

# 2012 University of Missouri Extension Annual Report of Accomplishments and Results

<b>Status: Accepted</b>
<b>Date Accepted: 05/21/2013</b>

## I. Report Overview

### 1. Executive Summary

University of Missouri Extension (MU Extension) had a very productive year in achieving its goals set out in the 2012 plan of work. MU Extension's 2012 programs addressed such issues as: the growing obesity problem in Missouri; building a sustained holistic economic development model in Missouri that addresses the need for vibrant communities, retention of jobs, and viable businesses; food productivity and safety in Missouri's agricultural arena; and building tomorrow's leaders through our 4-H Youth program.

Our stakeholders continue to articulate the need for more programming from us at a time of diminishing budget. We continue to incorporate the use of technology in our delivery systems in order to leverage the human capacity that we have. MU is contributing to programming efforts in eXtension and has developed a more comprehensive and accessible website for our stakeholders. We are also seeking alternative funding from grants, gifts, and fee generation to further leverage the resources that we receive from our state, federal, and county partners.

Our goal is to be reliable, responsive and relevant. We accomplished that goal in 2012 by providing research-based knowledge to Missourians that was aligned with their priorities of jobs, health, and education.

**Total Actual Amount of professional FTEs/SYs for this State**

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	235.3	0.0	0.0	0.0
Actual	246.0	0.0	0.0	0.0

## II. Merit Review Process

### 1. The Merit Review Process that was Employed for this year

- Internal University Panel
- External Non-University Panel

### 2. Brief Explanation

In addition to reviewing the stakeholder input from all 114 counties, regional and state faculty surveyed current literature to identify state-wide demographics, national and state trends, and discipline specific research related to program effectiveness. Based on this review, state-wide priority needs were identified and programs in response to those priorities were developed by faculty. The program priorities

along with their program logic models were then reviewed by the appropriate state program leader to assure that the programs are both relevant and of high quality.

State-wide program priorities will be utilized by regional faculty as they develop a local programming response to their county's identified needs. The resulting proposed county program plan will then be taken to the county council for their acceptance. Once approved, the programming will be delivered and the impact evaluated.

By establishing this ongoing merit review process of: stakeholder needs identification; program response by faculty; stakeholder feedback; and outcome assessment, the quality and relevance of programs will be maintained.

### **III. Stakeholder Input**

#### **1. Actions taken to seek stakeholder input that encouraged their participation**

- Targeted invitation to traditional stakeholder groups
- Targeted invitation to non-traditional stakeholder groups
- Survey of traditional stakeholder groups
- Survey of traditional stakeholder individuals
- Survey specifically with non-traditional groups
- Survey specifically with non-traditional individuals

#### **Brief explanation.**

University of Missouri Extension has gathered opinions of Missouri residents in a variety of ways to assist us in determining the critical issues of strategic importance. Our goals in developing the methodologies for the stakeholder input process were to: diversify the audiences in order to gain a better perspective on the reach and effectiveness of our programs; to diversify the gathering process so that we could utilize the feedback for both program prioritization and also to gain knowledge as to preferred delivery methods as well as general awareness of our programs; and finally to gather some program specific information and diversity needs information in a more substantive way in order to gain a better understanding of the issues underlying the needs in order for us to be more effective in our programming response.

The methods used in our stakeholder input gathering were as follows:

- Community Conversations
- Diversity Discussions
- Web-based Survey
- County and Regional Needs Assessments
- Meetings with State Agencies

#### **2(A). A brief statement of the process that was used by the recipient institution to identify individuals and groups stakeholders and to collect input from them**

##### **1. Method to identify individuals and groups**

- Use Advisory Committees
- Use Internal Focus Groups
- Use External Focus Groups

**Brief explanation.**

See 1.

**2(B). A brief statement of the process that was used by the recipient institution to identify individuals and groups who are stakeholders and to collect input from them**

**1. Methods for collecting Stakeholder Input**

- Meeting with traditional Stakeholder groups
- Meeting with traditional Stakeholder individuals
- Meeting specifically with non-traditional groups
- Survey specifically with non-traditional groups
- Meeting specifically with non-traditional individuals
- Survey specifically with non-traditional individuals

**Brief explanation.**

See 1.

**3. A statement of how the input will be considered**

- In the Budget Process
- To Identify Emerging Issues
- Redirect Extension Programs
- In the Staff Hiring Process
- In the Action Plans
- To Set Priorities

**Brief explanation.**

**Brief Explanation of what you learned from your Stakeholders**

Our stakeholders continue to articulate the need for more programming from us at a time of diminishing budget. We continue to incorporate the use of technology in our delivery systems in order to leverage the human capacity that we have. MU is contributing to programming efforts in eXtension and has developed a more comprehensive and accessible website for our stakeholders. We are also seeking alternative funding from grants, gifts, and fee generation to further leverage the resources that we receive from our state, federal, and county partners.

IV. Expenditure Summary

<b>1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)</b>			
<b>Extension</b>		<b>Research</b>	
<b>Smith-Lever 3b &amp; 3c</b>	<b>1890 Extension</b>	<b>Hatch</b>	<b>Evans-Allen</b>
8705468	0	0	0

<b>2. Totaled Actual dollars from Planned Programs Inputs</b>				
<b>Extension</b>			<b>Research</b>	
	<b>Smith-Lever 3b &amp; 3c</b>	<b>1890 Extension</b>	<b>Hatch</b>	<b>Evans-Allen</b>
<b>Actual Formula</b>	8705468	0	0	0
<b>Actual Matching</b>	8705468	0	0	0
<b>Actual All Other</b>	0	0	0	0
<b>Total Actual Expended</b>	17410936	0	0	0

<b>3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous</b>				
<b>Carryover</b>				
	0	0	0	0

## V. Planned Program Table of Content

S. No.	PROGRAM NAME
1	Home Horticulture and Environment
2	Livestock Production System - Global Food Security and Hunger
3	Integrated Crop Management Systems - Global Food Security and Hunger
4	Enhancing the Sustainable Management of Missouri's Natural Resources
5	Profit Focused Agriculture
6	Water Resource Protection and Management
7	Managing Forages for Profitable Animal Production - Global Food Security and Hunger
8	Creating Simple Environments for Positive Youth Development
9	Creating Collaborative Environments for Positive Youth Development
10	Creating Complex Environments for Positive Youth Development
11	Volunteer Development
12	Built Environments and Sustainable Energy
13	Strengthening Families
14	Personal Financial Management
15	Food Safety
16	Nutrition, Health and Physical Activity
17	Ensuring Safe Communities
18	Sustainable and Viable Communities
19	Business Development

**V(A). Planned Program (Summary)**

**Program # 1**

**1. Name of the Planned Program**

Home Horticulture and Environment

Reporting on this Program

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
101	Appraisal of Soil Resources	18%			
205	Plant Management Systems	22%			
211	Insects, Mites, and Other Arthropods Affecting Plants	19%			
212	Pathogens and Nematodes Affecting Plants	10%			
213	Weeds Affecting Plants	6%			
216	Integrated Pest Management Systems	25%			
	<b>Total</b>	100%			

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	9.0	0.0	0.0	0.0
Actual Paid Professional	11.0	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
460793	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
407947	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

Some of the major activities under this program are Master Gardener training (core course), advanced Master Gardener training, Garden 'N Grow training and workshops for garden center employees. Other activities include the Plants of Merit and HortLine programs in cooperation with Missouri Botanical Gardens, homeowner workshops, Lifespan Learners Series, Responsible Home Horticulture Series, booths at home shows and fairs, Plant a Row for the Hungry and Horticulture Therapy in Nursing Homes.

**2. Brief description of the target audience**

The ultimate target audience of this program is individuals with an interest in gardening. However, to reach this diverse and highly dispersed audience, MU Extension will need to use several community multipliers of information. One highly important audience will be the Master Gardener volunteers. After receiving training, Master Gardeners contribute volunteer hours to assist with dissemination of horticultural information through speaking engagements, workshops, information booths, youth programs, Extension Center hot lines, demonstration plantings and other activities. Youth groups including 4-H are another important target audience. Many young people will enroll in the Garden 'N Grow program.

**3. How was eXtension used?**

eXtension was not used in this program

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	7993	9460	542	239

**2. Number of Patent Applications Submitted (Standard Research Output)**  
**Patent Applications Submitted**

Year: 2012  
 Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2012	Extension	Research	Total
Actual	7	0	0

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Provide in-service training session (s) for regional Extension specialists on an annual basis.

Year	Actual
2012	4

**Output #2**

**Output Measure**

- Develop or revise guide sheets a year for regional extension specialists to use in producer meetings.

Year	Actual
2012	13

**Output #3**

**Output Measure**

- Print and electronic newsletters devoted to pest and horticulture crop management will be developed and distributed to regional specialists and other clientele.

Year	Actual
2012	1

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Master Gardeners, garden center employees, retired persons and home gardeners will increase their knowledge of basic plant growth, fertility, plant care, varieties, diseases.
2	4-H members & youth will improve their gardening skills and awareness of where food comes from through the Garden & Grow program.
3	Increase the number of Missourians participating in gardening activities.
4	Increase use of soil sampling and plant diagnostic services by home gardeners.
5	Increase the number of Master Gardner volunteer hours and contacts.

## **Outcome #1**

### **1. Outcome Measures**

Master Gardeners, garden center employees, retired persons and home gardeners will increase their knowledge of basic plant growth, fertility, plant care, varieties, diseases.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	17543

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

Selecting poorly adapted plants for home gardens can lead to frustration and may discourage people from future gardening activity. Awareness of sources of information on proper plant selection will contribute to gardening success and the health benefits derived from it. Also, proper plant selection reduces plant stress, which then reduces the amount of inputs necessary to maintain plant health. This can lead to a reduction in fertilizer and pesticides necessary to maintain plant health.

#### **What has been done**

Through Master Gardener (MG) training and volunteer activities of MG's, newsletter, media releases, Nursery Association Certification training, greenhouse short courses and web guide access, thousands of Missourians received information on plant selection and culture. We hosted a Native Plant Field Day and a Tomato Festival.

#### **Results**

Of 984,384 valid hits on all MU agricultural guides from January 1 to December 31, 2012, 49% were horticulture guides. Horticulture and pests accounted for over 60% of the ag guide hits for the period. The most popular horticulture guides were on composting, pruning shrubs, raised bed gardening, roses and vegetable production. Thus, thousands of Missourians received information to help them improve their gardening success. If 10 percent of those receiving Home Horticulture information increase their purchasing of plants, gardening supplies and landscape services by one hundred dollars due to Extension activities, this would translate to a \$5 million increase in sales.

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
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101	Appraisal of Soil Resources
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
216	Integrated Pest Management Systems

## **Outcome #2**

### **1. Outcome Measures**

4-H members & youth will improve their gardening skills and awareness of where food comes from through the Garden & Grow program.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	782

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

Youth gardening programs, including Garden 'n Grow, are intended to cultivate strong skills in science through the curriculum. The goals are also for youth to experience gardening in a positive and fun method, to enjoy the feeling of success with their gardening efforts, and to have the satisfaction of sharing their harvested produce with others in need. Youth also learn to produce healthy food and the importance of fresh produce in human nutrition.

#### **What has been done**

Garden 'n Grow was hosted in three locations throughout Missouri, in which volunteers work with school children to help them plant, manage and harvest vegetable plots.

#### **Results**

Evaluation results for one of the youth groups that participated in the Garden and Grow program found that:

- 100% of the youth indicated that "I can select vegetable plants and seeds and plant a garden on my own or with some assistance".
- 100% indicated "I know what vegetables are in a 3 sisters garden".
- 100% indicated "I know what vegetable grows up a teepee".

- 80% indicated "I can recognize squash bug eggs on a leaf".
- 90% indicated "I can name at least three plant parts and describe their function"
- 80% indicated "I know why it's important to donate extra produce to a food pantry".
- 100% indicated "I have learned some ways to cook my produce".
- 100% indicated "I understand why it is important to eat fresh vegetables"

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
216	Integrated Pest Management Systems

#### Outcome #3

##### 1. Outcome Measures

Increase the number of Missourians participating in gardening activities.

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2012	8535

##### 3c. Qualitative Outcome or Impact Statement

###### **Issue (Who cares and Why)**

Beneficial effects of gardening on human quality of life are well documented. Among other benefits, home gardening improves nutrition, reduces energy costs, encourages physical activity and contributes to psychological well being. Missourians who garden are likely to derive these benefits for their entire lives.

###### **What has been done**

Through Master Gardener training, Master Gardener volunteer activities, press releases, radio spots, web and print guides, field days and many other activities, thousands of Missourians gain information that will make them more likely to participate in gardening activities.

**Results**

Ninety-eight percent of the two hundred participants that attended the Ozark Spring Gardening Workshop indicated that the program met or exceeded their expectations. MU Extension faculty on averaged assisted more than hundred clients per month with questions pertaining to various horticulture topics such as drought, watering crops, harvesting vegetables and fruit, soil, composting, insect identification, tree and shrub diseases and disorders. Post composting workshop surveys found that 88% of the participants had started composting and they indicated they were saving between \$100 to more than \$200/year by composting. The most popular horticulture guides were on composting, pruning shrubs, raised bed gardening, roses and vegetable production.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
101	Appraisal of Soil Resources
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
216	Integrated Pest Management Systems

**Outcome #4**

**1. Outcome Measures**

Increase use of soil sampling and plant diagnostic services by home gardeners.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	4322

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

A recent summary of urban soil samples from the St. Louis and Kansas City areas showed that the majority of samples tested high or very high in soil phosphorus, which poses a threat to water quality. Increased soil testing will reduce the unintentional over-application of fertilizer. Workshops to enhance environmental stewardship by homeowners and/or lawncare and horticulture industry

professionals which helps to reduce unnecessary use of pesticide and fertilizer.

**What has been done**

We have created a program in Missouri, Healthy Yards for Clear Streams, that focus on training regional specialists to educate homeowners and/or lawncare professionals to change management practices of lawns, gardens and landscapes. This, in addition to Master Gardener outreach efforts, media releases and web guide access encouraged environmentally responsible gardening activity.

**Results**

The number of lawn and garden soil samples submitted to the MU Soil and Plant Testing Lab was 4322. The Plant Diagnostic Clinic was not in operation, due to the resignation of the lab director.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
101	Appraisal of Soil Resources
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
216	Integrated Pest Management Systems

**Outcome #5**

**1. Outcome Measures**

Increase the number of Master Gardner volunteer hours and contacts.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	10882

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

There continues to be tremendous demand in the general public for gardening information. Many individuals enroll in the Master Gardener class to have access to this type of training. Once

Master Gardeners are trained, they disseminate research based information throughout their county and improve the knowledge base among home gardeners in their community.

**What has been done**

Regional & campus faculty used multiple educational methods including conducting Master Gardener Core & Advanced training, Master Gardener volunteers developed and implemented community based projects/activities, gardening workshops, assisted garden clubs, conducted FFA &4-H programs, demonstrations, industry training, professional development, developed and distributed press releases, radio spots, web and print guides, field days and many other activities.

**Results**

Newly trained Master Gardeners are much more aware and able to use and promote the resources of the University of Missouri and MU Extension. They are better educated gardeners, and also more environmentally aware gardeners. They also actively promote the purchase of plants from local garden centers and nursery businesses. During calendar year 2012, Master Gardeners contributed over 68,169 volunteer hours to assist Extension in outreach and to benefit horticulture in their communities. With speakers bureaus, newsletters, booths as home shows and many other venues, Master Gardeners contacted nearly half a million Missourians to provide research based gardening information. Almost all Master Gardeners (98%) reported sharing information with family and friends, and 69% reported sharing information with the general public. Overall, 70% of respondents indicated having participated in at least one of the six outreach activities.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
101	Appraisal of Soil Resources
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
216	Integrated Pest Management Systems

**V(H). Planned Program (External Factors)**

**External factors which affected outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Competing Public priorities
- Competing Programmatic Challenges

**Brief Explanation**

Staffing limitation is still a major factor affecting program outcome. Most state Extension Specialists in Horticulture have responsibilities in Teaching, Research and Extension and, therefore, have limited time to devote to this program. Regional Horticulture Specialists have responsibilities in up to 13 counties and in multiple program areas. Budget constraints due to the poor economy and low tax revenues have restricted extension programming. The economic conditions over the past year have undoubtedly influenced the gardening habits of Missourians. While sales of vegetable seeds are up, purchase of higher

cost items such as trees and shrubs has declined, despite Extension programming to encourage their planting.

#### **V(I). Planned Program (Evaluation Studies)**

##### **Evaluation Results**

This past year an extensive evaluation of the effectiveness and value of the Master Gardener program was conducted by the University's Assessment Resource Center. Over 1,400 Master Gardeners responded to the evaluation questionnaire. Almost all Master Gardeners (98%) reported sharing information with family and friends, and 69% reported sharing information with the general public. Overall, 70% of respondents indicated having participated in at least one of the six outreach activities. In general, participants more often shared information by interacting directly with people than by producing written information.

It is evident from the reception by the gardening public of programs such as Master Gardener Program that there is a tremendous demand for information about gardening. Also, home gardeners are increasingly concerned with the effects of their gardening activities on environmental quality. Furthermore, it is apparent that, given high quality, understandable information, gardeners tend to be willing to change their practices to be more environmentally responsible based on this information. Curriculum developed for the healthy Yards for Clear Streams program will be available for use by anyone doing programming focused on environmentally responsible landscape and garden management. Several groups conducting water quality training have utilized parts of the HYCS curriculum in their programs.

##### **Key Items of Evaluation**

Listed above

**V(A). Planned Program (Summary)**

**Program # 2**

**1. Name of the Planned Program**

Livestock Production System - Global Food Security and Hunger

Reporting on this Program

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
301	Reproductive Performance of Animals	10%			
302	Nutrient Utilization in Animals	40%			
303	Genetic Improvement of Animals	10%			
307	Animal Management Systems	30%			
308	Improved Animal Products (Before Harvest)	10%			
	<b>Total</b>	100%			

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	15.0	0.0	0.0	0.0
Actual Paid Professional	20.0	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
806389	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
713908	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

## **V(D). Planned Program (Activity)**

### **1. Brief description of the Activity**

(A) The learner-focused outcomes of this program will expand the scope of the Missouri Show-Me-Select Replacement Heifer Program. These outcomes include: 1) Regional Extension Livestock Specialists, veterinarians, farmers, and allied industry representatives will acquire knowledge and skills to aid in the successful adoption and implementation of existing management practices to improve beef heifer development; 2) Regional Extension Livestock Specialists, practicing veterinarians, producers, and future professionals will acquire new knowledge and skills to aid in the adoption of emerging biotechnologies in beef heifer development, including estrus synchronization and artificial insemination; 4) Regional Extension Livestock Specialists, practicing veterinarians and producers will be able to identify and discuss the economic implications of implementing production practices associated with the Show-Me-Select Replacement Heifer Program; and 5) Participating producers will develop a plan that establishes the Show-Me-Select Replacement Heifer Program as a producer owned and managed system.

(B) The MO-Pork program will include the following activities: Promotion of efficient production and management practices (Pork Industry Handbook, MU guide sheets and Midwest Plan Service Handbooks); National Swine Nutrition Guide (NSNG); Use of Manual 144/202 "The Missouri System of Swine Production"; On-farm data collection used to evaluate production and economic endpoints; Focused Management Schools for MO-Pork participants, artificial insemination course, Back to the Basics: Farrowing School, Sow Manager's Conference, Pigs to Plate: Adventures in Meat Quality Seminar, Health Summit, finishing short course, nursery management course, ventilation short course; Delivery of Pork Quality Assurance Program for MO-Pork participants; Delivery of new technologies in the swine industry to MO-Pork participants; Computer models/PDA record keeping programs; World Pork Expo and other conferences; Education about niche production markets and specialization opportunities; Media coverage of the MO-Pork program; Farm visits; On-farm research trials; Workshops; Meetings; and Consultation.

### **2. Brief description of the target audience**

(A) The audiences targeted in this program are farmers across Missouri actively involved in cow-calf production and marketing. There are no limitations placed on the program in terms of farm or size of cow-herd. The program to date has involved herds as small as 8 cows and as large as 6,000 cows. Numerous sectors of the Missouri livestock industry come together as a result of this program, including University Extension, the Division of Animal Sciences, the University of Missouri College of Veterinary Medicine, the Commercial Agriculture Program, the Missouri Beef Cattle Improvement Association, the Missouri Cattlemen's Association, the Missouri Department of Agriculture, and the Missouri Livestock Marketing Association.

(B) The target audience will include people who own swine operations, work on swine farms, or provide technical support to people who own or work on swine farms (e.g., veterinarians, feed dealers). In addition, MO-Pork will target beginning Missouri pork producers, expanding Missouri pork producers, and industry personnel such as Missouri grain producers (interested in adding value to their crops).

### **3. How was eXtension used?**

eXtension was not used in this program

## **V(E). Planned Program (Outputs)**

### **1. Standard output measures**

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	2340	3500	16128	85

**2. Number of Patent Applications Submitted (Standard Research Output)**  
**Patent Applications Submitted**

Year: 2012  
 Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2012	Extension	Research	Total
Actual	12	0	1

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Provide in-service training session(s) for regional Extension specialists on an annual basis.

