-Lever 3b&c, state, county

### **Scope of Impact**

State

### **Key Theme: Youth Development**

**Educational Initiative Title: Downriver 4-H Character Count**

**Sandra Griffin: Wayne County**

### **Project Description**

A school system in the Downriver area of Wayne County requested assistance from the 4-H program to provide character education to 87 alternative education students who had been suspended from their regular classes for various inappropriate behaviors. Students were provided 6 weeks of character education that also focused on attitudes toward school and respect for the classroom.

### **Impact**

An evaluation found that 90% of the students showed increased knowledge in character, respect, and attitudes toward school. Sixty-nine of the 87 or 79% of the students showed drastic improvement in respecting others and the classroom as well improved aspirations for school performance that resulted in them being mainstreamed back into their regular classrooms in the fall of 2004.

In 2004, over 1,400 youth received character education in Michigan.

## **Source of Funds**

Smith-Lever 3b&c, state, county

## **Scope of Impact**

State

## **Key Theme: Youth Development**

**Educational Initiative Title: Youth Leadership Development**

**Theresa Silm: Clinton County**

## **Project Description**

The majority of local elections have uncontested races. This includes school boards, township leaders, city and county positions. Community committees (Chamber of Commerce, Fair Board, Jaycees, etc.) expressed concern regarding the emergence of new leaders. The Clinton County MSU Extension Council identified the need for involving new leadership at all levels in the community and selected it as a high priority. A discussion with high school students on the St. Johns High School Student Council resulted in their help in identifying leadership skills/knowledge/experiences that youth need. The target audience for this initiative consisted of youth between the ages of 13-18. In an effort to reach youth from low income areas in the county, township officials and FIA staff were used to identify youth and promote participation in the program. A ten week Youth Leadership Academy was held for youth focusing on hands-on development of basic leadership skills and an awareness of personal leadership traits. A Youth Leadership newsletter was developed and sent quarterly. The newsletter provided a forum for youth to share their experiences and observations, share information about upcoming leadership training opportunities, and let youth know more about potential leadership opportunities for them to become involved in.

## **Impact**

Input from the participant evaluation following the completion of the Youth Leadership Academy showed that: 71% felt that they improved their listening skills; 71% felt that they improved their skills to speak in front of a group; 92% felt more confident in their own leadership abilities; 78% felt better prepared to set goals and accomplish them; 71% felt that they learned leadership skills that will help them at home; 71% felt that they learned leadership skills that will help them at school; and 57% felt that they learned leadership skills that will help them in their community. A follow up phone survey conducted eight weeks after the program finished showed that: 15% had taken on new leadership roles; 100 % would recommend the series to a friend; 60% had used one of more of the things that they learned in real life; and 87 % could identify the pillars of character. According to the parents of youth who participated in the Youth Leadership

Academy: 100% felt their son/daughter benefited from participation in the series; 100% felt their son/daughter developed additional leadership skills; 91% felt that their son/daughter had shared some of what they learned at home; 73% felt that their son/daughter were more confident in groups than they were at the beginning of the leadership series; and 54% indicated that their son/daughter has used some of their conflict resolution skills at home. In 2004, 6,372 youth were trained in leadership development in Michigan.

### **Source of Funds**

Smith-Lever 3b&c, state, county

### **Scope of Impact**

State

The AoE Teams in Goal 5. met their 2003-04 Plan of Work goals by reaching their targeted population. All teams and members have become more active in recruiting stakeholder input and involving collaborators in setting priorities, and designing and implementing programs. In addition, the teams are engaged in identifying underserved populations and developing strategies, collaborations, and programs to address these populations. Examples of collaborators have included: Farm Credit Services, Intermediate School Districts, Chambers of Commerce, Community Foundations, Capital Area United Way, Kellogg Community College, Community Mental Health, Michigan Townships Association, Farm Bureau, Michigan State Police, Spectrum Health, Michigan Nonprofit Association, Michigan Department of Transportation, Small Business Development Center, Michigan State Housing Development Authority, Harvard University, Lutheran Social Services, Michigan Family Independence Agency, Family Counseling Center, Early Headstart, W.K. Kellogg Foundation, University of Wisconsin, American Youth Foundation, 4C, Child Abuse and Neglect Council, Community Action Agency, Michigan Department of Public Health, University of Michigan, NAACP, YMCA, Michigan Council on Crime and Delinquency, and Big Brothers/Big Sisters.

## **Program Review Process**

As demonstrated above, MSU Extension continues to use the AoE team structure for the Program Review Process as stated in the Plan of Work with no changes. In 2005, a State of the State Survey will be conducted to assess how needs and priorities have changed since the last survey in 2001.

In addition to the above process, counties and AoE teams during 2003-04 used over 250 advisory groups to identify local needs and action strategies. These groups ranged from local 4-H Foundations to Technical Advisory Committee Southwestern Michigan Solid Waste Consortium. This information will continue to be used for stakeholder input and Civil Rights compliance.

## **Reaching Underserved Audiences**

All agents identify in their educational initiative plans their target audiences for their programs and assess who is being reached and who is underserved. Based on these assessments, agents develop new educational initiatives to address reaching underserved populations. During 2003-04 MSU Extension reported progress and impact on over 75 educational initiatives that reached new underserved audiences in their counties. Progress was made in reaching new audiences for programs, involving new stakeholders from underserved areas and groups, expanding programs in new geographic (underserved) areas, and development of new programs.

Examples of progress in 2003-04 toward reaching underserved audiences included:

- more diverse audiences in 4-H Youth Development;
- more low-income African American youth males targeted through 4-H;
- more males in food and nutrition programs;
- more commodity marketing workshops that specifically targeted farm wives/spouses;
- more seniors recruited through a variety of organizations serving these populations;
- more fathers recruited for parenting programs;
- more low-income mothers recruited for parenting programs;
- more leaders were trained from underserved areas and populations;
- more housing programs for low-income audiences;
- more youth involved in state and local government issues;
- more outreach through Chambers of Commerce and local libraries to provide local community contacts, (especially underserved groups) through which information on classes, programs and volunteer opportunities was distributed;
- more collaboration with county health department clinics that resulted in more educational services to underserved audiences;

- more outreach through Chambers of Commerce and local libraries to provide local community contacts, (especially underserved groups) through which information on classes, programs and volunteer opportunities was distributed;
- and more collaboration with county health department clinics that resulted in more educational services to underserved audiences;

An example of addressing underserved audiences in 2003-2004 was a program in Kent County that received a portion of the 2004 JC Penney Afterschool grant as one of five participating MI counties. This grant secured additional resources and staff time to focus on volunteer recruitment in underserved audiences to reach urban middle school and elementary school youth in these areas.

### **Evaluation of the Success of Multi-state and Joint Activities**

MSU Extension met its goal of 2% or \$164,511 as proposed in the Plan of Work by spending \$198,743 on multi-state activities (see Appendix A). The majority of these activities involved sharing information and educating others from other states. Some of the major collaborations consisted of: Floriculture Programming in Michigan, Ohio, Indiana, Illinois; tri-state effort on Natural Resources and Environmental Issues Facing Agriculture; Consumer Horticulture Outreach Education with Ohio; International Association of Great Lakes Research Conference with Ohio; Improving Farm Profitability Through Early Planting Technology with Ohio; St. Joseph River Watershed Initiative which included Ohio and Indiana; Supporting UP Dairy Industry with Wisconsin; and Environmental Stewardship Among Dairy Producers with Ohio. In all of these collaborations, staff members reported sharing resources and information as well as building stronger relationships between the states.