Year	Actual
2012	23

**Output #2**

**Output Measure**

- Regional and state specialists will conduct demonstrations on an annual basis.

Year	Actual
2012	23

**Output #3**

**Output Measure**

- Regional specialists will assist with producer sales.

Year	Actual
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2012 15

**Output #4**

**Output Measure**

- Develop or revise guide sheets on an annual basis for regional Extension specialists to use in producer meetings.

<b>Year</b>	<b>Actual</b>
2012	8

**Output #5**

**Output Measure**

- Develop or revise manual(s) on an annual basis for regional Extension specialists to use in producer meetings.

<b>Year</b>	<b>Actual</b>
2012	6

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Participants will maintain or increase livestock production efficiencies and enhance marketing opportunities resulting in improved economic viability and profitability for their operation.
2	Participants will acquire knowledge and skills to aid in the successful adoption and implementation of existing management practices or emerging technology to improve livestock production efficiency and productivity.
3	Annual economic impact to the state's economy from improvements on livestock production.

## **Outcome #1**

### **1. Outcome Measures**

Participants will maintain or increase livestock production efficiencies and enhance marketing opportunities resulting in improved economic viability and profitability for their operation.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Action Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	540

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

The audiences targeted in this program include Regional Extension Livestock Specialists, veterinarians, and farmers across Missouri that are actively involved in cow-calf production and marketing. Technology transfer with respect to management practices involved in the program is not size dependent but rather farmer dependent in terms of introducing a fundamental change in approach to management and marketing that impacts a farm's individual profitability profile.

Issues addressed related to the MO-Pork programs:

The main issue for Missouri agriculture is the freedom to farm as well as maintain a competitive infrastructure. Agriculture is Missouri's number one driver of the state's economy. As the agriculture industry embraces change and accommodates what consumer's desire then all facets of the Missouri economy will benefit.

Missouri has a long history of diverse agricultural business that drives the state's economy with more than 12,600 jobs directly associated with swine production. The swine industry represents over \$791 million dollars and 12% of all commodities produced in Missouri. This is important to the Missouri economy because as producers purchase inputs for their operation from sales the local economy of jobs and services benefit.

The audiences targeted in the MO- Pork and Show-Me-Select programs include Regional Extension Livestock Specialists, veterinarians, and farmers across Missouri that are actively involved in cow-calf production and marketing. Technology transfer with respect to the management practices involved in the program is not size dependent but rather farmer dependent in terms of introducing a fundamental change in approach to management and marketing that impacts a farm's individual profitability profile.

#### **What has been done**

The Missouri Show-Me-Select Replacement Heifer Program was designed to improve reproductive efficiency of beef herds in Missouri and increase individual farm income. The program objectives include: 1) a total quality management approach for health and management of heifers from weaning to late gestation; 2) increased marketing opportunities for, and added value to, Missouri raised heifers; and 3) the creation of reliable sources of quality commercial and purebred replacement females.

What was done by the MO-Pork programs to address the issues:

The MO-Pork program offered workshops, demonstrations, seminars, web pages, materials and short courses that were attended by more than 800 swine producers. These included the National Swine Nutrition Guide and formulator, Nutrient Management formulators, Pork Quality Assurance Plus, Growth and Quality Barrow Classic, Pork Bridge, Sow Bridge, Swine Institute, Pork Profit Seminars, Feed Efficiency Conference and many individual consultations. In addition, on-farm demonstrations and applied research efforts have allowed producers to actually visualize the importance of adapting new technology on the operation. Some additional information on the Missouri Swine Resource Guide, National Swine Nutrition Guide and By-product Feed Price Report is located on the webpage at [www.agebb.missouri.edu/swine](http://www.agebb.missouri.edu/swine). The webpage has more than 25,000 hits annually.

### Results

The Show-Me-Select Replacement Heifer Program is the first comprehensive, state-wide, on farm beef heifer development and marketing program in the U.S. Participation in the program from 1997-2012 involved 104,918 heifers on 743 farms across Missouri, 225 veterinarians, 10 regional extension livestock coordinators, and 17 regional extension livestock specialists. The marketing component of the program over this period involved 119 sales at 10 locations. During this time, 25,276 heifers sold through Show-Me-Select Replacement Heifer Program sales with gross receipts of \$30,045,050. Total net impact on Missouri's economy from the 15 years of the Show-Me-Select Replacement Heifer Program and Sales exceed \$65M. Producers from 103 of Missouri's 114 counties (91%) have enrolled heifers in the program, and 64 counties in Missouri (56% of the total) list the Show-Me-Select Replacement Heifer Program as a priority program for their county in the their current Program of Work.

Outcomes resulting from the MO-Pork programmatic efforts to address the issues:

The MO-Pork program has provided technological advantages for Missouri producers through its educational materials, development of the National Swine Nutrition Guide, Least Cost diet formulator, Manure Value Optimizer, and Nutrient analyzer has provided a huge economic advantage to pork producers who will change dietary composition of feeds based on feed ingredient and acquisition prices. Computerized feeding programs enable swine producers to personally adapt diets as well as be knowledgeable about performance parameters. Feed ingredient prices can fluctuate greatly and altering commodity grain inclusion rates using the By-product Feed Price Report and the National Swine Nutrition Guide Least Cost Diet Formulator has resulted in approximately 42% reduction of feed cost inputs for Missouri Pork Producers creating an economic impact for Missouri of almost \$132 million dollars annually.

## 4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
303	Genetic Improvement of Animals
307	Animal Management Systems

308 Improved Animal Products (Before Harvest)

**Outcome #2**

**1. Outcome Measures**

Participants will acquire knowledge and skills to aid in the successful adoption and implementation of existing management practices or emerging technology to improve livestock production efficiency and productivity.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2012	720

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Continuation of low adoption rates of best management practices in the U.S. will ultimately erode the competitive position of the U.S. cattle industry. Other countries are adopting new technologies for animal production more rapidly than the U.S. Unless owners of commercial and purebred cowherds aggressively implement reproductive and genetic improvement, the U.S. will lose its competitive advantage in production of high quality beef.

Issues addressed related to the MO-Pork programs:

For MO Pork producers, feed ingredients have continued to have greater price volatility, thus refining and using technology strategies are extremely important for the sustainability of those producers. Technologies that have been adapted by Missouri pork producers are feed ingredient quality analysis, smart phone technologies and computerized feed formulations. This past year both input cost and market prices have been at a record high for the swine industry, therefore, Missouri's economy has not been hurt due to the fact agriculture is profiting and spending money to hire employees and make purchases associated with maintenance and repair.

**What has been done**

A number of management procedures have been cited to have a significant impact on beef herds and their resulting performance measured by reproduction and productivity. Only a limited percent of beef cattle operations use these management procedures. Best management practices for replacement beef heifers, when collectively viewed as a "program", can assist producers in more effectively managing reproduction, production, and marketing.

What was done by the MO-Pork programs to address the issues:

Missouri pork producers have gained hands-on training and resources on how to evaluate feed

ingredients, formulate least cost rations, maximize manure value, and apply performance parameters to management strategies through attendance of conference, webinars and face-to-face consultations.

### **Results**

The reproductive goals for heifers enrolled in the Show-Me-Select Replacement Heifer Program are aimed at improving breeding performance during the heifers' first breeding period, minimizing the incidence and severity of dystocia, and successful rebreeding of heifers during the subsequent breeding season. The Show-Me-Select Replacement Heifer Program is the first statewide, on-farm beef heifer development and marketing program in the U.S. Producers are utilizing available technologies for on-farm beef heifer development that are now spilling over into their cowherds. There has been a significant increase in interest and use of estrus synchronization and AI stemming perhaps from differential in sale prices, but more importantly from successful application. In general, there has been a growing awareness, understanding and appreciation for the importance of reproductive management to the whole herd.

Outcomes resulting from the MO-Pork programmatic efforts to address the issues: On farm management strategies have been evaluated by the MO-pork program on how producers can decrease energy usage by more than 20% resulting in a fuel saving of more than \$0.60 per pig. Swine operations who have adapted this technology have saved over \$180 million for Missouri swine producers. In addition, feed management evaluations conducted on Missouri farms has allowed producers to adopt new feeder designs with alternative feed ingredients resulting in an improvement in feed efficiency saving more than \$2 million in feed inputs.

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
303	Genetic Improvement of Animals
307	Animal Management Systems
308	Improved Animal Products (Before Harvest)

### **Outcome #3**

#### **1. Outcome Measures**

Annual economic impact to the state's economy from improvements on livestock production.

#### **2. Associated Institution Types**

- 1862 Extension

#### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2012	1760

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Veterinarians provide expertise in herd health, assessment of reproductive potential, and pregnancy diagnosis. Veterinarians serve as key information sources for U.S. beef producers and are essential in facilitating the adoption of various reproductive procedures. Nearly two-thirds (60.8%) of cow-calf producers cited their veterinarian as a "very important" source of information for their cow-calf operation including health, nutrition, or questions pertaining to production or management.

Issues addressed related to the MO-Pork:

The combined effects (direct, indirect and induced) of the swine industry in the state are estimated at \$1.1 billion. The bulk of the economic activity is associated with the direct effect of the production itself (\$800 million) which is included in the aggregated category of Agriculture. The remainder of the economic impacts attributed to the Agriculture sector is indirect and induced effects that include input purchases by swine farmers but also spending of wages and profits on agriculturally related goods. As expected, most of the economic activity is concentrated in the Agriculture sector. Similarly, the associated jobs (> 30,000) are concentrated in the agriculture sector. Approximately 65% of these jobs are estimated to be directly related to swine production with the remainder associated with other facets of agriculture. Again, in terms of jobs, the wholesale/retail trade, finance/insurance/real estate and service sectors benefit most from the presence of the swine industry.

#### What has been done

Implementation of the Show-Me-Select Replacement Heifer Program in Missouri involved University specialists working closely with producers, regional extension specialists, and veterinarians. On-farm development programs that involve local veterinarians, state, regional extension livestock specialists, and individual farm operators provide the structure through which change can occur.

What was done by the MO-Pork to address the issues:

Swine producer contacts, mailings, surveys and follow up evaluations from demonstrations, conferences, webinars, emails, phone calls and farm visits have allowed direct feedback related to economic impacts of changes made at the farm level.

#### Results

Veterinarians provide expertise in the areas of health, assessment of reproductive potential, pregnancy diagnosis, and fetal aging. Veterinarians serve as key information sources for U.S. beef producers and are essential in facilitating the adoption of various reproductive procedures. Nearly two-thirds (60.8%) of cow-calf producers cited their veterinarian as a "very important" source of information for their cow-calf operation including health, nutrition, or questions pertaining to production or management. The success of this program over the past years was largely a function of being able to reach the target audience and the associated impact of that connection. Implementation involved University specialists working closely with producers, regional extension specialists, and veterinarians. On-farm development programs that involve

local veterinarians, state and regional extension specialists, and individual farm operators provide the structure through which change can occur.

Outcomes resulting from the MO-Pork Programmatic efforts to address the issues:  
The Missouri swine industry has been able to stay profitable when many other industries have not. This has occurred because producers have been willing to make changes, be aggressive in continuing education and willingness to observe/try new technology. With more than 3.1 million hogs in Missouri, any ability for producers to improve profitability will increase the GDP of the state economy which already contributes more than \$314 million to the state of Missouri.

#### 4. Associated Knowledge Areas

<b>KA Code</b>	<b>Knowledge Area</b>
301	Reproductive Performance of Animals
303	Genetic Improvement of Animals
307	Animal Management Systems
308	Improved Animal Products (Before Harvest)

#### V(H). Planned Program (External Factors)

##### External factors which affected outcomes

- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Programmatic Challenges
- Other (Marketing Fluctuations)

##### Brief Explanation

The audiences targeted in this program include Regional Extension Livestock Specialists, veterinarians, and farmers across Missouri that are actively involved in cow-calf production and marketing. There are no limitations placed on the program in terms of farm or size of cowherd. The pilot programs involved herds as small as 8 cows and as large as 8,000 cows. Technology transfer with respect to the management practices involved is not size dependent but rather producer dependent in terms of introducing a fundamental change in approach to management and marketing that impacts the profitability profile of a particular farm or ranch. The success of this program over the past 15 years relied largely in reaching this target audience and the associated impact of that connection. Numerous sectors of the Missouri livestock industry came together as a result of this program, including University of Missouri Extension, the College of Agriculture Food and Natural Resources, the College of Veterinary Medicine, the Division of Animal Sciences, the Commercial Agriculture Program, the Missouri Beef Cattle Improvement Association, the Missouri Cattlemen's Association, the Missouri Department of Agriculture, and the Missouri Livestock Marketing Association. Since 1997, when the program was initiated, 743 farms in Missouri have enrolled 104,918 heifers in the Show-Me-Select Replacement Heifer Program. The program has been led by 10 Regional Extension Livestock Specialists that serve as Coordinators of the Program in their respective regions, and 17 additional

Specialists across the state that support efforts in these regions. In addition, 225 veterinarians in Missouri have participated in the Program since its inception. The Show-Me-Select Replacement Heifer Program draws on the fundamental basis upon which Extension and the Land Grant System was founded: The use and application of what we know to create knowledge. Hence, evaluation has an impact in the program itself. Meaningful assessment of this program began with building in evaluation as part of the design. Data collection was part of the delivery process and reinforced the development of sound management practices through on-farm, individualized result demonstrations conducted on farms that participated in the Program. Farmers used data generated on their own farms with the focus of the program centered on action alternatives based on data generated, methods flowed from issues. The end result was that a negotiated participatory process evolved among the Regional Extension Livestock Specialist, the veterinarian, and the farmer with support from State specialists. The existing database from the Show-Me-Select Replacement Heifer Program serves as a conduit in the development of new educational programming areas.

Pork is the most widely consumed meat in the world and the U.S. is the third largest producer after China and the European Union. Historically, Missouri has produced about five to seven percent of hogs and pigs in the U.S. In recent decades this percentage has been declining as production in Missouri declined and production expanded dramatically in certain regions of the country, but Missouri's share of hog production seems to have stabilized to around five percent. As production systems evolved, many producers have exited the industry while others have expanded. In the process, the areas of the state with the highest levels of production have changed, but the overall importance of the industry has been maintained.

## **V(I). Planned Program (Evaluation Studies)**

### **Evaluation Results**

The Missouri Show-Me-Select Replacement Heifer Program was designed to improve reproductive efficiency of beef herds in Missouri and increase individual farm income. The program objectives include: 1) a total quality management approach for health and management of heifers from weaning to late gestation; 2) increased marketing opportunities for and added value from Missouri raised heifers; and 3) the creation of reliable sources of quality commercial and purebred replacement females. The program was initiated as a pilot project in two regions of Missouri in 1997 with 33 farms and 1,873 heifers. During the past 15 years, 743 farms enrolled 104,918 heifers in the program. Regional extension livestock specialists serve as coordinators of the program locally and work closely with the 225 veterinarians involved with the program state wide. State specialists provide program support to regional extension field staff and participating veterinarians. The reproductive goals for heifers enrolled in the program are aimed at improving breeding performance during the heifers' first breeding period, minimizing the incidence and severity of dystocia, with the resulting delivery of healthy vigorous calves, and successful rebreeding of heifers during the subsequent breeding season. The marketing component of the program facilitated the sale of 25,276 heifers in 119 sales across Missouri from 1997 through the fall sales in 2012. These sales generated interest from 8,590 prospective buyers that formally registered to buy heifers, and 2,911 individuals that purchased heifers from the various sales. Heifers from the program have now sold to farms in AR, AZ, FL, GA, IA, IL, IN, KY, KS, LA, MO, NE, OK, SC, SD, TN and TX. Collectively, 119 sales have generated \$30,045,050 in gross sales. Economic impact in Missouri over the past 15 years resulting from the Show-Me-Select Replacement Heifer

Program exceeds \$65M. The Missouri Show-Me-Select Replacement Heifer Program is the first statewide on-farm development and marketing program of its kind in the U.S.

### Key Items of Evaluation

The Missouri Show-Me-Select Replacement Heifer Program was designed to improve reproductive efficiency of beef herds in Missouri and increase individual farm income. During the past 15 years, 743 farms enrolled 104,918 heifers in the program. Regional extension livestock specialists serve as coordinators of the program locally and work closely with the 225 veterinarians involved with the program state wide. State specialists provide program support to regional extension field staff and participating veterinarians. The reproductive goals for heifers enrolled in the program are aimed at improving breeding performance during the heifers' first breeding period, minimizing the incidence and severity of dystocia, with the resulting delivery of healthy vigorous calves, and successful rebreeding of heifers during the subsequent breeding season. The marketing component of the program facilitated the sale of 25,276 heifers in 119 sales across MO from 1997 through the fall sales in 2012. These sales generated interest from 8,590 prospective buyers that formally registered to buy heifers, and over 2,911 individuals that purchased heifers from the various sales. Heifers from the program have now sold to farms in 18 states. Collectively, 119 sales have generated \$30,045,050 in gross sales. Producers from 91% of Missouri's 114 counties have participated in the Show-Me-Select Replacement Heifer Program, and buyers from 98% of Missouri's counties have registered to purchase heifers from the program. The program fosters the adoption of reproductive technologies focused on expanded use of artificial insemination (AI), use of high accuracy AI sires, and provides the infrastructure for effective implementation of new reproductive technologies and economic feedback regarding their use. By-products of adoption of reproductive technologies in beef cattle include enhanced genetic merit of heifers and steers, and improvements in whole herd reproductive management. The Missouri Show-Me-Select Replacement Heifer Program recently created a Tier Two classification that distinguishes heifers from high accuracy sires. Using data from the past five sales seasons (Fall 2010 through Fall 2012), in which Tier Two heifers sold, we may begin to consider opportunities for producers to add value to their heifers as a result of improvements in genetic merit. For purposes of example, if we use the average sales price of Show-Me-Select qualified heifers carrying a natural-service sired pregnancy as a baseline sale average for heifers we can then make the following comparisons to determine the relative added value that resulted from improvements in genetics of the heifer and/or the pregnancy she was carrying: 1) Show-Me-Select heifers carrying natural-service sired pregnancies sold for an average sale price per heifer of \$1,549; 2) Show-Me-Select heifers carrying AI-sired pregnancies sold for an average sale price per heifer of \$1695, adding \$146 per heifer; 3) Tier Two Show-Me-Select heifers carrying natural-service sired pregnancies sold for an average sale price per heifer of \$1786, adding \$237 per heifer; and 4) Tier Two Show-Me-Select heifers carrying AI-sired pregnancies sold for an average sale price per heifer of \$1906, adding \$357 per heifer. The Missouri Show-Me-Select Replacement Heifer Program is the first statewide on-farm development and marketing program of its kind in the U.S. Economic impact stemming from the program on an annual basis is estimated at \$3.5M to \$5M. Impact on Missouri's economy from the first 15 years of the Show-Me-Select program exceeds \$65M.

**V(A). Planned Program (Summary)**

**Program # 3**

**1. Name of the Planned Program**

Integrated Crop Management Systems - Global Food Security and Hunger

Reporting on this Program

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	15%			
104	Protect Soil from Harmful Effects of Natural Elements	10%			
205	Plant Management Systems	40%			
216	Integrated Pest Management Systems	25%			
405	Drainage and Irrigation Systems and Facilities	5%			
512	Quality Maintenance in Storing and Marketing Non-Food Products	5%			
	<b>Total</b>	100%			

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	21.0	0.0	0.0	0.0
Actual Paid Professional	20.0	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
806389	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
713908	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

Campus-based and region-based faculty members will conduct several regional workshops and short courses in partnership with commodity groups and private industry. Venues include commodity district meetings, soil and crop conferences, regional short courses, field days, and on-line and demonstration projects.

**2. Brief description of the target audience**

The primary target audiences are crop producers and their advisers and private and commercial pesticide applicators. Programs will be developed for crop producers with a diversity of farm sizes, crops produced, and land resource bases. Crop advisers and service providers are important targets because of their extensive contact with crop and livestock producers, which makes them ideal intermediates in passing on University of Missouri Extension programming to a wider range of producers than could be reached by Extension personnel alone. Because the future of Missouri agriculture depends on young professionals replacing retiring farmers and personnel, youth organizations such as FFA, 4-H, Young Farmers, and their teachers will receive specially designed programs.

**3. How was eXtension used?**

eXtension was not used in this program

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	6510	28096	540	5574

**2. Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

Year: 2012

Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2012	Extension	Research	Total
Actual	8	0	0

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Provide in-service training session(s) for regional Extension specialists on an annual basis.

Year	Actual
2012	4

**Output #2**

**Output Measure**

- Develop or revise guide sheets annually for regional Extension specialists to use in producer meetings.

Year	Actual
2012	10

**Output #3**

**Output Measure**

- Develop or revise manuals on an annual basis for regional Extension specialists to use in producer meetings.

Year	Actual
2012	1

**Output #4**

**Output Measure**

- Print and electronic newsletters devoted to pest and crop management will be developed and distributed to regional specialists and other clientele.