An example of multi-state activities is the Tri-State Woodland and Wildlife workshop that was conducted in Bryan, Ohio. This event was designed to meet woodland management educational needs in the area near where Michigan, Ohio and Indiana meet. Next year's event will be held at Pokagon State Park in Indiana. This year's event attracted over 150 participants. Sessions focuses on forest health and timber marketing. The program was well received, with participants rating the program 3.4 (1=poor, 4=excellent). On average, participants indicated that they believed that they were better able to manage their woodlands as a result of the program (average: 5.5, 1=much less able, 4=the same, 7=much more able). A follow-up survey will be conducted later this year to gauge actual practices implemented by participants since the program.

### **Evaluation of the Success of Integration Activities**

Michigan State University Extension achieved its Integrated Activities goal with \$395,023 spent in this area that exceeds the 4% goal of \$329,023 (see Appendix B). Examples of integrated activities conducted during 2003-04 included: conducted MCP studies to determine methods to increase storage life of apples,



that included work in Food Science to develop the protocol/mechanism for proper scientific evaluation; development of farm Manure Management System Plans (MMSP) with Animal Science; feeding strategies to lower Nitrogen and Potassium in Manure from Animal Science; dairy nutrition updates from Agriculture and Natural Resources helped in the late summer evaluation of plots and determining the differences in the nitrate levels in the various plots; Plant Pathology worked with farmers on disease control in grapes and the importance of bloom sprays; and Food Science worked with extension staff on an obesity project.

An example of integration activities is MSU Extension and MSU Agricultural Experiment Station partnered with the MDA, the Michigan Department of Natural Resources and the U.S. Department of Agriculture to educate producers, veterinarians and the public about bovine TB. MAES research improved a laboratory technique for isolating the TB-causing bacteria on a farm, which makes it possible to assess whether *M. bovis* still exists there after livestock are removed. MSUE utilizes its educational programs and farm visits to disseminate MAES research findings.

**For further information** regarding this report or MSU Extension contact Bruce E. Haas, Ph.D. at [haasb@msue.msu.edu](mailto:haasb@msue.msu.edu) or (517) 432-3491.

## **Appendix**

### **Michigan Multistate Extension Form and Documentation And Michigan Integrated Extension Form and Documentation**

Appendix

**U.S. Department of Agriculture  
 Cooperative State Research, Education, and Extension Service  
 Supplement to the Annual Report of Accomplishments and Results  
 Multistate Extension Activities and Integrated Activities  
 (Attach Brief Summaries)**

Institution Michigan State University Extension  
 State Michigan

Check one:  **Multistate Extension Activities**  
 **Integrated Activities (Hatch Act Funds)**  
 **Integrated Activities (Smith-Lever Act Funds)**

**Actual Expenditures**

Title of Planned Program/Activity	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
<u>Multistate Collaboration</u>	<u>0</u>	<b>\$114,754</b>	<b>\$182,083</b>	<b>\$227,379</b>	<b>\$198,743</b>
<u></u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>
<u></u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>
<u></u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>
<u></u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>
<b>Total</b>	<u></u>	<b>\$114,754</b>	<b>\$182,083</b>	<b>\$227,379</b>	<b>\$198,743</b>

Tom Coon  
 Director

3/31/05  
 Date

Appendix

U.S. Department of Agriculture  
 Cooperative State Research, Education, and Extension Service  
 Supplement to the Annual Report of Accomplishments and Results  
 Multistate Extension Activities and Integrated Activities  
 (Attach Brief Summaries)

Institution Michigan State University Extension

State Michigan

Check one:  Multistate Extension Activities  
 **Integrated Activities (Hatch Act Funds)**  
 Integrated Activities (Smith-Lever Act Funds)

Title of Planned Program/Activity	Actual Expenditures				
	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
<u>Integrated Research</u>	<u>0</u>	\$177,639	\$335,244	\$329,023	\$395,198
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
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<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<b>Total</b>	<u> </u>	\$177,639	\$335,244	\$329,023	\$395,198

Tom Coon  
Director

3/31/05  
Date