Year	Actual
2012	40

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Producers and crop advisors improve their knowledge related to crop management practices and systems such as new cultivars, pest control, IPM, irrigation and new practices.
2	50% of Missouri producers and crop advisors will indicate they have increased knowledge and plan to adopt at least one IPM strategy and/or system(s) into their operation.
3	Two thousand (2,000) private pesticide applicators will meet the legal need of certification by improving their knowledge of pesticides and their use.

## **Outcome #1**

### **1. Outcome Measures**

Producers and crop advisors improve their knowledge related to crop management practices and systems such as new cultivars, pest control, IPM, irrigation and new practices.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	7650

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

Income from crops represents more than 50% of all agricultural receipts in Missouri. As seen by recent food riots in other parts of the globe, net gains in crop productivity in the US are essential for continued economic development. In addition, use of traditional food crops for biofuel production places additional demands cropping systems. Our goal is to prevent hungry people worldwide by developing and promoting efficient crop management systems in Missouri.

#### **What has been done**

Though a series of conferences, workshops, and meetings (more than 100 events statewide) we continue to train producers and advisors on efficient, responsible, and profitable crop production. Specific topics included fertilizer management, energy savings, disease management, herbicide injury, biofuels, resistant pests, pasture allocation, marketing, row-crop management practices, and weather information. The team of state and regional extension specialists collaborated in each of the regions to provide interactive presentations on the theme of "Crop Management Strategies in an Era of Uncertainty."

#### **Results**

The 200 crop advisers who attended the 2012 Crop Management Conference influence decisions on more than 9.5 million acres and will have an impact on production efficiency, economic development and environmental quality. The 7650 producers who attended regional events grow more than 14.9 million acres of corn, soybean, and pasture. Across all programs, attendees rated our educational content at 8.7 on a scale of 1 to 10. Many positive comments were returned on written evaluation forms pertaining to the use of audience response systems, interactive presentations, and hands-on demonstrations.

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships
104	Protect Soil from Harmful Effects of Natural Elements
205	Plant Management Systems
405	Drainage and Irrigation Systems and Facilities
512	Quality Maintenance in Storing and Marketing Non-Food Products

## **Outcome #2**

### **1. Outcome Measures**

50% of Missouri producers and crop advisors will indicate they have increased knowledge and plan to adopt at least one IPM strategy and/or system(s) into their operation.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Action Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	24000

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

Pests (weeds, insects, pathogens) cost Missouri's crop industry at least \$450 million annually. Integrated pest management (IPM) is a sustainable approach to managing insect, pathogen, and weed pests through a coordinated decision-making/action-taking process. The goal of IPM is mitigate pest damage while protecting human health, environmental quality, and economic viability.

#### **What has been done**

The two fundamental parts of MU's IPM program are its pest monitoring network and its newsletters, Integrated Crop and Pest Management and Missouri Environment and Garden. With observation stations located throughout the state, the pest monitoring network follows 11 of the most destructive crop insects. Pest alerts are sent to subscribers as populations reach critical levels. In addition, weekly updates provide producers with proactive management options throughout the growing season. The newsletters (print, email, and web) provide in-depth educational materials on IPM to thousands of producers annually.

#### **Results**

Consistent with the goals of IPM, we have examined pesticide use per unit of food produced. Using this metric, we show that pesticide use has dropped 7% per unit of food produced since

2002. A phone survey of 3.0% of randomly selected Missouri rice farmers was conducted in 2011 to determine the percent of Missouri rice acres scouted by professionals. The acres of Missouri rice scouted by professionals had increased from 11% in 1996 to 40% in 2006 to 54% in 2011.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems

#### Outcome #3

##### 1. Outcome Measures

Two thousand (2,000) private pesticide applicators will meet the legal need of certification by improving their knowledge of pesticides and their use.

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2012	5600

##### 3c. Qualitative Outcome or Impact Statement

###### **Issue (Who cares and Why)**

Pesticide applicator training helps reduce the harmful effects of improper pesticide use. The University of Missouri Extension Pesticide Applicator Training Program provides educational outreach for individuals who wish to become licensed pesticide applicators. Licensed applicators must pass an exam and participate in continuing education courses on environmentally sound uses of pesticides.

###### **What has been done**

The University of Missouri Extension Pesticide Applicator Training Program provides educational outreach for individuals who wish to become licensed pesticide applicators. Licensed applicators must pass an exam and participate in continuing education courses on environmentally sound uses of pesticides.

###### **Results**

In year 2012, the University of Missouri Pesticide Applicator Training Program provided more than 75 initial certification training or recertification training sessions for a total of 1967 commercial pesticide applicators and approximately 3850 private pesticide applicators. Commercial applicator training was delivered by a cadre of 12 University of Missouri State Extension specialists with assistance of personnel from the Missouri departments of Agriculture,

Conservation, Natural Resources, and Public Health. Private pesticide applicator training was delivered by either formal training sessions presented by 23 University of Missouri regional extension specialists or by applicators viewing a 2 hour and 15 minute training DVD at county extension centers. Clientele evaluations for the commercial training found 98% of those responding gave the program an excellent or good rating. Many comments were received and found the training program to be more focus, more relevant, or more enjoyable to those attended in the past. Private applicators were not surveyed in 2012, although a new assessment vehicle will be utilized for the 2012 training period. Certified commercial applicators are required to recertify every three years and private applicators every 5 years. As a direct result of MU Extension commercial applicator educational efforts, there were 17222 jobs retained, resulting in a conservative estimate of more than \$54.5 million dollars of economic impact.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems

#### V(H). Planned Program (External Factors)

##### External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Programmatic Challenges

##### Brief Explanation

The severe drought of 2012 was difficult for many farm families. From an reporting perspective, MU Extension was a sought-after resource for the best information in a difficult situation.

#### V(I). Planned Program (Evaluation Studies)

##### Evaluation Results

The wide range of climate and topography and the availability of irrigation water in the state results in a considerable diversity in the forages and crops produced - corn, rice, soybeans, wheat, cotton, horticulture crops... The Missouri Pesticide Use Act requires that anyone using restricted use pesticides, must be trained and certified. This past year, MU Extension faculty provided certification and recertification training for more than 3850 private and 1967 commercial pesticide applicators. A random sample survey of rice producers found that as a result of educational efforts by extension faculty, the acres scouted by professionals increased from 11% in 1996 to 54% in 2011. Educating producers about better irrigation management resulted in increased production valued at an estimated \$40 million last year. Crop advisers and managers that attended the 2011 Crop Management Conference, manage more than 9.5 million acres throughout the Midwest, were educated on current research findings related such topics as pest management, soil health, nutrient management, climate variability, land economics.

**Key Items of Evaluation**

Listed above

**V(A). Planned Program (Summary)**

**Program # 4**

**1. Name of the Planned Program**

Enhancing the Sustainable Management of Missouri's Natural Resources

Reporting on this Program

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
123	Management and Sustainability of Forest Resources	40%			
125	Agroforestry	5%			
135	Aquatic and Terrestrial Wildlife	40%			
136	Conservation of Biological Diversity	5%			
605	Natural Resource and Environmental Economics	5%			
610	Domestic Policy Analysis	5%			
	<b>Total</b>	100%			

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	3.0	0.0	0.0	0.0
Actual Paid Professional	3.0	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
115198	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
101987	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

- Develop curriculum-based natural resource ecology and management programs, including assessment and evaluation tools, marketing strategies and promotional materials.
- Conduct training workshops for local natural resource teams (MU Extension, Missouri Department of Conservation, and USDA NRCS) and potential local partners (e.g. Missouri Tree Farm, Conservation Federation of Missouri, Quail Unlimited, Wild Turkey Federation, Ducks Unlimited, Isaac Walton League, and Walnut Council).
  - Collaborate with these "conservation partners" in the delivery of the curriculum-based programs.
  - Participate in agricultural education events and field days at MU Agricultural Experiment Station Farms and Research Centers throughout the state.
  - Produce up-to-date, science-based information and deliver through guide sheets, newsletters, and websites.

**2. Brief description of the target audience**

There are two target audiences:

1. Landowners (both resident and absentee) interested in improving the natural resource base of their property.
2. Individuals who may or may not own land, but are interested in natural resource ecology and management issues.

**3. How was eXtension used?**

Posted case studies on the MU CHP Plant's new biomass boiler and the MDC Missouri Fuels for Schools projects on the Wood Energy Community of Practice webpage

Serve as an 'Ask the Expert' for the Wood Energy; Climate, Forests & Woodlands; Freshwater Aquaculture; and Wildlife Damage Management Communities of Practice. Over 150 questions were answered across all four CoPs.

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	3500	5000	5500	7500

**2. Number of Patent Applications Submitted (Standard Research Output)**  
**Patent Applications Submitted**

Year: 2012  
 Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2012	Extension	Research	Total
Actual	10	0	10

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Provide training sessions for Extension specialists and/or state/federal natural resource professionals.

Year	Actual
2012	12

**Output #2**

**Output Measure**

- Coordinate delivery of natural resource ecology and management information via 'live' short courses, field days, and workshops to private landowners across Missouri.

Year	Actual
2012	65

**Output #3**

**Output Measure**

- Coordinate delivery of natural resource ecology and management information via distant-learning satellite seminars, webinars, and online short courses.

2012 University of Missouri Extension Annual Report of Accomplishments and Results

<b>Year</b>	<b>Actual</b>
2012	6

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	50% of Extension specialists and natural resource professionals participating in training sessions exhibit a knowledge gain in natural resource ecology and management.
2	50% of farmers and family forest landowners participating in either 'live' or distant-learning education events exhibit a knowledge gain in natural resource ecology and management.
3	30% of farmers and family forest landowners participating in either 'live' or distant-learning education events have a natural resource management plan in-place after six months.
4	75% of farmers and family forest landowners completing a natural resource management plan will have engaged in at least one natural resource management practice within six months of the plan's completion.
5	50% of farmers and family forest landowners implementing a natural resource management practice will see a positive response within 12 months of completion.

**Outcome #1**

**1. Outcome Measures**

50% of Extension specialists and natural resource professionals participating in training sessions exhibit a knowledge gain in natural resource ecology and management.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	50

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Natural resource managers need to know the latest science-based information to assist landowners in meeting their land management goals and objectives.

**What has been done**

During this reporting period, 70 foresters, private land conservationists, and wildlife managers attended either a Woodland Steward or Missouri Master Wildlifer workshop; quail management field day; or quality deer management workshop.

**Results**

Collectively, 50 pre- and post-Likert self-evaluations (1-5 scale) were returned following a training session. KA 123 (Management and Sustainability of Forest Resources) impact was assessed by observing a 1.8-point knowledge increase in those foresters turning in both evaluations. KA 135 (Aquatic and Terrestrial Wildlife) impact was assessed by observing a 2.0-point knowledge gain in the 40 wildlife managers turning in both evaluations.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
123	Management and Sustainability of Forest Resources
125	Agroforestry
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity
605	Natural Resource and Environmental Economics
610	Domestic Policy Analysis

## **Outcome #2**

### **1. Outcome Measures**

50% of farmers and family forest landowners participating in either 'live' or distant-learning education events exhibit a knowledge gain in natural resource ecology and management.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	525

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

Farmers and family forest landowners need to know the latest science-based information to assist them in meeting their land management goals and objectives. Missouri citizens at large also need to gain knowledge in natural resource ecology to support the efforts of these famers and forest landowners.

#### **What has been done**

During this reporting period, 3,500 farmers, forest landowners and members of the general public attended either a Woodland Steward, Missouri Master Wildlifer, or a Missouri Master Naturalist workshop; quail management field day; or quality deer management workshop.

#### **Results**

Of the 3,500 individuals attending the above educational events, we were able to only assess the 525 people who attended one of the named programs and returned valid pre- and post-Likert self-evaluations. KA 123 (Management and Sustainability of Forest Resources) impact was assessed by observing a 2.0-point knowledge increase in the 152 family forest landowners participating in a Woodland Steward workshop. KA 135 (Aquatic and Terrestrial Wildlife) impact was assessed by observing a 2.1-point knowledge gain in the 373 individuals participating in either a Missouri Master Wildlifer or Missouri Master Naturalist short course.

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
123	Management and Sustainability of Forest Resources
125	Agroforestry
135	Aquatic and Terrestrial Wildlife

136	Conservation of Biological Diversity
605	Natural Resource and Environmental Economics
610	Domestic Policy Analysis

### **Outcome #3**

#### **1. Outcome Measures**

30% of farmers and family forest landowners participating in either 'live' or distant-learning education events have a natural resource management plan in-place after six months.

#### **2. Associated Institution Types**

- 1862 Extension

#### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	136

#### **3c. Qualitative Outcome or Impact Statement**

##### **Issue (Who cares and Why)**

Knowledge gain needs to be captured in a plan to assist the landowner in meeting his or her land management objectives.

##### **What has been done**

Three Woodland Steward workshops and three Master Wildlifer workshops were conducted with 136 landowners participating, representing 34,840 acres. Six-month follow-up mail surveys were conducted.

##### **Results**

Six-month follow-up surveys revealed that 136 plans out of a possible 136 were prepared. KA 123 (Management and Sustainability of Forest Resources) impact was assessed by observing 102 forest stewardship plans were prepared, representing 30,840 acres. KA 135 (Aquatic and Terrestrial Wildlife) impact was assessed by observing a 34 wildlife management plans were prepared, representing 4,000 acres.

#### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
123	Management and Sustainability of Forest Resources
125	Agroforestry
135	Aquatic and Terrestrial Wildlife

136	Conservation of Biological Diversity
605	Natural Resource and Environmental Economics
610	Domestic Policy Analysis

#### **Outcome #4**

##### **1. Outcome Measures**

75% of farmers and family forest landowners completing a natural resource management plan will have engaged in at least one natural resource management practice within six months of the plan's completion.

##### **2. Associated Institution Types**

- 1862 Extension

##### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

##### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	136

##### **3c. Qualitative Outcome or Impact Statement**

###### **Issue (Who cares and Why)**

To be truly effective, the landowner needs to implement his or her plan and not let it rest on a shelf, in a filing cabinet, or in a computer file.

###### **What has been done**

Of the 3,500 farmers, forest landowners, or members of the general public who attended an educational event, six-month follow-up mail surveys were sent to 561 individuals who provided us with their contact information.

###### **Results**

Of the 136 farmers, forest landowners, or members of the general public who attended either a Woodland Steward or Master Wildlifer workshop, all individuals reported performing at least one natural resource management practice on their property; positively impacting 26,500 acres. In addition, we received 200 valid surveys from individuals who attended an educational event other than the named programs representing an additional 11,250 acres where at least one natural resource management practice was performed.

##### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
123	Management and Sustainability of Forest Resources
125	Agroforestry

135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity
605	Natural Resource and Environmental Economics
610	Domestic Policy Analysis

## **Outcome #5**

### **1. Outcome Measures**

50% of farmers and family forest landowners implementing a natural resource management practice will see a positive response within 12 months of completion.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	36

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

It is important that the landowner is able to see the impact their active management has on improving the health of their forest and/or wildlife habitat and associated animal communities.

#### **What has been done**

The Master Wildlifer Program is a knowledge based educational program conducted in a short-course format. The program consists of 8-planned 2/1/2 - 3 -hour instructional modules and field experiences (approximately 21-24 hours of instruction) delivered through a combination of local programs conducted by MU Extension Specialists at the local level, in collaboration with the Missouri Department of Conservation. Past programs have delivered through the use of distance education technology (ITV) in combination with videoconferencing (CENTRA) with combinations of live presentations for program delivery.

#### **Results**

Over 80% of the landowners and wildlife enthusiasts participated in Master Wildlifer Programming indicated that they did not possess the knowledge and skills needed to understand basic ecological concepts or apply management practices on their property for wildlife benefits. Using a 5-point Likert Scale to assess participants level of knowledge (pre- and post-course), the average pre-test was 2.0, compared to an average post- test of 4.3. The knowledge gain of 2.2; indicated a significant increase in participants' understanding of key ecological concepts and the biology of wildlife species as a result of the program. Approximately 5,000 acres were positively impacted and improved as a result of wildlife conservation practices implemented. Participants' estimated

an economic benefit of approximately \$20.00 per acre (increase of approximately \$10,000) as a result of improved management, improved wildlife recreation opportunities and added value to property.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
125	Agroforestry
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity
605	Natural Resource and Environmental Economics
610	Domestic Policy Analysis

#### V(H). Planned Program (External Factors)

##### External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Other (Land Fragmentation)

##### Brief Explanation

The economy continued to suppress the number of landowners participating in two of our named programs; Missouri Woodland Steward and Missouri Master Wildlifer. However, six-month follow-up surveys did reveal a significant increase in the number of landowners who followed through and implemented their management plan. This suggests that we might be seeing the beginning of a turnaround. We must look for ways to lower the cost of delivering natural resource management information to these recreational landowners. As a result of limited resources preventing us from mailing 12-month surveys, we were unable to measure Outcome #5. We do not see this fiscal reality changing in the near future and recommend this outcome be dropped.

#### V(I). Planned Program (Evaluation Studies)

##### Evaluation Results

Our evaluation results show we are continuing to have a positive influence in promoting active land management. In this reporting year, through 78 combined natural resource educational events (both forestry and wildlife named programs, and assorted field days and workshops), we have directly reached over 3,500 adults and 5,500 youths. Of the adult population we have impacted change on 37,750 acres through the implantation of at least one new forest or wildlife management practice.

##### Key Items of Evaluation

See above section.

**V(A). Planned Program (Summary)**

**Program # 5**

**1. Name of the Planned Program**

Profit Focused Agriculture

Reporting on this Program

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
601	Economics of Agricultural Production and Farm Management	50%			
602	Business Management, Finance, and Taxation	17%			
603	Market Economics	20%			
604	Marketing and Distribution Practices	4%			
605	Natural Resource and Environmental Economics	4%			
606	International Trade and Development	1%			
607	Consumer Economics	1%			
610	Domestic Policy Analysis	2%			
611	Foreign Policy and Programs	1%			
	<b>Total</b>	100%			

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	17.0	0.0	0.0	0.0
Actual Paid Professional	19.0	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
767989	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
679913	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

Conduct multisession workshops using curricula or other appropriate material. Participate in or give presentations at meetings, workshops, conferences, seminars. Develop or update curricula or educational materials. Provide individual assistance as follow-up to group activities. Consult with individuals upon request. Develop and distribute information on current issues related to farm/agricultural profitability through newsletters, Internet postings, personal contacts, and media releases. Keep updated and assist farmers with computer and Internet applications. Conduct surveys or develop case studies relevant to improving farm/agricultural profitability. Evaluate the effectiveness of workshops, training, and other activities. Cooperate with agencies and organizations on activities related to the program objectives.

**2. Brief description of the target audience**

Farmers/ranchers (beginning, primary income, secondary income and transitioning) Landowners (absentee, women, seniors) and agribusinesses/agencies, agribusinesses/agencies (commercial, farmer cooperatives), and agencies/farm organizations (governmental, commodity groups).

**3. How was eXtension used?**

eXtension was not used in this program

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	16973	69614	817	2538

**2. Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

Year: 2012  
 Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

<b>2012</b>	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Actual</b>	3	0	0

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Annual training for regional specialists on curriculum-based MO programs and new programs related to Ag Business Management series teaching programs conducted by regional specialists will be monitored and participants invited to complete evaluations.

<b>Year</b>	<b>Actual</b>
2012	1

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Fifty percent of the participants in Annie's Project will develop a strategic plan. A follow-up survey will be conducted after training is complete.
2	Fifty percent of the participants in Golden Age Framing will develop an estate plan. A follow-up survey will be conducted after training is complete.
3	New value-added collective agricultural business organizations will be established annually. A follow-up survey will be conducted after training is complete.

**Outcome #1**

**1. Outcome Measures**

Fifty percent of the participants in Annie's Project will develop a strategic plan. A follow-up survey will be conducted after training is complete.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	818

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Missouri Ag Census data says: 12,754 women farm operators - up 17.9%, and 1.95 mil ac owned by women - up 8.4%. Annie's Project covers various risks: marketing, production, financial, legal and human resources. The class empowers farm women to be better business partners. Annie's Project target audience is farm women. The class helps develop skills and provides tools to make better decisions. The goal is to make farms more profitable, which leads to more economic benefit to the community.

**What has been done**

Ag business specialists customized Annie's Project curriculum. Eight Annie's Project classes (18 hrs) and two Annie's Project III - Managing for Today & Tomorrow classes (12 hrs) were delivered. Total participants were 119. Extension specialists and professionals taught the classes.

Annie's Project III curriculum was taught for the first time. Curriculum has been improved. Evaluations were reviewed and modified. Extension specialists shared teaching ideas via intranet and e-mail.

**Results**

(KA codes 601, 602, 604) The media continued positive marketing of Annie's Project. During Annie's Project classes, participants completed balance sheets to enhance their understanding of current and noncurrent assets and liabilities. Each person also started or completed a business plan.

Participants were sent an electronic survey 6 months post-class. The response rate was 30%. 99% said they had shared class information with at least one other person. 65% had visited with their crop insurance agent and 60% had filed a claim. 54% had used the financial scorecard since the end of class. 70% checked their bank accounts/vehicles for Pay on Death or Transfer on Death options. 40% found they did not have persons identified but added them.

A purpose of Annie's Project is to empower farm women to be better decision makers. The survey asked if they had made purchasing decisions by themselves or helped farm partners. 70% said yes, which indicated they were applying class information.

#### 4. Associated Knowledge Areas

<b>KA Code</b>	<b>Knowledge Area</b>
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
603	Market Economics
604	Marketing and Distribution Practices
605	Natural Resource and Environmental Economics
606	International Trade and Development
607	Consumer Economics
610	Domestic Policy Analysis
611	Foreign Policy and Programs

#### Outcome #2

##### 1. Outcome Measures

Fifty percent of the participants in Golden Age Framing will develop an estate plan. A follow-up survey will be conducted after training is complete.

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

<b>Year</b>	<b>Actual</b>
2012	40

##### 3c. Qualitative Outcome or Impact Statement

###### **Issue (Who cares and Why)**

Estate and business succession planning are of critical importance to farmers. However, it can be very difficult due to the complicated terminology, lack of attorneys with expertise in agriculture, and the unique issues that agricultural producers face. The continuing increase in land and asset values has caused equitable treatment of farm and non-farm heirs to be an even tougher task.

###### **What has been done**

A 3-session estate planning series was developed with assistance from a USDA Risk

Management Agency grant several years ago and was updated and taught again in FY12. It was designed to assist participants prepare for developing an estate plan with their attorney and professional advisors after the course. Since its development in 2008, 257 people have completed this course and many more have received information on an individual basis.

**Results**

(KA Code 602) The knowledge gained increased dramatically between pre- and post-series questionnaires. The biggest gains were in knowledge about advantages and disadvantages of probate, estate planning tools available, and the difference between estate and gift taxes. In a post-series survey, 92% said they had checked how their property was titled and 42% said they had communicated their wishes to heirs. Several were in the process of completing or updating an estate plan.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
603	Market Economics
604	Marketing and Distribution Practices
605	Natural Resource and Environmental Economics
606	International Trade and Development
607	Consumer Economics
610	Domestic Policy Analysis
611	Foreign Policy and Programs

**Outcome #3**

**1. Outcome Measures**

New value-added collective agricultural business organizations will be established annually. A follow-up survey will be conducted after training is complete.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	208

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Farmers and agribusinesses were interested in expanding into further-processing of agricultural products and finding new and environmentally beneficial ways to improve farm profitability and the local economy.

**What has been done**

A large organic farming operation was assisted in planning for expansion and further-processing facilities. Meetings and feasibility studies were conducted on the potential for obtaining and processing biomass and developing a farmer-owned soybean processing facility. A workshop on grant writing was held for those seeking funding for value-added projects. Workshops and meetings were held on beekeeping, use of high-tunnels, improving the value of crops, and use of photovoltaic systems.

**Results**

(KA 604, 601, 605) The large farming operation in SE MO decided to expand, to construct rice milling and popcorn processing facilities in 2013 and applied for grants. Educational meetings and a study of biomass availability in SE MO concluded that locating a biomass-to-fuel facility in the region was not feasible. Another study determined that building a biomass pellet plant in the region was not feasible. A study conducted to determine the feasibility of a farmer-owned soybean crushing facility to be a local source of oil for 3 biofuels plants in the area was also shown to be not feasible. Grant funding had been obtained for the studies conducted by MU and Extension personnel. Approx \$120 million were estimated to have been saved by not developing projects which had a high degree of failure. Two Extension photovoltaic workshops stimulated increased interest in solar technology in SE MO. 80 persons attended and at least 5 new systems were installed as a result.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
603	Market Economics
604	Marketing and Distribution Practices
605	Natural Resource and Environmental Economics
606	International Trade and Development
607	Consumer Economics
610	Domestic Policy Analysis
611	Foreign Policy and Programs

## **V(H). Planned Program (External Factors)**

### **External factors which affected outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

### **Brief Explanation**

No significant external factors affected program outcomes negatively. As usual, programming was limited by amount of funds and personnel available. The number of MO Regional AgBusiness Specialists remained the same as the previous year. Land values, leases, investments, and business management were popular topics at many events. Unusually high grain prices increased the interest of both farmers and non-farmers in making investments in agriculture. Farmers were buying and/or improving cropland, converting marginal land into crop production, buying equipment. Non-farmers saw investment in agricultural land as a more profitable option than other types of investments and increased the bidding for good cropland. However, differences in the state's topography (i.e., poor soil with little cropland in south Missouri vs. good cropland in the north) determined how topics were presented. Farmers in areas with poor agricultural land were interested in economic issues related to livestock, pasture, and frugality. Producers in areas with good cropland were interested in issues related to expansion, increasing production, and investments. There was statewide interest in legal issues and taxes, but from different perspectives. In the fall of 2011, flood recovery was an issue in some areas. By June 2012 drought was beginning to affect pasture conditions in south MO and programs were beginning address this issue.

## **V(I). Planned Program (Evaluation Studies)**

### **Evaluation Results**

According to USDA data, Missouri farmers' cash receipts from sales of all farm commodities increased to \$9.7 billion in 2011, up from \$8.5 billion in 2010. The average value of cropland increased \$250 to \$2,940 per acre and average cash rent increased \$7 per acre. Both the number of farms and land in farms declined slightly. Agricultural lending institutions remained sound and adequate financing was available. Overall, the Profit Focused Agriculture program appeared to meet its goals of improving the profitability and viability of Missouri's agricultural industry.

Specific activities and results include:

15 seminars for agricultural lenders were held over the state in Nov-Dec with a total audience of 327 lenders who reviewed an average of \$13 million in loans per year each. They rated the usefulness of the seminars at 8.65 on a 10-point scale, recommended the seminars be continued next year, and suggested topics for next year's seminars. They find the seminar's annual enterprise budgets and projected prices and costs to be most

useful.

Extension's annual series of 6 Business/Farm Income Tax Schools for tax preparers attracted a record audience of 389 tax professionals from 93 of Missouri's 114 counties. The schools are approved for Continuing Education credits for CPAs, IRS Enrolled Agents, Public Accountants, and Attorneys. Attendees rated the schools as 8.7 on a 10-point scale for usefulness and value of information. The series will continue in 2012.

An ITV session held on Farm Leases reached 5 locations with a total attendance of 53. After the session 83% of participants said they had learned the legal requirements of leases and where to find forms and information. Workshops on farm leases were also held at 2 locations with 60 participants. Similar sessions have been held in the past and interest remains high. With changes in land ownership and new leasing methods becoming popular, the need for educational activities on farm leases will continue.

An ITV session on Fence Law reached 14 locations and 122 people. 90% of attendees indicated they learned that Missouri has multiple fencing laws and which ones affect their land. Since Missouri's fencing laws are complex and county-specific, and much of Missouri's land is mixed-use, the need for education in this area will continue.

Regional Specialists conducted 10 workshops on farm recordkeeping via Excel, QuickBooks, and other methods. The need for these activities will continue as small and part-time farmers decide to improve their recordkeeping methods.

Specialists will continue to respond to adverse weather conditions with appropriate programs as they occur.

### **Key Items of Evaluation**

**V(A). Planned Program (Summary)**

**Program # 6**

**1. Name of the Planned Program**

Water Resource Protection and Management

Reporting on this Program

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	15%			
111	Conservation and Efficient Use of Water	5%			
112	Watershed Protection and Management	40%			
133	Pollution Prevention and Mitigation	20%			
608	Community Resource Planning and Development	10%			
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	10%			
	<b>Total</b>	100%			

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	10.0	0.0	0.0	0.0
Actual Paid Professional	8.0	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
345595	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
305961	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

Campus-based and region-based faculty members will conduct meetings, workshops and short courses in partnership with commodity groups, general public and private industry. Field days will be offered to show how to demonstrate methods to protect watersheds and improve water quality. Mass media (printed, radio, television coverage) will be used to increase awareness of programs and classes. Watershed planning committees will be established and trained to develop and implement watershed management plans.

**2. Brief description of the target audience**

Citizens of Missouri that are living in watersheds that are on the state 303 (d) list of impaired waters are a primary audience. A secondary audience will be the community citizens that are directly affected by water resource concerns because of potential contaminants.

**3. How was eXtension used?**

Many of the programming efforts and questions that resulted have information available through eXtension. This provides science based information that can be readily used for educational purposes and trainings.

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	3200	10000	500	1000

**2. Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

Year: 2012  
 Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2012	Extension	Research	Total
Actual	1	0	1

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Two educational seminars/conferences for water resources protection and management will be offered each year.

Year	Actual
2012	14

**Output #2**

**Output Measure**

- Four Water resource classes will be offered each year for professional education credits.

Year	Actual
2012	4

**Output #3**

**Output Measure**

- Each year five watershed groups will receive assistance in developing watershed plans to respond to water resource concerns.

Year	Actual
2012	5

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Fifty percent of water resource seminar participants will indicate increased knowledge after attending educational seminars and management classes on water resource management and protection.
2	Seventy percent of those attending water resource protection and management courses for professional education credits will change behavior based on knowledge gained.
3	Five watershed groups will receive assistance and change their behaviors towards water resource protection and management.

## **Outcome #1**

### **1. Outcome Measures**

Fifty percent of water resource seminar participants will indicate increased knowledge after attending educational seminars and management classes on water resource management and protection.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Action Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	250

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

More people recognize that water quality and quantity are major issues for protecting human and environmental health and providing sound economic value to rural communities. Assistance with funding of practices has decreased so local people are working closely to identify concerns and trying to maximize benefits of water quality with the few funding dollars available. There is a need to increase awareness of water quality issues and how it affects local citizens.

#### **What has been done**

Programs for watershed planning have been established in critical watersheds, on-site sewage programs have been offered to improve human and environmental health, youth education projects have been implemented and major educational events and conferences have been held to increase awareness, knowledge and understanding of some of the issues associated with water quality and quantity.

#### **Results**

Watershed Management conferences have been held across the state with survey results showing that 92% thought the conference useful and will be changing some behavior to support water quality improvement. 98% would recommend the class for others wanting to understand watershed management planning. On-site sewage education pre and post test show an increase in knowledge by 18% with 145 class participants. A train the trainer was held to demonstrate management practices to reduce soil erosion, decrease potential pesticide runoff and improve soil characteristics. 85% of those attending stated they would use the information in classes being offered, newsletters, and at soil and crop conferences. Watershed education expanded from local producers to youth activities with more than 500 3 and 4 graders attending water festival activities. Pre and post test demonstrated that there was an increase in awareness and knowledge by 33% on the topics covered at the watershed education events.

#### 4. Associated Knowledge Areas

<b>KA Code</b>	<b>Knowledge Area</b>
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities

#### Outcome #2

##### 1. Outcome Measures

Seventy percent of those attending water resource protection and management courses for professional education credits will change behavior based on knowledge gained.

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

<b>Year</b>	<b>Actual</b>
2012	1485

##### 3c. Qualitative Outcome or Impact Statement

###### **Issue (Who cares and Why)**

Watershed resource protection and education is important in determining soil erosion, pesticide use and nutrient application rates. Recognizing how each field contributes to the larger watershed needs to be understood to assist farmers in working on a plan of action that will reduce, control or eliminate water quality problems. The economics associated with soil loss, over fertilization or pesticide runoff into waterways is a major factor in working with producers to change behavior.

###### **What has been done**

A series of classes for Pesticide applicators, certified crop advisors and farm managers are offered to increase awareness, knowledge and understanding of environmental issues and how management of private land can result in economic benefits and reduce environmental concerns. A series of DVDs have been developed for Pesticides and Water Quality to assist homeowners and turf management specialists in reducing pesticide use and improving lawn management.

###### **Results**

Funding for implement agricultural practices for watershed resource protection has become tighter so producers are using the knowledge gained to determine where management practices will provide the best opportunity for reducing soil loss and improving water quality runoff. Professionals evaluated the course offerings and gave it an 85% approval rating on necessary knowledge for making decisions. 95% recommended that others attend the training and 92% stated they would make changes in their behavior or in their decisions with landowners. Improved education can promote positive changes in behavior to protect water quality. Pesticide Applicator Training have used the DVDs for "Pesticide and Water Quality" with the 2500 participants to increase their understanding on how to recognizes what management practices are the most effective at reducing pesticide runoff.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities

**Outcome #3**

**1. Outcome Measures**

Five watershed groups will receive assistance and change their behaviors towards water resource protection and management.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	6

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

The 303 (d) list of impaired water that the Missouri Department of Resources develops identifies watersheds that are impaired for a number of different contaminants. To improve water quality in these watersheds, we try to assist with forming a local group and developing a plan of action that identifies sources of pollution, potential management practices, educational needs, and cost

associated with implementation of the plan. Each watershed group that is formed may have different needs and ideas and must be worked with as the local citizens see the need.

#### **What has been done**

Meetings with local agency personnel have been set up to identify potential watershed committee members. Once established groups start identifying concerns and issues and work through the nine element watershed planning process. A watershed conference is held to discuss issues and what it takes to develop a watershed plan. This includes identifying partners, technical and financial resources, where to find water quality information and how to estimate potential load of contaminants in the watershed area.

#### **Results**

Watershed communities have put together a draft of a watershed plan and are trying to finalize different elements of the nine element plan. Those receiving assistance agree that without help from University Extension the process would take much longer and may not happen at all. Local citizens act as representatives to the community in developing the plan and determining cost to implement the plan and the length of time it will take to see water quality changes. Of those groups working on a watershed management plan 100% state that Extension has played a valuable role in getting the committee moving in the right direction for plan development. 100% have stated that management practices have been selected that meet both the economic and environmental needs of the local producers, and 70% state that they would be willing to host a watershed education meeting for other watershed groups. Two watersheds have started gathering data to be removed from the 303 (d) list in Missouri. Knowledge areas utilized are 111,112, 133, 608 and 803.

#### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities

#### **V(H). Planned Program (External Factors)**

##### **External factors which affected outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges

##### **Brief Explanation**

This year Missouri saw both flooding in parts of the state and severe drought in other parts of the state. Many of the watershed activities that were planned to demonstrate

management practices were not done because of these severe weather conditions. A recent change that may affect future reporting is on changes in government regulation and what will be required of watershed communities on the 303 (d) list of impaired waters. Along with these concerns is the decreasing availability of funds to implement practices that landowners need to protect water quality and to monitor any improvements on the land.

## **V(I). Planned Program (Evaluation Studies)**

### **Evaluation Results**

Watershed Management conferences: 92% thought the conference useful and will be changing some behavior to support water quality improvement.

98% would recommend for other to take this class

85% of those attending a train the trainer on management practices to reduce soil erosion, decrease potential pesticide runoff and improve soil characteristics would use the information in classes being offered, newsletters, and at soil and crop conferences.

Pre and post test of 500 third and fourth graders demonstrated that there was an increase in awareness and knowledge by 33% on the topics covered at the water festival activities.

On-site sewage education pre and post test show an increase in knowledge by 18% from 63% to 81% with 145 class participants.

Watershed resource protection for CCA Professionals gave an 85% approval rating on necessary knowledge for making decisions.

95% recommended that others attend the training

92% stated they would make changes in their behavior or in their decisions with landowners.

100% of those working on watershed management plan stated that Extension has played a valuable role in getting the committee moving in the right direction for plan development.

100% have stated that management practices have been selected that meet both the economic and environmental needs of the local producers,

70% state that they would be willing to host a watershed education meeting for other watershed groups.

Two watersheds have started gathering data to be removed from the 303 (d) list in Missouri.

### **Key Items of Evaluation**

Through Extension we try to demonstrate the importance of education in promoting changes in attitude and knowledge on water quality protection. We focus on the long-term protection of water quality and helping keep the economic and environmental integrity of an area in focus.

**V(A). Planned Program (Summary)**

**Program # 7**

**1. Name of the Planned Program**

Managing Forages for Profitable Animal Production - Global Food Security and Hunger

Reporting on this Program

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
205	Plant Management Systems	50%			
307	Animal Management Systems	40%			
402	Engineering Systems and Equipment	10%			
	<b>Total</b>	100%			

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	8.0	0.0	0.0	0.0
Actual Paid Professional	13.0	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
537591	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
475939	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**V(D). Planned Program (Activity)**

1. Brief description of the Activity

Extension specialists will use multiple delivery methods to reach the target audiences: on-line curriculum, regional grazing schools; core group meetings and "pasture walks"; winter feeding systems and summer pasture program using demos, clinics, and tours, fescue toxicosis and management workshops; conference; Ag. Lenders workshops, demonstration plots, grazing symposium field days at outlying research centers; websites, electronic guides; CDs with prepared presentations; in-service training (ISEs); news releases for the general public; and popular press articles.

**2. Brief description of the target audience**

The primary target audience includes Missouri forage and livestock producers. These are mainly producers of beef and dairy cattle, although the program does address forages for other livestock, such as sheep, goats and horses, and non livestock forage producers, such as hay producers and wildlife conservationists. The program also targets industry and government, as it presents current science, technology and training to agricultural business and policymakers.

**3. How was eXtension used?**

eXtension was not used in this program

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	2800	5000	1610	100

**2. Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

Year: 2012  
 Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2012	Extension	Research	Total
<b>Actual</b>	5	0	0

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Provide in-service training session (s) for regional Extension specialists on an annual basis.

<b>Year</b>	<b>Actual</b>
2012	1

**Output #2**

**Output Measure**

- Develop or revise guide sheets on an annual basis for regional Extension specialists to use in producer meetings.

<b>Year</b>	<b>Actual</b>
2012	1

**Output #3**

**Output Measure**

- Revise Missouri publication M168, Missouri Dairy Grazing Manual.

<b>Year</b>	<b>Actual</b>
2012	1

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Nine hundred (900) producers will annually attend a management-intensive grazing (MiG) school.
2	Five thousand (5,000) Missouri producers will increase their awareness of stockpiling and summer pasture management for beef cattle.
3	Two hundred (200) Missouri farmers will increase their knowledge of fescue toxicosis.
4	Increase the number of dairy farms that adopt the Missouri Pasture-based model resulting in increased profitability.
5	Quality of life as expressed by family farm operators.

**Outcome #1**

**1. Outcome Measures**

Nine hundred (900) producers will annually attend a management-intensive grazing (MiG) school.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	2662

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Management-intensive grazing is based on moving a herd of cattle from paddock to paddock, thereby intensifying the grazing pressure on a small area for a few days before allowing it to rest for several weeks. This practice results in more even distribution of manure, more legume persistence, and less application of commercial fertilizers. The benefit to producers is improved economic and environmental status of a livestock operation.

**What has been done**

In 2012, the University of Missouri teamed up with the Natural Resource Conservation Service to hold 23 multiday workshops for 602 producers.

**Results**

Based on our previous evaluations, approximately 98% of the producers that attended the Grazing school will adopt various practices taught in these workshops, and half of these producers will receive cost-share funds to improve their fencing and watering facilities. The investments in pasture improvements as a result of this program in 2011 alone, and only on Missouri farms, are likely to exceed \$5 million.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
205	Plant Management Systems
307	Animal Management Systems

## **Outcome #2**

### **1. Outcome Measures**

Five thousand (5,000) Missouri producers will increase their awareness of stockpiling and summer pasture management for beef cattle.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	3266

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

Winter and midsummer feed accounts for about 70 percent of the cost of producing beef in the north-central United States. Beef producers have little control over output prices, so efforts to substantially improve profitability depend on finding new and innovative ways to reduce input costs, especially those for winter feed and summer pasture. Although the nature of systems-level research is complex, the program strategically attacks the problem from several angles.

#### **What has been done**

In addition to more than 40 meetings dealing with summer drought, several beef producers groups were formed in Missouri as part of this educational effort. The curriculum was expanded to reflect new research results on stockpiled tall fescue for fall calving cow-calf pairs, to the importance of retaining ownership of calves through the stocker phase and ways to cope with high feed prices. In addition, grazing wedge software was developed to help beef producers plan and manage their pasture systems.

#### **Results**

More than 27,000 producers have adopted the techniques developed through this program. From 1998 to 2006, the percentage of producers using stockpiled tall fescue for winter feeding has doubled, from 26 percent to more than 54 percent. The increased use of stockpiled tall fescue and better summer pasture management saved the state's beef producers \$53 million dollars in 2012. Additionally, the programmatic efforts on retained ownership of fall-born calves through spring are being implemented on several farms in Missouri.

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
205	Plant Management Systems

- 307 Animal Management Systems
- 402 Engineering Systems and Equipment

**Outcome #3**

**1. Outcome Measures**

Two hundred (200) Missouri farmers will increase their knowledge of fescue toxicosis.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2012	256

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Fescue toxicosis costs the Missouri beef industry \$160 million each year. It also costs the Missouri dairy and horse industry, though the economic impact has not been quantified for Missouri. The losses come from reduced calving rate and gain as a result of toxins produced by a fungus living inside the plant. Fescue toxicosis is the most detrimental forage-livestock disorder in Missouri and surrounding states.

**What has been done**

Working with our industry partners, we developed a "tall fescue alliance" to help drive education efforts and increase adoption of the best management practices... From January through December, this topic was presented to well over 600 cattlemen and agricultural advisors. In 2013, new meetings and field demonstrations are planned to educate larger crowds.

**Results**

This is a new program, and its impact is not yet quantifiable. Based on comments after each presentation, many of the producers planned on adjusting their management to reduce toxicity. Such adjustments included planting clovers and annual lespedeza, testing for the toxic fungus, and ensuring their cattle do not consume seed heads of tall fescue grass. (The seed heads contain high levels of toxin.) In addition, some producers planned to plant nontoxic varieties of tall fescue. KA Codes impacted: 205 (Plant Management Systems) and 307 (Animal Management Systems).

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
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205	Plant Management Systems
307	Animal Management Systems

#### **Outcome #4**

##### **1. Outcome Measures**

Increase the number of dairy farms that adopt the Missouri Pasture-based model resulting in increased profitability.

##### **2. Associated Institution Types**

- 1862 Extension

##### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

##### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	8

##### **3c. Qualitative Outcome or Impact Statement**

###### **Issue (Who cares and Why)**

There is strong interest in alternative systems of dairying that could lower costs of production. Analysis of data from dairy farms has clearly demonstrated that 55 percent of the variation in profit on a dairy operation relates to the cost of production and management, and the use of pasture systems has been shown to dramatically reduce the cost of production. A critical component of pasture utilization is weekly measurement and evaluation of paddocks if efficiency of the dairy is to improve.

###### **What has been done**

Three existing discussion groups met monthly in 2012 to discuss pasture-based dairy systems, forages and grazing management. In addition, a web-based grazing wedge calculator has been improved and made it available for any user. An online pasture-based dairy course was developed for students and producers. The Missouri Dairy Grazing Manual is currently under revision to be used in pasture-based dairy educational programming.

###### **Results**

The monthly discussion groups have increased the knowledge and understanding of efficient use of pastures. When the project was initiated, about 30 percent of the total dry matter intake in these systems came from pasture, and now certain producers have been able to increase dry matter intake to 74 percent. The goal is to reach about 50 percent. Adoption of the grazing wedge has been a major factor in increasing pasture use. This tool, which also generates daily dry matter growth allows producers to make adjustments in sources of dry matter intake and not only increases efficiency, but also affects economic returns by being able to achieve optimum, economical milk production. The dairy grazing conference had 267 attendees. The online course was conducted with 24 students in spring 2012. Programs focused on KA Codes 205 (Plant

Management Systems), 601 (Economics of Agricultural Production and Farm Management), and 307 (Animal Management Systems).

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
307	Animal Management Systems

#### Outcome #5

##### 1. Outcome Measures

Quality of life as expressed by family farm operators.

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2012	25

##### 3c. Qualitative Outcome or Impact Statement

###### **Issue (Who cares and Why)**

Data collected following the economic collapse in the 1980s indicated that mental health problems associated with farm failures can lead to increased physical illness, family and animal abuse, divorce and suicide. The social and physiological problems extend to others associated with agribusinesses in the community. Conventional dairy operations, which require families to work 10-14 hours per day for the entire year, creates stressful situations for the families.

###### **What has been done**

Discussion groups and workshops have focused not only on management issues related to managing pasture-based dairy systems, but also on alternative and more efficient ways of managing the dairy as a whole. This is strongly related to efficient time management, which affects quality of life for the family.

###### **Results**

Surveys consistently demonstrate an increased quality of life, 70 percent, when compared with the system used before converting to a pasture-based dairy system. The differences most often identified were more time with their family and opportunities to take extended vacations instead of day trips between milking. Since many are seasonal operations, there is increasingly more adaptation to once-a-day milking toward the end of lactation, which further enhances family time,

their primary measure of quality of life. Programs focused on KA Codes 307 (Animal Management Systems), 601 (Economics of Agricultural Production and Farm Management) and 801 (Individual and Family Resource Management).

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems

#### V(H). Planned Program (External Factors)

##### External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Public Policy changes
- Government Regulations

##### Brief Explanation

Input costs and prices received for product affect all agricultural enterprises, but environmental conditions can have particularly adverse effects on pasture-based systems. During 2012 Missouri producers experienced a drought. Compared with the previous three years, this reduced grazing time by almost 40 days, reducing pasture intake by about 1,000 pounds of dry matter. This necessitated the purchase of forages at approximately \$0.09 per pound of dry matter, compared with \$0.025 per pound of dry matter pasture (excluding land costs), costing producers \$65 per cow during this period. Conversely, this reduced profit by this amount, or \$13,000 for the average herd of 200 cows.

#### V(I). Planned Program (Evaluation Studies)

##### Evaluation Results

Economic conditions in 2012 resulted in more Missouri livestock producers adopting some level of grazing. Producers implementing grazing experienced savings of about \$1.00 per cow per day, with no impact on production. In most cases, production increased slightly. In addition, the University of Missouri pasture-based dairy team used data from the University of Missouri seasonal, pasture-based research dairy to develop forage system models that result in more intake from pasture. Three operations adopted the model and significantly reduced the quantity of purchased feed during the drought experienced in 2012. Based on discussions at workshops in 2012, several other operations will be changing their forage systems to better reflect the environmental conditions experienced in Missouri. This will significantly increase profitability and sustainability of these dairies. Research continues to refine the forage system model that is most efficient in the state.

##### Key Items of Evaluation

Data has consistently demonstrated that pasture-based dairy systems can produce milk for \$3 to 4 less per hundred pounds of milk when compared with conventional dairy operations and that they represent a viable system that can have major impacts on the state's economy. The development of the Missouri model for pasture-based systems has been adopted and adapted by several other southeastern states. Educational efforts in Missouri have significantly increased investments in these systems statewide, over \$100

million during the past five years. As experienced here, significant progress can be made in educating potential implementers when land grant universities are willing to invest in this system of dairying. University of Missouri administration has recognized the potential economic development to the state from pasture-based dairying and has been willing to invest in personnel and programming to some extent. But during tight budget conditions, the full potential of such programs may not be achievable. Enhanced collaboration among states in educational programs to demonstrate the economic viability, sustainability and profitability of pasture-based dairying will have a significant impact on state economies.

**V(A). Planned Program (Summary)**

**Program # 8**

**1. Name of the Planned Program**

Creating Simple Environments for Positive Youth Development

Reporting on this Program

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
806	Youth Development	100%			
	<b>Total</b>	100%			

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	6.0	0.0	0.0	0.0
Actual Paid Professional	18.0	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
482391	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
539453	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**V(D). Planned Program (Activity)**

1. Brief description of the Activity

School enrichment groups meet during school time and use curricula supplied through 4-H. The groups are coordinated by partnerships of 4-H/University of Missouri Extension and school personnel. Most of the groups meet for limited number of classroom hours rather than yearlong. Age guideline: Young

people in grades K-12 or equivalent.

**2. Brief description of the target audience**

Adults (youth staff, local leaders, parents, volunteers, teachers, organizational leaders) Youth aged 5 - 19.

**3. How was eXtension used?**

Questions teachers and students developed concerning hatching and raising chicks were answered via the small flock and youth science communities of practice.

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	2989	1355	27669	2940

**2. Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

Year: 2012  
 Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2012	Extension	Research	Total
<b>Actual</b>	0	0	0

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Number of Classroom Teachers trained to use 4-H School Enrichment Curricula.

<b>Year</b>	<b>Actual</b>
2012	2989

**Output #2**

**Output Measure**

- Number of Youth Enrollment in 4-H School Enrichment.

<b>Year</b>	<b>Actual</b>
2012	38097

**Output #3**

**Output Measure**

- Number of youth enrolled in embryology.

<b>Year</b>	<b>Actual</b>
2012	28000

**Output #4**

**Output Measure**

- Number of youth enrolled in special interest/short term programs.

<b>Year</b>	<b>Actual</b>
2012	247543

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Youth will increase knowledge and skills gained as reported by their classroom teacher or adult adviser.

**Outcome #1**

**1. Outcome Measures**

Youth will increase knowledge and skills gained as reported by their classroom teacher or adult adviser.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	28000

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Today's young people must be prepared to live and work in a world that no one can completely envision -- for jobs that do not yet exist, using technologies that have not yet been invented, solving problems that have not yet been identified. Future scientists are critical to our state, national and global economy; three-quarters of Missouri's \$14.5 billion in products and services exported in 2011 were Science, Engineering and Technology (SET) based industries.

**What has been done**

4-H provided 38097 youth in 2989 classrooms inquiry learning experiences related to the science and health. Curricula are anchored to current content of the university and are aligned to educational standards at the national and state levels.

**Results**

KA Code 806; Knowledge Area: Youth Development

Students gain embryology, life and science skills through this process. Embryology skills include identifying parts of eggs; incubation of fertile eggs; observation of embryos; handling chicks safely. Life skills learned include learning to learn; communication and decision making; relating to others, cooperation; record keeping; and developing teamwork. Science skills include observing, categorizing, comparing and measuring, and communicating.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

## **V(H). Planned Program (External Factors)**

### **External factors which affected outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

### **Brief Explanation**

The ability to provide educational experiences for youth in classroom is dependent on having a well-educated, motivated local faculty and volunteers. Five vacancies in faculty and staff positions reduced the ability to provide program leadership for volunteers who work directly with youth. In addition to vacant positions, the 4-H program is understaffed in the largest metropolitan area of the state. There was only one faculty member working 4-H Youth Development programs in St. Louis and St. Louis County.

## **V(I). Planned Program (Evaluation Studies)**

### **Evaluation Results**

#### **806 Youth Development**

Life skill outcomes were chosen as measurements of quality because 4-H Youth Development programs focus their work on teaching youth and adults the life skills necessary to become capable, competent, contributing and caring citizens. The life skills model "Targeting Life Skills" (TLS) from Iowa State University was used as a model to create this system. The Targeting Life Skills (TLS) Model consists of 35 life skills. These life skills were identified through a process of reviewing and integrating numerous life skills models. Those life skills or competencies that consistently emerged as being necessary for individuals to attain success in life were used (Hendricks, 1999).

Students gain embryology, life and science skills through this process. Embryology skills include identifying parts of eggs; incubation of fertile eggs; observation of embryos; handling chicks safely. Life skills learned include learning to learn; communication and decision making; relating to others, cooperation; record keeping; and developing teamwork. Science skills include observing, categorizing, comparing and measuring, and communicating.

### **Key Items of Evaluation**

#### **806 Youth Development**

Life skill outcomes were chosen as measurements of quality because 4-H Youth Development programs focus their work on teaching youth and adults the life skills

necessary to become capable, competent, contributing and caring citizens. The life skills model "Targeting Life Skills" (TLS) from Iowa State University was used as a model to create this system. The Targeting Life Skills (TLS) Model consists of 35 life skills. These life skills were identified through a process of reviewing and integrating numerous life skills models. Those life skills or competencies that consistently emerged as being necessary for individuals to attain success in life were used (Hendricks, 1999).

Students gain embryology, life and science skills through this process. Embryology skills include identifying parts of eggs; incubation of fertile eggs; observation of embryos; handling chicks safely. Life skills learned include learning to learn; communication and decision making; relating to others, cooperation; record keeping; and developing teamwork. Science skills include observing, categorizing, comparing and measuring, and communicating.

**V(A). Planned Program (Summary)**

**Program # 9**

**1. Name of the Planned Program**

Creating Collaborative Environments for Positive Youth Development

Reporting on this Program

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
806	Youth Development	100%			
	<b>Total</b>	100%			

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	11.0	0.0	0.0	0.0
Actual Paid Professional	21.0	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
556605	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
622445	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**V(D). Planned Program (Activity)**

1. Brief description of the Activity

Developing and delivering youth development curricula to volunteers, staff, community members, parents, etc. to increase their understanding of developmental needs of youth, effective learning strategies and building effective youth/adult partnerships.

**2. Brief description of the target audience**

Adults (youth staff, local leaders, parents, volunteers, teachers, organizational leaders, non-4-H MU Extension faculty).

**3. How was eXtension used?**

eXtension was not used in this program

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	9160	7129	13798	11383

**2. Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

Year: 2012  
 Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2012	Extension	Research	Total
<b>Actual</b>	3	0	3

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Number of adults trained by 4-H field and state faculty with youth development academy curricula.

**Year**                      **Actual**  
 2012                              60

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	80% of adults will report increase in knowledge, skills and attitudes to work with youth as a result of attending workshops or conferences where 4-H field or state faculty deliver youth development academy curricula.

**Outcome #1**

**1. Outcome Measures**

80% of adults will report increase in knowledge, skills and attitudes to work with youth as a result of attending workshops or conferences where 4-H field or state faculty deliver youth development academy curricula.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	100

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

MU Youth Development Academy provides educational resources and training to prepare individuals to develop skills necessary to successfully work with youth. Opportunities to improve knowledge and skills for professionals in youth development are fragmented. The Youth Development Academy provides a comprehensive curriculum for laying a foundation for creating opportunities that promote positive youth development.

**What has been done**

MU Extension Youth Development Academy combines the teaching component of the 4-H Center with the training, continuing education and course credit needs of Cooperative Extension faculty and staff, other youth development professionals, and college students for work in public, private, or civic sectors. Content is based on the nationally accepted core competencies for Professional Development from USDA and are based upon a wide variety of proven and relevant research-based programs and curriculum.

**Results**

806 Youth Development

Of the 60 faculty and staff that completed the youth development academy 100% report that they have improved their knowledge of how youth grow and develop, skills at providing hands-on learning experiences and managing risk in their respective youth organizations and programs.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

## **V(H). Planned Program (External Factors)**

### **External factors which affected outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

### **Brief Explanation**

The ability to provide volunteer training and educational experiences for youth is dependent on having a well-educated, motivated local and state faculty and volunteers. Five vacancies in faculty and staff positions reduced the ability to provide program leadership for volunteers who work directly with youth. In addition to vacant positions, the 4-H program is understaffed in the largest metropolitan area of the state. There was only one faculty member working 4-H Youth Development programs in St. Louis and St. Louis County.

## **V(I). Planned Program (Evaluation Studies)**

### **Evaluation Results**

806 Youth Development

Of the 60 faculty and staff that completed the youth development academy 100% report that they have improved their knowledge of how youth grow and develop, skills at providing hands-on learning experiences and managing risk in their respective youth organizations and programs.

### **Key Items of Evaluation**

806 Youth Development

Of the 60 faculty and staff that completed the youth development academy 100% report that they have improved their knowledge of how youth grow and develop, skills at providing hands-on learning experiences and managing risk in their respective youth organizations and programs.

**V(A). Planned Program (Summary)**

**Program # 10**

**1. Name of the Planned Program**

Creating Complex Environments for Positive Youth Development

Reporting on this Program

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
806	Youth Development	100%			
	<b>Total</b>	100%			

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	25.0	0.0	0.0	0.0
Actual Paid Professional	20.0	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
538052	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
601697	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**V(D). Planned Program (Activity)**

1. Brief description of the Activity

4-H Community Clubs.

**2. Brief description of the target audience**

Adults (youth staff, local leaders, parents, volunteers, teachers, organizational leaders), youth aged 5 - 19.

**3. How was eXtension used?**

eXtension was not used in this program

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	30383	59306	40966	76379

**2. Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

Year: 2012  
 Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2012	Extension	Research	Total
<b>Actual</b>	5	0	5

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Number of youth enrolled in 4-H community clubs.

Year	Actual
2012	20195

**Output #2**

**Output Measure**

- Number of 4-H volunteers.

<b>Year</b>	<b>Actual</b>
2012	14744

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	A sample of Missouri young people participating in the 4-H Study of positive youth development or those responding to the Missouri 4-H Life Skills survey will report they are competent, capable, caring and contributing.

## **Outcome #1**

### **1. Outcome Measures**

A sample of Missouri young people participating in the 4-H Study of positive youth development or those responding to the Missouri 4-H Life Skills survey will report they are competent, capable, caring and contributing.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	4096

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

Youth today must be prepared to live and work in a world that we cannot completely envision-for jobs that do not yet exist, using technologies that have not yet been invented, solving problems that have not yet been identified. Changes in technology increases the demand for trained scientists and engineers and an also broader understanding of technology and science by all citizens. The need for advanced technology abilities cuts across all types of communities, professions and skill level.

#### **What has been done**

The 4-H Center for Youth Development, headquartered on the MU campus, working with University of Missouri and Lincoln University campus and regional faculty provides program leadership, training, resources and technical assistance to reaching 309,285 youth and 18,290 adult contacts with programming anchored in research.

#### **Results**

806 Youth Development

In 2007, the University of Missouri 4-H Center for Youth Development joined the national 4-H Study of Positive Youth Development. Funded by National 4-H Council and led by researchers at Tufts University, this longitudinal study began with fifth graders in 2001. By then of the study in 2009, data have been collected by extension faculty from 6,450 adolescents and over 3,000 of their parents in 45 states.

The advantages of 4-H participation include developing positive attitudes about science and more participation in science-focused activities during out-of-school time. The benefit for girls is particularly important. 4-H girls were significantly more positive on all measures related to science. Missouri girls in 4-H also reported increased their interest in science-related topics.

4-H?ers believe in engaging in leadership today rather than waiting for future opportunities. 4-H members report twice the number of leadership experiences than their non-4-H peers.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

#### V(H). Planned Program (External Factors)

##### External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

##### Brief Explanation

The ability to provide volunteer training and educational experiences for youth is dependent on having a well-educated, motivated local and state faculty and volunteers. Five vacancies in faculty and staff positions reduced the ability to provide program leadership for volunteers who work directly with youth. In addition to vacant positions, the 4-H program is understaffed in the largest metropolitan area of the state. Only one faculty member provided the 4-H Youth Development program in St. Louis and St. Louis County.

#### V(I). Planned Program (Evaluation Studies)

##### Evaluation Results

###### 806 Youth Development

In 2007, the University of Missouri 4H Center for Youth Development joined the national 4H Study of Positive Youth Development. Funded by National 4H Council and led by researchers at Tufts University, this longitudinal study began with fifth graders in 2001. By then of the study in 2009, data have been collected by extension faculty from 6,450 adolescents and over 3,000 of their parents in 45 states.

The advantages of 4-H participation include developing positive attitudes about science and more participation in science-focused activities during out-of-school time. The benefit for girls is particularly important. 4-H girls were significantly more positive on all measures related to science. Missouri girls in 4-H also reported increased their interest in science-related topics.

4-H'ers believe in engaging in leadership today rather than waiting for future opportunities. 4-H members report twice the number of leadership experiences than their non-4-H peers.

### **Key Items of Evaluation**

#### 806 Youth Development

In 2007, the University of Missouri 4H Center for Youth Development joined the national 4H Study of Positive Youth Development. Funded by National 4H Council and led by researchers at Tufts University, this longitudinal study began with fifth graders in 2001. By then of the study in 2009, data have been collected by extension faculty from 6,450 adolescents and over 3,000 of their parents in 45 states.

The advantages of 4-H participation include developing positive attitudes about science and more participation in science-focused activities during out-of-school time. The benefit for girls is particularly important. 4-H girls were significantly more positive on all measures related to science. Missouri girls in 4-H also reported increased their interest in science-related topics.

4-H'ers believe in engaging in leadership today rather than waiting for future opportunities. 4-H members report twice the number of leadership experiences than their non-4-H peers.

**V(A). Planned Program (Summary)**

**Program # 11**

**1. Name of the Planned Program**

Volunteer Development

Reporting on this Program

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
806	Youth Development	100%			
	<b>Total</b>	100%			

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	25.0	0.0	0.0	0.0
Actual Paid Professional	10.0	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
278303	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
311223	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**V(D). Planned Program (Activity)**

1. Brief description of the Activity

County, regional and state volunteer workshops and forums, Communications, Program management, Educational Design and Delivery, Interpersonal Skills, and Youth Development; Leadership roles of 4-H clubs, projects, county and state educational events, Letters to New Leaders, and Make the

Best Better Modules; Web-based instruction; Youth Protection Policies and Procedures (Volunteer Screening).

**2. Brief description of the target audience**

Adults (youth staff, local leaders, parents, volunteers, teachers, organizational leaders), youth aged 5 - 19.

**3. How was eXtension used?**

eXtension was not used in this program

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	11977	14744	4504	7665

**2. Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

Year: 2012  
 Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2012	Extension	Research	Total
<b>Actual</b>	0	0	0

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- County, regional and state volunteer workshops and forums, Leadership roles of 4-H clubs, projects, county and state educational events; Web-based instruction; Youth Protection Policies and Procedures (Volunteer Screening).

**Year                      Actual**

2012

581

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	5,000 adults and youth volunteers will increase knowledge and awareness of practices fostering positive youth development.
2	5,000 adult and youth volunteers apply practices of positive youth development through leadership roles.
3	Number of volunteers in local, county, regional and state 4-H leadership roles.
4	Number of volunteers attending workshops and/or forums for personal growth.
5	Number of volunteers completing Volunteers: The Foundation of Youth Development.
6	Number of volunteers screened prior to service.

## **Outcome #1**

### **1. Outcome Measures**

5,000 adults and youth volunteers will increase knowledge and awareness of practices fostering positive youth development.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	4815

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

Volunteers: both adult and youth are the backbone of the Missouri 4 H Youth Development Programs by teaching skills, managing the work of others, mentoring youth, working with teachers and schools, coordinating county and state events, and promoting 4 H.

#### **What has been done**

Through workshops, volunteer forums, leadership roles and web based instruction, state and county extension faculty will help adult and youth volunteer leaders gain knowledge and skills to communicate, manage programs, design and deliver education events, develop interpersonal skills and create environments that promote positive youth development.

#### **Results**

806 Youth Development

Volunteer increase their understanding of the University of Missouri, youth development and the developmental stages of young people

- Volunteers provide higher quality experiences for young people to grow and thrive
- Caring, competent, capable and committed project leaders share a specific set of knowledge skills with youth
- Club leaders help to create consistent, meaningful and educational experiences for 4-H'ers and their families.
- 4-H alums recognize the importance of a youth development program that provides volunteers with necessary background to make a beneficial experience for young people.

## **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
----------------	-----------------------

806 Youth Development

**Outcome #2**

**1. Outcome Measures**

5,000 adult and youth volunteers apply practices of positive youth development through leadership roles.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	7837

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Volunteers: both adult and youth are the backbone of the Missouri 4 H Youth Development Programs by teaching skills, managing the work of others, mentoring youth, working with teachers and schools, coordinating county and state events, and promoting 4 H.

**What has been done**

Through workshops, volunteer forums, leadership roles and web based instruction, state and county extension faculty will help adult and youth volunteer leaders gain knowledge and skills to communicate, manage programs, design and deliver education events, develop interpersonal skills and create environments that promote positive youth development.

**Results**

806 Youth Development

I have felt that 4-H is a very good program for children and youth and this enforces that thought (volunteer completing the on-line orientation)

After attending this workshop for volunteer leaders:

"Even though I've been a club leader for years, I always enjoy club leader training, and I always learn something new and appreciate the resources provided to help me in my role."

"This is really helpful."

"Okay, I understand why we are doing this now."

**4. Associated Knowledge Areas**

**KA Code    Knowledge Area**

806 Youth Development

**Outcome #3**

**1. Outcome Measures**

Number of volunteers in local, county, regional and state 4-H leadership roles.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	4815

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Volunteers: both adult and youth are the backbone of the Missouri 4-H Youth Development Programs by teaching skills, managing the work of others, mentoring youth, working with teachers and schools, coordinating county and state events, and promoting 4-H.

**What has been done**

Through workshops, volunteer forums, leadership roles and web based instruction, state and county extension faculty will help adult and youth volunteer leaders gain knowledge and skills to communicate, manage programs, design and deliver education events, develop interpersonal skills and create environments that promote positive youth development.

**Results**

806 Youth Development

Improvement is seen in volunteer satisfaction as they develop their knowledge base. The leaders seeking and receiving additional coaching tend to reflect great satisfaction of participants, receive fewer complaints from participants and increase our leader retention rate. Leaders feel equipped to do what is asked and the expectation of accountability is set, creating an environment for success. This is evident by firsthand witness of leaders applying newly acquired knowledge and skills and response of success after integration into their program.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

## **Outcome #4**

### **1. Outcome Measures**

Number of volunteers attending workshops and/or forums for personal growth.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	2439

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

Adults sustain safe and supportive environments where youth can thrive. Positive youth development has improved the quality of life in communities through improved social, environmental and economic conditions in communities. It is important background screening is conducted on adults working with youth to ensure one important aspect of providing a safe learning environment for youth. 4-H is associated with a wholesome environment for positive youth development.

#### **What has been done**

Through workshops, volunteer forums, leadership roles and web based instruction, state and county extension faculty will help adult and youth volunteer leaders gain knowledge and skills to communicate, manage programs, design and deliver education events, develop interpersonal skills and create environments that promote positive youth development.

#### **Results**

806 Youth Development

Club leaders sharing examples of the Essential Elements:

"The kids in our dog group had a sense of belonging. I noticed several members congratulating each other and sharing stories of common interest at the show."

"Angela participated in the livestock show she won with her pen of chickens, so she was first up and didn't know where to go or what to do. Anne Patrick was the caring adult that put an arm around her shoulder, encouraged her and told her what to do."

"My youngest clover kid is from divorced parents. His father enrolled him, without his mother be a part of the club. Jack wanted me to meet his mother and step father, so I would understand his family. Jack is 7 years old, now his mother and step father are being a part of the club."

"Generosity -Our club members and parents gathered one Sunday afternoon with tools, outdoor equipment, and cleaned up the church grounds where our meetings are held. The church's

members are aging and were unable to clean up a deteriorating tree. We cut it down, stacked the wood, painted, weeded, vacuumed, dusted and cleaned up the whole church and everyone had fun. They were very generous of their time."

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

**Outcome #5**

**1. Outcome Measures**

Number of volunteers completing Volunteers: The Foundation of Youth Development.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	605

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Volunteers: both adult and youth are the backbone of the Missouri 4 H Youth Development Programs by teaching skills, managing the work of others, mentoring youth, working with teachers and schools, coordinating county and state events, and promoting 4 H.

**What has been done**

A required 4-H volunteer orientation began in FY08, in FY11973 completed the orientation which introduces them to the concepts of land-grant universities, how youth grow and develop, 4-H?s philosophy on competition, character education and how to reduce risk when working with youth. In addition to face-to-face workshops, an on-line course is available so busy volunteers can complete this obligation at their convenience.

**Results**

- 806 Youth Development
- 87% Understood the 4-H Name and Emblem is a federal mark
- 99% Understood the purpose of 4-H events
- 61% Identified the essential elements of 4-H
- 95% Understand the concepts of content skill and life skill
- 80% Understand the characteristics of stages of youth development

- 94% Understand 4-H's philosophy of competition
- 97% Understand the concept of mastery
- 98% Understand character attributes
- 98% Understand the elements of a risk management plan

#### 4. Associated Knowledge Areas

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

#### Outcome #6

##### 1. Outcome Measures

Number of volunteers screened prior to service.

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2012	8000

##### 3c. Qualitative Outcome or Impact Statement

###### **Issue (Who cares and Why)**

Adults sustain safe and supportive environments where youth can thrive. Positive youth development has improved the quality of life in communities through improved social, environmental and economic conditions in communities. It is important background screening is conducted on adults working with youth to ensure one important aspect of providing a safe learning environment for youth. 4-H is associated with a wholesome environment for positive youth development.

###### **What has been done**

Missouri 4-H volunteers submit an application on an annual basis. The applicant is screened for both criminal records and for child abuse and neglect. Volunteers do not work directly with youth until they receive a post card in the mail from the 4-H Center for Youth Development indicating they have successfully completed the screening process.

###### **Results**

806 Youth Development  
8000 Volunteers screened prior to working with 4-H youth

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

#### V(H). Planned Program (External Factors)

##### External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

##### Brief Explanation

The ability to provide volunteer training and educational experiences for youth is dependent on having a well-educated, motivated local and state faculty and volunteers. Five vacancies in faculty and staff positions reduced the ability to provide program leadership for volunteers who work directly with youth. In addition to vacant positions, the 4-H program is understaffed in the largest metropolitan area of the state. Only one faculty member provided 4-H Youth Development programs in St. Louis and St. Louis County.

#### V(I). Planned Program (Evaluation Studies)

##### Evaluation Results

806 Youth Development

All of our 4-H volunteers 8000 completed an orientation to date through face-to-face, on-line or by CD. Volunteers report increased understanding of the land-grant university mission, how kids grow and develop and the philosophy of mastery competition

87% Understood the 4-H Name and Emblem is a federal mark

99% Understood the purpose of 4-H events

61% Identified the essential elements of 4-H

95% Understand the concepts of content skill and life skill

80% Understand the characteristics of stages of youth development

94% Understand 4-H's philosophy of competition

97% Understand the concept of mastery

98% Understand character attributes

98% Understand the elements of a risk management plan

##### Key Items of Evaluation

806 Youth Development

All of our 4-H volunteers 8000 completed an orientation to date through face-to-face, on-line or by CD. Volunteers report increased understanding of the land-grant university mission, how kids grow and develop and the philosophy of mastery competition

87% Understood the 4-H Name and Emblem is a federal mark

99% Understood the purpose of 4-H events

61% Identified the essential elements of 4-H

95% Understand the concepts of content skill and life skill

80% Understand the characteristics of stages of youth development

94% Understand 4-H's philosophy of competition

97% Understand the concept of mastery

98% Understand character attributes

98% Understand the elements of a risk management plan

**V(A). Planned Program (Summary)**

**Program # 12**

**1. Name of the Planned Program**

Built Environments and Sustainable Energy

Reporting on this Program

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
605	Natural Resource and Environmental Economics	3%			
608	Community Resource Planning and Development	2%			
723	Hazards to Human Health and Safety	5%			
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	90%			
	<b>Total</b>	100%			

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	4.0	0.0	0.0	0.0
Actual Paid Professional	4.0	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
129776	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
141553	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

Conduct hands-on workshops for builders and consumers. Assemble and maintain relevant website and guidesheet information. Create a comprehensive Missouri Guide to Green Buildings. Encourage and support involvement in state, county, and local governments and agencies supporting energy-efficient, green buildings and homes. Assemble and maintain relevant website and guidesheet information on indoor air quality, home pollutants, home safety, and disaster preparedness. Maintain curriculum for K-12 schools and at-risk families. Encourage and support involvement in state, county, and local governments and agencies supporting healthy homes and disaster preparedness. Assemble and maintain relevant website and guidesheet information on housing types, maintenance, renting, home financial management and development. Develop curriculum for advocacy groups, housing agencies and nonprofit organizations. Encourage and support involvement in housing coalitions and agencies.

**2. Brief description of the target audience**

Government Emergency management departments; Health Agencies; Medical groups and agencies; Day care providers; 4-H programs and Family and consumer science educators; Landlords and tenants; Builders and contractors; Real estate agents and brokers; K-12 educators, students, school districts; Consumers of home appliances; Do-it-yourself consumers; Business owners; Non-profit Energy and Ecological Organizations; Energy Cooperatives and Utilities; First Time Homebuyers; Existing and Long-term Homeowners; Non-profit Housing Agencies; Government and State Housing Directors.

**3. How was eXtension used?**

MU Extension faculty have been activity involved in submitting FAQs. In the Building Environments and Housing area, we have several faculty assisting to lead a CoP. Mike Goldschmidt and Marsha Alexander, specifically, have given much of their time to this effort.

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	1701	1524	202	101

**2. Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

Year: 2012  
 Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

<b>2012</b>	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Actual</b>	1	0	0

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Number of workshops, programs, fairs, and conferences.

<b>Year</b>	<b>Actual</b>
2012	136

**Output #2**

**Output Measure**

- Number of unique website visits.

<b>Year</b>	<b>Actual</b>
2012	110473

**Output #3**

**Output Measure**

- Number of guide sheets distributed.

<b>Year</b>	<b>Actual</b>
2012	295

**Output #4**

**Output Measure**

- Number of in-service opportunities.

<b>Year</b>	<b>Actual</b>
2012	2

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Percent of participants who have a home disaster preparedness plan.
2	Percent of participants who secure funding to purchase a home.
3	Percent of participants who indicate they feel able to maintain their home.
4	Percent of participants who have implemented energy conservation technologies.

**Outcome #1**

**1. Outcome Measures**

Percent of participants who have a home disaster preparedness plan.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2012	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

MU Extension faculty have been activity involved in submitting FAQs. In the Building Environments and Housing area, we have several faculty assisting to lead a CoP. Mike Goldschmidt and Marsha Alexander, specifically, have given much of their time to this effort.

**What has been done**

Building Environments programs educate consumers, professionals, and government agencies about available and affordable housing options (including programs geared toward first-time homebuyers), housing quality, landlord, tenant relations, long-term home maintenance, healthy indoor air quality, healthy homes, home safety, home disaster preparedness (fire, weather, security) and promoting environmentally-sensitive and energy-efficient homes and buildings in Missouri.

**Results**

Results not available.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
605	Natural Resource and Environmental Economics
608	Community Resource Planning and Development
723	Hazards to Human Health and Safety
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

**Outcome #2**

**1. Outcome Measures**

Percent of participants who secure funding to purchase a home.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	90

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Annually Missourians are severely affected by fire and weather disasters. The possibility also exists that Missourians might be affected by man-made (terror) and/or seismic disasters. Emergency preparedness teaches families how to prepare and cope with these possible disasters: Identify hazards likely to happen to your family; Mitigate against the hazards; Develop a response plan, including evacuation route; Plan for coping after a disaster; and Implement drills and family education

**What has been done**

Building Environments programs educate consumers, professionals, and government agencies about available and affordable housing options (including programs geared toward first-time homebuyers), housing quality, landlord, tenant relations, long-term home maintenance, healthy indoor air quality, healthy homes, home safety, home disaster preparedness (fire, weather, security) and promoting environmentally-sensitive and energy-efficient homes and buildings in Missouri.

**Results**

Over 90% of participants have secured funding to purchase a home following our homebuyer education programs. These individuals received reduced interest rates that can save them thousands over the lifetime of the loan.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
605	Natural Resource and Environmental Economics
608	Community Resource Planning and Development

723	Hazards to Human Health and Safety
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

**Outcome #3**

**1. Outcome Measures**

Percent of participants who indicate they feel able to maintain their home.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2012	40

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Annually Missourians are severely affected by fire and weather disasters. The possibility also exists that Missourians might be affected by man-made (terror) and/or seismic disasters. Emergency preparedness teaches families how to prepare and cope with these possible disasters: Identify hazards likely to happen to your family; Mitigate against the hazards; Develop a response plan, including evacuation route; Plan for coping after a disaster; and Implement drills and family education.

**What has been done**

Building Environments programs educate consumers, professionals, and government agencies about available and affordable housing options (including programs geared toward first-time homebuyers), housing quality, landlord, tenant relations, long-term home maintenance, healthy indoor air quality, healthy homes, home safety, home disaster preparedness (fire, weather, security) and promoting environmentally-sensitive and energy-efficient homes and buildings in Missouri.

**Results**

Over forty percent of participants feel they will be able to maintain their home in the future as a result of this program.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
605	Natural Resource and Environmental Economics

- 608 Community Resource Planning and Development
- 723 Hazards to Human Health and Safety
- 804 Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

**Outcome #4**

**1. Outcome Measures**

Percent of participants who have implemented energy conservation technologies.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2012	46

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Annually Missourians are severely affected by fire and weather disasters. The possibility also exists that Missourians might be affected by man-made (terror) and/or seismic disasters. Emergency preparedness teaches families how to prepare and cope with these possible disasters: Identify hazards likely to happen to your family; Mitigate against the hazards; Develop a response plan, including evacuation route; Plan for coping after a disaster; and Implement drills and family education.

**What has been done**

Building Environments programs educate consumers, professionals, and government agencies about available and affordable housing options (including programs geared toward first-time homebuyers), housing quality, landlord, tenant relations, long-term home maintenance, healthy indoor air quality, healthy homes, home safety, home disaster preparedness (fire, weather, security) and promoting environmentally-sensitive and energy-efficient homes and buildings in Missouri.

**Results**

Forty-six percent of participants who had a home energy audit implemented recommended energy conservation techniques. Those who implemented energy conservation techniques had an average energy savings of 32%.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
605	Natural Resource and Environmental Economics
608	Community Resource Planning and Development
723	Hazards to Human Health and Safety
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

#### **V(H). Planned Program (External Factors)**

##### **External factors which affected outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Populations changes (immigration, new cultural groupings, etc.)

##### **Brief Explanation**

The greatest barrier to programming in Built Environment programming is the need in relative comparison to faculty available to deliver programming. With only 5.5 FTE of regional faculty and 1.24 FTE on campus it is quite difficult to reach all of the areas in need of programs and services. With growing housing market and now the home foreclosure issue looming, our faculty tries to partner with outside agencies to meet the needs, but that still leaves us limited in our delivery capacity. In addition, the prolonged depressed economy makes some participants hesitant to invest large sums into their homes even if there is a long term cost savings.

#### **V(I). Planned Program (Evaluation Studies)**

##### **Evaluation Results**

Forty-six percent of participants who had a home energy audit implemented recommended energy conservation techniques. Those who implemented energy conservation techniques had an average energy savings of 32%.

##### **Key Items of Evaluation**

Over 90% of participants have secured funding to purchase a home following our homebuyer education programs. These individuals received reduced interest rates that can save them thousands over the lifetime of the loan.

**V(A). Planned Program (Summary)**

**Program # 13**

**1. Name of the Planned Program**

Strengthening Families

Reporting on this Program

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
802	Human Development and Family Well-Being	75%			
806	Youth Development	25%			
	<b>Total</b>	100%			

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	30.0	0.0	0.0	0.0
Actual Paid Professional	24.0	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
871350	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
950437	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**V(D). Planned Program (Activity)**

1. Brief description of the Activity

Conduct workshops, multi-session programs and meetings; develop products, curriculum and resources; provide training; work with media; partnering with other agencies and with other state extensions.

**2. Brief description of the target audience**

Adults, parents, teens, childcare providers, grandparents, foster parents, professionals, teachers, agency educators, youth ages 5-12.

**3. How was eXtension used?**

MU Extension faculty have been active in related CoPs as well as submitting and answering FAQs

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	19036	21765	12472	2847

**2. Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

Year: 2012  
 Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2012	Extension	Research	Total
<b>Actual</b>	7	0	0

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Number of workshops, multi-session programs, fairs, and conferences.

Year	Actual
2012	1269

**Output #2**

**Output Measure**

- Number of guide sheets distributed.

<b>Year</b>	<b>Actual</b>
2012	822

**Output #3**

**Output Measure**

- Number of in-service opportunities.

<b>Year</b>	<b>Actual</b>
2012	6

**Output #4**

**Output Measure**

- Number of website visits.

<b>Year</b>	<b>Actual</b>
2012	703290

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Number of participants reporting improved family relationships.
2	Number of participants who increased their knowledge of appropriate strengthening family practices.
3	Percent of participants reporting improved family communication.
4	Percent of participants who show increased knowledge of appropriate parenting practices.
5	Percent of participants who have adopted appropriate parenting practices.
6	Percent reporting an increase in awareness of developmentally appropriate learning environments and activities.
7	Percent reporting they implemented age appropriate learning environments and activities.
8	Number of participants who volunteer more or who seek volunteer opportunities.
9	Percent reporting an increased knowledge of how to manage caregiving roles and responsibilities.
10	Percent reporting an increased knowledge of the availability of family elder care.

**Outcome #1**

**1. Outcome Measures**

Number of participants reporting improved family relationships.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	89

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Research shows that strong families communicate with one another, spend time together, show each other caring and appreciation, cope with change, and show each other affection. The Strengthening Families Programs will help families find their strengths and learn new skills to build on those strengths. They will be treated as co-learners who have life experiences to bring to the learning process

**What has been done**

The Strengthening Families Planned Program has provided families and professionals with information and skills to strengthen families in their relationships, interactions, and communications

**Results**

Eighty-nine percent of participants reported improved familial relations as a result of participating in this program.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being
806	Youth Development

**Outcome #2**

**1. Outcome Measures**

Number of participants who increased their knowledge of appropriate strengthening family practices.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	89

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Research shows that strong families communicate with one another, spend time together, show each other caring and appreciation, cope with change, and show each other affection. The Strengthening Families Programs will help families find their strengths and learn new skills to build on those strengths. They will be treated as co-learners who have life experiences to bring to the learning process.

**What has been done**

The Strengthening Families Planned Program has provided families and professionals with information and skills to strengthen families in their relationships, interactions, and communications

**Results**

Eighty-nine percent of participants reported having an increased knowledge of appropriate strengthening family practices.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being
806	Youth Development

**Outcome #3**

**1. Outcome Measures**

Percent of participants reporting improved family communication.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	85

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Research shows that strong families communicate with one another, spend time together, show each other caring and appreciation, cope with change, and show each other affection. The Strengthening Families Programs will help families find their strengths and learn new skills to build on those strengths. They will be treated as co-learners who have life experiences to bring to the learning process.

**What has been done**

The Strengthening Families Planned Program has provided families and professionals with information and skills to strengthen families in their relationships, interactions, and communications

**Results**

Eighty-five percent of participants felt the program improved their family communication skills

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being
806	Youth Development

**Outcome #4**

**1. Outcome Measures**

Percent of participants who show increased knowledge of appropriate parenting practices.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	92

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Research shows that strong families communicate with one another, spend time together, show each other caring and appreciation, cope with change, and show each other affection. The Strengthening Families Programs will help families find their strengths and learn new skills to build on those strengths. They will be treated as co-learners who have life experiences to bring to the learning process.

**What has been done**

The Strengthening Families Planned Program has provided families and professionals with information and skills to strengthen families in their relationships, interactions, and communications

**Results**

Ninety-two percent of participants felt the program increased their knowledge of appropriate parenting practices.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being
806	Youth Development

**Outcome #5**

**1. Outcome Measures**

Percent of participants who have adopted appropriate parenting practices.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Research shows that strong families communicate with one another, spend time together, show each other caring and appreciation, cope with change, and show each other affection. The Strengthening Families Programs will help families find their strengths and learn new skills to build on those strengths. They will be treated as co-learners who have life experiences to bring to the learning process.

**What has been done**

The Strengthening Families Planned Program has provided families and professionals with information and skills to strengthen families in their relationships, interactions, and communications

**Results**

No results available.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being
806	Youth Development

**Outcome #6**

**1. Outcome Measures**

Percent reporting an increase in awareness of developmentally appropriate learning environments and activities.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

The quality of child care nationwide is suffering. Because so many families with young children rely on child care so that they can work, every effort to improve the situation benefits young children and their families. Moreover, a high quality system of child care supports the economic development of Missouri.

**What has been done**

The Strengthening Families Planned Program has provided families and professionals with information and skills to strengthen families in their relationships, interactions, and communications

**Results**

No results available.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being

**Outcome #7**

**1. Outcome Measures**

Percent reporting they implemented age appropriate learning environments and activities.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2012	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

No results available

**What has been done**

No results available

**Results**

No results available

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
802	Human Development and Family Well-Being

**Outcome #8**

**1. Outcome Measures**

Number of participants who volunteer more or who seek volunteer opportunities.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	84

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Missouri's population continues to age. More and more we face young adults who are living as a sandwich generation-caring for both their children and their parents. Public input into the Plan of Work process indicated a great need for programs that address both the aging adults, but also their families and caregivers. The ultimate goal of these programs is to ensure adults can live independently and enjoy a high quality life

**What has been done**

The Strengthening Families Planned Program has provided families and professionals with information and skills to strengthen families in their relationships, interactions, and communications

**Results**

Eighty-four percent of participants indicated they seek new volunteer opportunities as a result of this program

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being

**Outcome #9**

**1. Outcome Measures**

Percent reporting an increased knowledge of how to manage caregiving roles and responsibilities.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	84

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Missouri's population continues to age. More and more we face young adults who are living as a sandwich generation-caring for both their children and their parents. Public input into the Plan of Work process indicated a great need for programs that address both the aging adults, but also their families and caregivers. The ultimate goal of these programs is to ensure adults can live independently and enjoy a high quality life

**What has been done**

The Strengthening Families Planned Program has provided families and professionals with information and skills to strengthen families in their relationships, interactions, and communications

**Results**

No results available.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being

**Outcome #10**

**1. Outcome Measures**

Percent reporting an increased knowledge of the availability of family elder care.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Missouri's population continues to age. More and more we face young adults who are living as a sandwich generation-caring for both their children and their parents. Public input into the Plan of Work process indicated a great need for programs that address both the aging adults, but also their families and caregivers. The ultimate goal of these programs is to ensure adults can live independently and enjoy a high quality life

**What has been done**

The Strengthening Families Planned Program has provided families and professionals with information and skills to strengthen families in their relationships, interactions, and communications

**Results**

No results available.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being

**V(H). Planned Program (External Factors)**

**External factors which affected outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

**Brief Explanation**

Changes in parenting and family strengthening behaviors can often take many years to emerge. Our long term goal is to reduce child abuse and neglect and we see short term indicators of awareness and knowledge, but we have not had adequate time to follow-up with parents to determine if education has had a positive impact on this objective.

**V(I). Planned Program (Evaluation Studies)**

**Evaluation Results**

Program evaluations in the Family Strengthening area show that when families learn positive, productive communication skills, they are better equipped to handle stressful situations; they are more willing to work to improve family relationships; and they feel they have improved family relationships. Participants have reported that this program has helped them to the point that some have been able to regain custody or increase visitation with their children, in cases where they had been removed from the home

**Key Items of Evaluation**

**V(A). Planned Program (Summary)**

**Program # 14**

**1. Name of the Planned Program**

Personal Financial Management

Reporting on this Program

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
607	Consumer Economics	25%			
801	Individual and Family Resource Management	75%			
	<b>Total</b>	100%			

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	6.0	0.0	0.0	0.0
Actual Paid Professional	5.0	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
185394	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
202221	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**V(D). Planned Program (Activity)**

1. Brief description of the Activity

University of Missouri campus and regional specialist will: Work in partnership to identify audience needs; Develop appropriate curriculum and program strategies; and Evaluate the impact of the educational experiences. Delivery strategies will include: Workshops; One-on-one coaching sessions; Training for professionals and eldercare providers; Written materials; Educational packets; Newsletters; Newspaper articles; Radio and television spots; and Web-based informational tools.

**2. Brief description of the target audience**

General population, general adult population, low income families, unbanked consumers, consumers going through bankruptcy, youth from pre-school through high school, college students, young couples, divorcing couples, women, older individuals and the elderly (55 and beyond), and family agencies.

**3. How was eXtension used?**

eXtension was not used in this program

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	6693	1885	473	6

**2. Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

Year: 2012  
 Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2012	Extension	Research	Total
Actual	2	0	0

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Number of workshops, multi-session programs, fairs and conferences.

<b>Year</b>	<b>Actual</b>
2012	526

**Output #2**

**Output Measure**

- Number of in-service opportunities.

<b>Year</b>	<b>Actual</b>
2012	4

**Output #3**

**Output Measure**

- Number of unique website visits.

<b>Year</b>	<b>Actual</b>
2012	224804

**Output #4**

**Output Measure**

- Number of guide sheets distributed.

<b>Year</b>	<b>Actual</b>
2012	1414

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Number of participants who increased knowledge of debt management.
2	Number of participants who increased knowledge of the benefits of saving on a regular basis.
3	Number of participants who increased knowledge of basic personal financial management.
4	Number of participants who have reduced their debt.
5	Number of participants who began saving on a regular basis.
6	Number of participants who increased the amount of money they save regularly.
7	Number of participants who have established financial goals to guide financial decisions.
8	Percent of participants who check their credit report.
9	Percent of participants who understand their rights under the Fair Credit Reporting Act.

**Outcome #1**

**1. Outcome Measures**

Number of participants who increased knowledge of debt management.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

MU Extension provides the general public, special target groups, youth, older citizens, and agency personnel with basic, unbiased personal finance information. With research-based curricula, we educate consumers to meet financial education requirements for bankruptcy discharge, financial literacy, home buying strategies, estate planning and retirement asset distribution strategies.

**What has been done**

Personal Financial Management is delivered through curricula that target low income families, family agencies, the general adult population, college students, women, unbanked consumers, consumers going through bankruptcy, young couples, divorcing couples, youth from pre-school through high school, and the elderly. This program area will also address consumer issues such as fraud and identity theft, credit reports, predatory lending and basic consumer decision making skills.

**Results**

No results available

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
607	Consumer Economics
801	Individual and Family Resource Management

## **Outcome #2**

### **1. Outcome Measures**

Number of participants who increased knowledge of the benefits of saving on a regular basis.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	85

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

MU Extension provides the general public, special target groups, youth, older citizens, and agency personnel with basic, unbiased personal finance information. With research-based curricula, we educate consumers to meet financial education requirements for bankruptcy discharge, financial literacy, home buying strategies, estate planning and retirement asset distribution strategies.

#### **What has been done**

Personal Financial Management is delivered through curricula that target low income families, family agencies, the general adult population, college students, women, unbanked consumers, consumers going through bankruptcy, young couples, divorcing couples, youth from pre-school through high school, and the elderly. This program area will also address consumer issues such as fraud and identity theft, credit reports, predatory lending and basic consumer decision making skills.

#### **Results**

Eighty-five percent of participants understand the importance of saving on a regular basis.

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
607	Consumer Economics
801	Individual and Family Resource Management

**Outcome #3**

**1. Outcome Measures**

Number of participants who increased knowledge of basic personal financial management.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

MU Extension provides the general public, special target groups, youth, older citizens, and agency personnel with basic, unbiased personal finance information. With research-based curricula, we educate consumers to meet financial education requirements for bankruptcy discharge, financial literacy, home buying strategies, estate planning and retirement asset distribution strategies.

**What has been done**

Personal Financial Management is delivered through curricula that target low income families, family agencies, the general adult population, college students, women, unbanked consumers, consumers going through bankruptcy, young couples, divorcing couples, youth from pre-school through high school, and the elderly. This program area will also address consumer issues such as fraud and identity theft, credit reports, predatory lending and basic consumer decision making skills.

**Results**

No results available

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
607	Consumer Economics
801	Individual and Family Resource Management

**Outcome #4**

**1. Outcome Measures**

Number of participants who have reduced their debt.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	50

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

MU Extension provides the general public, special target groups, youth, older citizens, and agency personnel with basic, unbiased personal finance information. With research-based curricula, we educate consumers to meet financial education requirements for bankruptcy discharge, financial literacy, home buying strategies, estate planning and retirement asset distribution strategies.

**What has been done**

Personal Financial Management is delivered through curricula that target low income families, family agencies, the general adult population, college students, women, unbanked consumers, consumers going through bankruptcy, young couples, divorcing couples, youth from pre-school through high school, and the elderly. This program area will also address consumer issues such as fraud and identity theft, credit reports, predatory lending and basic consumer decision making skills.

**Results**

Over fifty percent of participants have reduced their personal debt following attending a financial planning program.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
607	Consumer Economics
801	Individual and Family Resource Management

**Outcome #5**

**1. Outcome Measures**

Number of participants who began saving on a regular basis.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	25

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

MU Extension provides the general public, special target groups, youth, older citizens, and agency personnel with basic, unbiased personal finance information. With research-based curricula, we educate consumers to meet financial education requirements for bankruptcy discharge, financial literacy, home buying strategies, estate planning and retirement asset distribution strategies.

**What has been done**

Personal Financial Management is delivered through curricula that target low income families, family agencies, the general adult population, college students, women, unbanked consumers, consumers going through bankruptcy, young couples, divorcing couples, youth from pre-school through high school, and the elderly. This program area will also address consumer issues such as fraud and identity theft, credit reports, predatory lending and basic consumer decision making skills.

**Results**

Twenty-five percent of participants have begun to save on a regular basis.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
607	Consumer Economics
801	Individual and Family Resource Management

**Outcome #6**

**1. Outcome Measures**

Number of participants who increased the amount of money they save regularly.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	34

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

MU Extension provides the general public, special target groups, youth, older citizens, and agency personnel with basic, unbiased personal finance information. With research-based curricula, we educate consumers to meet financial education requirements for bankruptcy discharge, financial literacy, home buying strategies, estate planning and retirement asset distribution strategies.

**What has been done**

Personal Financial Management is delivered through curricula that target low income families, family agencies, the general adult population, college students, women, unbanked consumers, consumers going through bankruptcy, young couples, divorcing couples, youth from pre-school through high school, and the elderly. This program area will also address consumer issues such as fraud and identity theft, credit reports, predatory lending and basic consumer decision making skills.

**Results**

Thirty-four percent of participants increased the amount of money they place into savings on a regular basis.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
607	Consumer Economics
801	Individual and Family Resource Management

**Outcome #7**

**1. Outcome Measures**

Number of participants who have established financial goals to guide financial decisions.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	33

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

MU Extension provides the general public, special target groups, youth, older citizens, and agency personnel with basic, unbiased personal finance information. With research-based curricula, we educate consumers to meet financial education requirements for bankruptcy discharge, financial literacy, home buying strategies, estate planning and retirement asset distribution strategies.

**What has been done**

Personal Financial Management is delivered through curricula that target low income families, family agencies, the general adult population, college students, women, unbanked consumers, consumers going through bankruptcy, young couples, divorcing couples, youth from pre-school through high school, and the elderly. This program area will also address consumer issues such as fraud and identity theft, credit reports, predatory lending and basic consumer decision making skills.

**Results**

Thirty-three percent of participants have written financial goals to guide their decisions.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
607	Consumer Economics
801	Individual and Family Resource Management

**Outcome #8**

**1. Outcome Measures**

Percent of participants who check their credit report.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	25

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

MU Extension provides the general public, special target groups, youth, older citizens, and agency personnel with basic, unbiased personal finance information. With research-based curricula, we educate consumers to meet financial education requirements for bankruptcy discharge, financial literacy, home buying strategies, estate planning and retirement asset distribution strategies.

**What has been done**

Personal Financial Management is delivered through curricula that target low income families, family agencies, the general adult population, college students, women, unbanked consumers, consumers going through bankruptcy, young couples, divorcing couples, youth from pre-school through high school, and the elderly. This program area will also address consumer issues such as fraud and identity theft, credit reports, predatory lending and basic consumer decision making skills.

**Results**

Twenty-five percent of participants indicated they check their credit report as a result of what they learned in the program.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
607	Consumer Economics
801	Individual and Family Resource Management

**Outcome #9**

**1. Outcome Measures**

Percent of participants who understand their rights under the Fair Credit Reporting Act.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	50

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

MU Extension provides the general public, special target groups, youth, older citizens, and agency personnel with basic, unbiased personal finance information. With research-based curricula, we educate consumers to meet financial education requirements for bankruptcy discharge, financial literacy, home buying strategies, estate planning and retirement asset distribution strategies

**What has been done**

Personal Financial Management is delivered through curricula that target low income families, family agencies, the general adult population, college students, women, unbanked consumers, consumers going through bankruptcy, young couples, divorcing couples, youth from pre-school through high school, and the elderly. This program area will also address consumer issues such as fraud and identity theft, credit reports, predatory lending and basic consumer decision making skills.

**Results**

Fifty percent of participants indicate they understand their rights under the Fair Credit Reporting Act.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
607	Consumer Economics
801	Individual and Family Resource Management

### **V(H). Planned Program (External Factors)**

#### **External factors which affected outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

#### **Brief Explanation**

The current economic state and the prolonged duration of the low economy has decreased the number of people who meeting our proposed goals. We feel that this type of programming is critical at this time and continue to reach out to the citizens of the state where they live, work, and gather.

### **V(I). Planned Program (Evaluation Studies)**

#### **Evaluation Results**

Results not available

#### **Key Items of Evaluation**

Results not available

**V(A). Planned Program (Summary)**

**Program # 15**

**1. Name of the Planned Program**

Food Safety

Reporting on this Program

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	100%			
	<b>Total</b>	100%			

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	6.0	0.0	0.0	0.0
Actual Paid Professional	6.0	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
203933	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
222443	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**V(D). Planned Program (Activity)**

1. Brief description of the Activity

Number of Curriculum developed; Number of individual inquiries responded to; Number of trainings for large groups; Number of smaller workshops; Number of guide sheets written; Number of newsletter articles written; Number of media interviews held.

**2. Brief description of the target audience**

Pre K - 12th grade students, food stamp individuals and households, general adults, older adults, nursing home assistants, daycare providers.

**3. How was eXtension used?**

{No Data Entered}

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	1893	5401	20	35

**2. Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

Year: 2012

Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2012	Extension	Research	Total
<b>Actual</b>	1	0	0

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Number of workshops, multi-session programs, fairs and conferences.

Year	Actual
2012	167

**Output #2**

**Output Measure**

- Number of in-service opportunities.

<b>Year</b>	<b>Actual</b>
2012	2

**Output #3**

**Output Measure**

- Number of website visits.

<b>Year</b>	<b>Actual</b>
2012	217009

**Output #4**

**Output Measure**

- Number of guide sheets.

<b>Year</b>	<b>Actual</b>
2012	7988

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Percent reporting an increased knowledge of proper hand washing.
2	Percent reporting an increased knowledge of cooking foods adequately.
3	Percent reporting an increased knowledge of avoiding cross-contamination.
4	Percent reporting an increased knowledge of keeping food at a safe temperature.
5	Percent reporting an increased knowledge of storing foods properly.
6	Percent reporting an intent to adopt one or more safe food handling practices.

## **Outcome #1**

### **1. Outcome Measures**

Percent reporting an increased knowledge of proper hand washing.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	83

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

The need is to protect food from contamination by pathogenic microorganisms, parasites, and naturally occurring toxins. A large portion of the population is improperly and unsafely handling food in the home leading to potentially lethal illnesses. Seventy-six million cases of food borne illnesses occur annually resulting in 325,000 hospitalizations and 5,000 deaths. Clients include limited resource families, school children, minority families, youth, adults, day care providers, etc.

#### **What has been done**

Food safety education through the University of Missouri Extension involves answering consumer questions and teaching safe food handling concepts both through regional specialists as well as within the Family Nutrition Education Program. Programs include but are not limited to occasional quantity cooks, EFNEP, FSNE, and Food Power. The evaluation data of these methods indicate successful behavior change regarding food handling

#### **Results**

Eighty-three percent of youth were observed using improved hand washing techniques after completing the program. Teachers also anecdotally reported that students had increased attendance and reduced illness when they received a hand washing lesson as part of a nutrition and/or food safety program.

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

## **Outcome #2**

### **1. Outcome Measures**

Percent reporting an increased knowledge of cooking foods adequately.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	0

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

The need is to protect food from contamination by pathogenic microorganisms, parasites, and naturally occurring toxins. A large portion of the population is improperly and unsafely handling food in the home leading to potentially lethal illnesses. Seventy-six million cases of food borne illnesses occur annually resulting in 325,000 hospitalizations and 5,000 deaths. Clients include limited resource families, school children, minority families, youth, adults, day care providers, etc.

#### **What has been done**

Food safety education through the University of Missouri Extension involves answering consumer questions and teaching safe food handling concepts both through regional specialists as well as within the Family Nutrition Education Program. Programs include but are not limited to occasional quantity cooks, EFNEP, FSNE, and Food Power. The evaluation data of these methods indicate successful behavior change regarding food handling.

#### **Results**

No results available

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

### **Outcome #3**

#### **1. Outcome Measures**

Percent reporting an increased knowledge of avoiding cross-contamination.

#### **2. Associated Institution Types**

- 1862 Extension

#### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	0

#### **3c. Qualitative Outcome or Impact Statement**

##### **Issue (Who cares and Why)**

The need is to protect food from contamination by pathogenic microorganisms, parasites, and naturally occurring toxins. A large portion of the population is improperly and unsafely handling food in the home leading to potentially lethal illnesses. Seventy-six million cases of food borne illnesses occur annually resulting in 325,000 hospitalizations and 5,000 deaths. Clients include limited resource families, school children, minority families, youth, adults, day care providers, etc.

##### **What has been done**

Food safety education through the University of Missouri Extension involves answering consumer questions and teaching safe food handling concepts both through regional specialists as well as within the Family Nutrition Education Program. Programs include but are not limited to occasional quantity cooks, EFNEP, FSNE, and Food Power. The evaluation data of these methods indicate successful behavior change regarding food handling.

##### **Results**

No results available

#### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

#### **Outcome #4**

##### **1. Outcome Measures**

Percent reporting an increased knowledge of keeping food at a safe temperature.

##### **2. Associated Institution Types**

- 1862 Extension

##### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

##### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	45

##### **3c. Qualitative Outcome or Impact Statement**

###### **Issue (Who cares and Why)**

The need is to protect food from contamination by pathogenic microorganisms, parasites, and naturally occurring toxins. A large portion of the population is improperly and unsafely handling food in the home leading to potentially lethal illnesses. Seventy-six million cases of food borne illnesses occur annually resulting in 325,000 hospitalizations and 5,000 deaths. Clients include limited resource families, school children, minority families, youth, adults, day care providers, etc.

###### **What has been done**

Food safety education through the University of Missouri Extension involves answering consumer questions and teaching safe food handling concepts both through regional specialists as well as within the Family Nutrition Education Program. Programs include but are not limited to occasional quantity cooks, EFNEP, FSNE, and Food Power. The evaluation data of these methods indicate successful behavior change regarding food handling.

###### **Results**

Forty-five percent of adults in the Family Nutrition Education Program reported they keep food at a proper temperature when cooking and serving. This includes not allowing meat and dairy foods to sit out for more than two hours.

##### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

**Outcome #5**

**1. Outcome Measures**

Percent reporting an increased knowledge of storing foods properly.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2012	64

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

The need is to protect food from contamination by pathogenic microorganisms, parasites, and naturally occurring toxins. A large portion of the population is improperly and unsafely handling food in the home leading to potentially lethal illnesses. Seventy-six million cases of food borne illnesses occur annually resulting in 325,000 hospitalizations and 5,000 deaths. Clients include limited resource families, school children, minority families, youth, adults, day care providers, etc.

**What has been done**

Food safety education through the University of Missouri Extension involves answering consumer questions and teaching safe food handling concepts both through regional specialists as well as within the Family Nutrition Education Program. Programs include but are not limited to occasional quantity cooks, EFNEP, FSNE, and Food Power. The evaluation data of these methods indicate successful behavior change regarding food handling.

**Results**

Sixty-four percent of participants indicate they no longer thaw foods at room temperature.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

## **Outcome #6**

### **1. Outcome Measures**

Percent reporting an intent to adopt one or more safe food handling practices.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Action Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	52

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

The need is to protect food from contamination by pathogenic microorganisms, parasites, and naturally occurring toxins. A large portion of the population is improperly and unsafely handling food in the home leading to potentially lethal illnesses. Seventy-six million cases of food borne illnesses occur annually resulting in 325,000 hospitalizations and 5,000 deaths. Clients include limited resource families, school children, minority families, youth, adults, day care providers, etc.

#### **What has been done**

Food safety education through the University of Missouri Extension involves answering consumer questions and teaching safe food handling concepts both through regional specialists as well as within the Family Nutrition Education Program. Programs include but are not limited to occasional quantity cooks, EFNEP, FSNE, and Food Power. The evaluation data of these methods indicate successful behavior change regarding food handling.

#### **Results**

Fifty-two percent of adults in the EFNEP program demonstrated improvement in one or more food safety practices, such as thawing and storing foods properly.

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

### **V(H). Planned Program (External Factors)**

#### **External factors which affected outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Populations changes (immigration, new cultural groupings, etc.)

#### **Brief Explanation**

One of the greatest limitations in the state of Missouri is the lack of a Consumer Food Safety Specialist. At this time, we are attempting to hire a position jointly with Kansas State University that will serve both states and aid in increasing the food safety programming that we are able to deliver as well as increase our evaluation efforts in this area.

### **V(I). Planned Program (Evaluation Studies)**

#### **Evaluation Results**

Results not available

#### **Key Items of Evaluation**

Results not available

**V(A). Planned Program (Summary)**

**Program # 16**

**1. Name of the Planned Program**

Nutrition, Health and Physical Activity

Reporting on this Program

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
703	Nutrition Education and Behavior	33%			
724	Healthy Lifestyle	33%			
806	Youth Development	34%			
	<b>Total</b>	100%			

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	15.0	0.0	0.0	0.0
Actual Paid Professional	13.0	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
463484	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
505552	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**V(D). Planned Program (Activity)**

1. Brief description of the Activity

Use direct and indirect methods to provide education and targeted messages on nutrition, physical activity, and self-care management. Some specific methods used will include group education, workshops, train-the-trainer strategies, newsletters, web-based education, and media efforts. In addition there will be community level interventions through partnerships that will be developed. This will include working with local coalitions to develop awareness campaigns.

**2. Brief description of the target audience**

Adults, youth ages 3 through 18, low-income Missourians, pregnant women, adults 55 and older, volunteers, teachers and community members, school teachers and nurses, other adults interested in improving their quality of life.

**3. How was eXtension used?**

eXtension was not used in this program

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	108440	117300	601127	14132

**2. Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

Year: 2012  
 Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2012	Extension	Research	Total
<b>Actual</b>	1	0	1

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Number of workshops, conferences, multi-session programs and fairs held.

<b>Year</b>	<b>Actual</b>
2012	34309

**Output #2**

**Output Measure**

- Number of in-service opportunities.

<b>Year</b>	<b>Actual</b>
2012	16

**Output #3**

**Output Measure**

- Number of partnerships formed.

<b>Year</b>	<b>Actual</b>
2012	306

**Output #4**

**Output Measure**

- Number of community campaigns conducted.

<b>Year</b>	<b>Actual</b>
2012	0

**Output #5**

**Output Measure**

- Number of website visits.

<b>Year</b>	<b>Actual</b>
2012	1344141

**Output #6**

**Output Measure**

- Number of volunteers trained.

<b>Year</b>	<b>Actual</b>
2012	201

**Output #7**

**Output Measure**

- Number of guide sheets distributed.

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<b>Year</b>	<b>Actual</b>
2012	1496008

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Percent of participants reporting improved attitudes about healthy eating and physical activity.
2	Percent of participants who exhibit increased awareness/knowledge of physical activity recommendations for health.
3	Percent of participants who exhibit increased awareness/knowledge of healthy food choices.
4	Percent of participants who exhibit improved skill in selecting healthy foods.
5	Percent of participants reporting increased self efficacy about managing chronic conditions.
6	Percent of participants who report improved skills in preparation of healthy foods.
7	Percent that adopt one or more healthy food/nutrition practices.
8	Percent that begin or increase physical activity.
9	Percent that tries and accepts new foods.
10	Percent that increase participation in regular physical activity.
11	Percent that improve behavior changes based on MyPyramid and the Dietary Guidelines.

**Outcome #1**

**1. Outcome Measures**

Percent of participants reporting improved attitudes about healthy eating and physical activity.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	90

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Research indicates increased rates of obesity, type 2 diabetes, decreased physical activity, and low consumption of fruits, vegetables and whole grains among both adults and youth. This is a state and national concern due to the economic burden of obesity and the health consequences of chronic disease such as diabetes. Extension programs must provide adults and youth with the knowledge and skills needed to promote healthful eating and develop a lifelong interest in physical activity.

**What has been done**

MU Extension provides nutrition, health, and physical activity education for adults and youth. These programs provide basic food, nutrition and healthy lifestyle information that promote healthy food choices, physical activity and chronic disease prevention and management.

**Results**

Ninety percent of youth evaluated demonstrated an increased awareness of nutrition. We feel that increased awareness and knowledge is the precursor to positive behavior change.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle
806	Youth Development

**Outcome #2**

**1. Outcome Measures**

Percent of participants who exhibit increased awareness/knowledge of physical activity recommendations for health.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	51

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Research indicates increased rates of obesity, type 2 diabetes, decreased physical activity, and low consumption of fruits, vegetables and whole grains among both adults and youth. This is a state and national concern due to the economic burden of obesity and the health consequences of chronic disease such as diabetes. Extension programs must provide adults and youth with the knowledge and skills needed to promote healthful eating and develop a lifelong interest in physical activity.

**What has been done**

MU Extension provides nutrition, health, and physical activity education for adults and youth. These programs provide basic food, nutrition and healthy lifestyle information that promote healthy food choices, physical activity and chronic disease prevention and management.

**Results**

Fifty-one percent of youth self-reported or were observed an increase in daily physical activity within program participants.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle
806	Youth Development

**Outcome #3**

**1. Outcome Measures**

Percent of participants who exhibit increased awareness/knowledge of healthy food choices.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	43

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Research indicates increased rates of obesity, type 2 diabetes, decreased physical activity, and low consumption of fruits, vegetables and whole grains among both adults and youth. This is a state and national concern due to the economic burden of obesity and the health consequences of chronic disease such as diabetes. Extension programs must provide adults and youth with the knowledge and skills needed to promote healthful eating and develop a lifelong interest in physical activity.

**What has been done**

MU Extension provides nutrition, health, and physical activity education for adults and youth. These programs provide basic food, nutrition and healthy lifestyle information that promote healthy food choices, physical activity and chronic disease prevention and management.

**Results**

Forty-three percent of adults reporting indicate that they think about healthy food choices when deciding what to feed their families. This contemplation is the first step to selecting and purchasing healthy food items.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle
806	Youth Development

**Outcome #4**

**1. Outcome Measures**

Percent of participants who exhibit improved skill in selecting healthy foods.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	62

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Research indicates increased rates of obesity, type 2 diabetes, decreased physical activity, and low consumption of fruits, vegetables and whole grains among both adults and youth. This is a state and national concern due to the economic burden of obesity and the health consequences of chronic disease such as diabetes. Extension programs must provide adults and youth with the knowledge and skills needed to promote healthful eating and develop a lifelong interest in physical activity.

**What has been done**

MU Extension provides nutrition, health, and physical activity education for adults and youth. These programs provide basic food, nutrition and healthy lifestyle information that promote healthy food choices, physical activity and chronic disease prevention and management.

**Results**

Sixty-two percent of adults used the Nutrition Facts label to make healthier food choices as a result of their participation in the program.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle
806	Youth Development

**Outcome #5**

**1. Outcome Measures**

Percent of participants reporting increased self efficacy about managing chronic conditions.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	60

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Research indicates increased rates of obesity, type 2 diabetes, decreased physical activity, and low consumption of fruits, vegetables and whole grains among both adults and youth. This is a state and national concern due to the economic burden of obesity and the health consequences of chronic disease such as diabetes. Extension programs must provide adults and youth with the knowledge and skills needed to promote healthful eating and develop a lifelong interest in physical activity.

**What has been done**

MU Extension provides nutrition, health, and physical activity education for adults and youth. These programs provide basic food, nutrition and healthy lifestyle information that promote healthy food choices, physical activity and chronic disease prevention and management.

**Results**

Greater than 60% of those who completed the evaluation indicated they felt more comfortable managing their chronic condition.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle
806	Youth Development

## **Outcome #6**

### **1. Outcome Measures**

Percent of participants who report improved skills in preparation of healthy foods.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Action Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	33

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

Research indicates increased rates of obesity, type 2 diabetes, decreased physical activity, and low consumption of fruits, vegetables and whole grains among both adults and youth. This is a state and national concern due to the economic burden of obesity and the health consequences of chronic disease such as diabetes. Extension programs must provide adults and youth with the knowledge and skills needed to promote healthful eating and develop a lifelong interest in physical activity.

#### **What has been done**

MU Extension provides nutrition, health, and physical activity education for adults and youth. These programs provide basic food, nutrition and healthy lifestyle information that promote healthy food choices, physical activity and chronic disease prevention and management.

#### **Results**

Thirty-three percent of participants reported they were more likely not to add salt to their food during preparation as a result of this program.

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle
806	Youth Development

**Outcome #7**

**1. Outcome Measures**

Percent that adopt one or more healthy food/nutrition practices.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	87

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Research indicates increased rates of obesity, type 2 diabetes, decreased physical activity, and low consumption of fruits, vegetables and whole grains among both adults and youth. This is a state and national concern due to the economic burden of obesity and the health consequences of chronic disease such as diabetes. Extension programs must provide adults and youth with the knowledge and skills needed to promote healthful eating and develop a lifelong interest in physical activity.

**What has been done**

MU Extension provides nutrition, health, and physical activity education for adults and youth. These programs provide basic food, nutrition and healthy lifestyle information that promote healthy food choices, physical activity and chronic disease prevention and management.

**Results**

Eighty-seven percent of adults surveyed reported improvement in one or more nutrition practices.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle
806	Youth Development

## **Outcome #8**

### **1. Outcome Measures**

Percent that begin or increase physical activity.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Action Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	62

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

Research indicates increased rates of obesity, type 2 diabetes, decreased physical activity, and low consumption of fruits, vegetables and whole grains among both adults and youth. This is a state and national concern due to the economic burden of obesity and the health consequences of chronic disease such as diabetes. Extension programs must provide adults and youth with the knowledge and skills needed to promote healthful eating and develop a lifelong interest in physical activity.

#### **What has been done**

MU Extension provides nutrition, health, and physical activity education for adults and youth. These programs provide basic food, nutrition and healthy lifestyle information that promote healthy food choices, physical activity and chronic disease prevention and management.

#### **Results**

Sixty-two percent of youth indicated they have increased their level of physical activity as a result of attending an Extension program.

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle
806	Youth Development

## **Outcome #9**

### **1. Outcome Measures**

Percent that tries and accepts new foods.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Action Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	77

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

Research indicates increased rates of obesity, type 2 diabetes, decreased physical activity, and low consumption of fruits, vegetables and whole grains among both adults and youth. This is a state and national concern due to the economic burden of obesity and the health consequences of chronic disease such as diabetes. Extension programs must provide adults and youth with the knowledge and skills needed to promote healthful eating and develop a lifelong interest in physical activity.

#### **What has been done**

MU Extension provides nutrition, health, and physical activity education for adults and youth. These programs provide basic food, nutrition and healthy lifestyle information that promote healthy food choices, physical activity and chronic disease prevention and management.

#### **Results**

Up to seventy-seven percent of participants indicated that they were more willing to try new foods as a result of attending a nutrition program.

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle
806	Youth Development

**Outcome #10**

**1. Outcome Measures**

Percent that increase participation in regular physical activity.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2012	94

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Research indicates increased rates of obesity, type 2 diabetes, decreased physical activity, and low consumption of fruits, vegetables and whole grains among both adults and youth. This is a state and national concern due to the economic burden of obesity and the health consequences of chronic disease such as diabetes. Extension programs must provide adults and youth with the knowledge and skills needed to promote healthful eating and develop a lifelong interest in physical activity.

**What has been done**

MU Extension provides nutrition, health, and physical activity education for adults and youth. These programs provide basic food, nutrition and healthy lifestyle information that promote healthy food choices, physical activity and chronic disease prevention and management.

**Results**

Ninety-four percent of participants indicated that as a result of attending a physical activity program they did increase their physical activity level. Additional comments included increased balance, flexibility, and strength.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
703	Nutrition Education and Behavior
724	Healthy Lifestyle
806	Youth Development

## **Outcome #11**

### **1. Outcome Measures**

Percent that improve behavior changes based on MyPyramid and the Dietary Guidelines.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Action Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	50

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

Research indicates increased rates of obesity, type 2 diabetes, decreased physical activity, and low consumption of fruits, vegetables and whole grains among both adults and youth. This is a state and national concern due to the economic burden of obesity and the health consequences of chronic disease such as diabetes. Extension programs must provide adults and youth with the knowledge and skills needed to promote healthful eating and develop a lifelong interest in physical activity.

#### **What has been done**

MU Extension provides nutrition, health, and physical activity education for adults and youth. These programs provide basic food, nutrition and healthy lifestyle information that promote healthy food choices, physical activity and chronic disease prevention and management.

#### **Results**

Over fifty percent of participants reporting either indicated positive behavior change or have been observed exhibiting positive behavior changes. These changes might include increased consumption of fruits and vegetables, low fat dairy products, and/or whole grains.

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle
806	Youth Development

**V(H). Planned Program (External Factors)**

**External factors which affected outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Other (Participant self responsibility)

**Brief Explanation**

**V(I). Planned Program (Evaluation Studies)**

**Evaluation Results**

No results available

**Key Items of Evaluation**

No results available

**V(A). Planned Program (Summary)**

**Program # 17**

**1. Name of the Planned Program**

Ensuring Safe Communities

Reporting on this Program

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
805	Community Institutions, Health, and Social Services	99%			
806	Youth Development	1%			
	<b>Total</b>	100%			

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	4.0	0.0	0.0	0.0
Actual Paid Professional	4.0	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
166660	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
171536	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**V(D). Planned Program (Activity)**

1. Brief description of the Activity

Establish and assist COAD (Community Organizations Active in Disasters). Provide disaster educational materials and workshops to communities and organizations. Build partnerships with local, state, federal agencies and organizations. Consult with local emergency planning committees and/or citizen councils. Represent Extension at meetings of federal, state and local emergency management organizations after disasters. Provide training for preparedness. Assist local entities in identification of funding sources for community emergency management and homeland security, e.g., USDA-RD, fire grants, etc. Provide disaster preparedness and mitigation leadership for Extension itself. Coordinate and participate in Extension disaster activities.

**2. Brief description of the target audience**

Targeted audience is all social groups in the community, including low-income and minority, Spanish-speaking, community organizations, local government, home builders, agencies that assist in disaster, businesses and farmers. No limitation on gender, ethnic or religious diversity, lifestyle choice, etc.

**3. How was eXtension used?**

Faculty participated in professional development related to disaster preparedness and recovery offered via eXtension. Faculty regularly drew upon EDEN to answer questions and find resources not available in Missouri as we responded to the complexities of recovery especially after flooding and tornadoes. Several examples included determining guidelines for mold cleanup of various types of structures, working with youth after such traumatic events, family financial guidance, etc. Faculty also contributed to the EDEN eXtension learning community and material development. One of our state leadership team members regularly posts updates on the internal communication page regarding our activities post disaster. Finally as one of five states collaborating on a special needs grant to work with flood and tornado recovery, we used EDEN and eXtension tools to share documents, facilitating proposal development and access to resources developed by other states to share with those affected by the disasters.

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	16671	96323	969	197

**2. Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

Year: 2012  
 Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

<b>2012</b>	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Actual</b>	4	0	4

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Number of communities assisted with training and facilitation for disaster preparedness.

<b>Year</b>	<b>Actual</b>
2012	98

**Output #2**

**Output Measure**

- Number of partner hours leveraged.

<b>Year</b>	<b>Actual</b>
2012	997

**Output #3**

**Output Measure**

- Number of unique visits(hits) to Community Emergency Management Web page.

<b>Year</b>	<b>Actual</b>
2012	12056

**Output #4**

**Output Measure**

- Number of volunteer hours leveraged.

<b>Year</b>	<b>Actual</b>
2012	4000

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Average change in mean score of workshop participants' (Likert 5 pt scale with 5 highest) self-reported learning from post-pre-post survey.
2	Number of Community Organizations Active in Disaster (COADs) created and/or functioning to meet local needs.
3	Percent of participants in workshops/training having adopted practices such as disaster plans and kits developed.
4	Number of organizations that make changes after conduct of emergency management exercise in the community.
5	Number of county Extension offices that adopted or reviewed disaster plans and preparedness measures during the past year.
6	Dollar value of resources leveraged (volunteer hours, grants for warning systems, etc.) for emergency management.

**Outcome #1**

**1. Outcome Measures**

Average change in mean score of workshop participants' (Likert 5 pt scale with 5 highest) self-reported learning from post-pre-post survey.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2012	1

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Missouri experienced no significant severe weather events or flooding in FY12. The greatest focus of programming was working on long-term recovery issues with communities affected the previous year with massive flooding and tornadoes as well as issues surrounding severe drought. Long-term recovery is an essential function of restoring communities, families and businesses.

**What has been done**

Workshops were conducted including drought preparedness, flood recovery and flooded farmland remediation. County offices distributed information in the office, at county fairs and post-event multi-agency resource centers. TV, web, and radio materials were developed and distributed. Guide to the use of Social Media in disasters was developed and delivered. Extension Specialists were primary instructors in Community Emergency Response Teams (CERT) courses and Teen CERT courses.

**Results**

Participants reported learning about seasonal natural hazards, developing a family emergency plan; roles of governmental and non-governmental partner; long-term effects of flood water on arable land; the effects of drought on local food systems, water systems and mental health, roles of non-governmental organizations in COADs and LTRCs; grant management; disaster case management; disaster first aid; business disaster planning and recovery; making home/car emergency kits; using a fire extinguisher; working as a team; the basic tenants of Incident Command Systems; and becoming involved in a CERT. More than 52,000 people followed Facebook pages during the initial month of the tornado and flooding disasters, and numbers continue to grow.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
805	Community Institutions, Health, and Social Services
806	Youth Development

## **Outcome #2**

### **1. Outcome Measures**

Number of Community Organizations Active in Disaster (COADs) created and/or functioning to meet local needs.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Condition Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	70

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

Missouri had no major disaster declarations in FY 2012 but continued with the laborious process of long term recovery for farms, business and families effected by the large disaster events of 2010 & 2011: MU Extension often takes a lead role in forming and supporting COADs and LTRCs. Extension personnel and facilities are often used to facilitate difficult deliberations and support case management for disaster survivors.

#### **What has been done**

Extension specialists were called upon regularly to facilitate unmet-needs committees and COADs/LTRCs. In many cases they comprised the day-to-day leadership and often used Extension offices and resources. The coordination of many recovery conversations and planning has been facilitated by Extension. In addition, we provided information and other appropriate technical assistance.

#### **Results**

Established COADs assisted in mitigation, preparedness, response and recovery?contributing to community resiliency to disaster. Seventy COADs/LTRCs (an increase of 36 this year) are creating a greater breadth and depth of disaster resiliency, expanding training, education and disaster exercises for preparedness. Two COADs in Montgomery and Lincoln Counties have expanded preparedness plans using our Community Issues Management system to upload GIS, other data, and local data for emergency response planning in the first three days following a disaster (<http://www.cim-network.org/muext/>). Several COADs have been successful in obtaining funding to support case management.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
805	Community Institutions, Health, and Social Services
806	Youth Development

#### Outcome #3

##### 1. Outcome Measures

Percent of participants in workshops/training having adopted practices such as disaster plans and kits developed.

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2012	43

##### 3c. Qualitative Outcome or Impact Statement

###### **Issue (Who cares and Why)**

Communities, organizations, and businesses must be prepared for the possibility of a multitude of disasters. Key to addressing current and potential disasters is integration of multidisciplinary research and education into a coordinated mitigation, preparedness, response and recovery that includes collaboration with local, state and federal partners. Knowing about preparedness is important but application of learning is critical to true preparedness.

###### **What has been done**

Training conducted included workshops on CERT, safety, agricultural security and planning, business preparedness, farm recovery and management planning post-flooding, and drought issues. The web and social media were used to help people develop family plans, evacuate along flooding rivers, deal with clean up and insurance. Social media was used extensively in post tornado and in flooding that spread across months.

###### **Results**

After preparedness courses, citizens have reported positive actions including: Looking through their home environment for potential dangers, writing their family disaster plan and talking with their families about disaster preparedness, developing their family and pet disaster kits, purchasing weather radios and disaster supplies and home fire extinguishers, building an emergency car kit, and officially joining local CERT teams or local faith-based programs that support local emergency management programs. This past year, the FAPRI-prepared economic

assessment of damage and impact for the Missouri and Mississippi Rivers? flooding was used by producers, lenders and agribusinesses as well as governments for recovery planning and services.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
805	Community Institutions, Health, and Social Services
806	Youth Development

#### Outcome #4

##### 1. Outcome Measures

Number of organizations that make changes after conduct of emergency management exercise in the community.

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2012	12

##### 3c. Qualitative Outcome or Impact Statement

###### **Issue (Who cares and Why)**

Emergency exercises (disaster simulations) are a critical part of better prepared city, county, state, and federal governments. Communities, businesses, and volunteer organizations who assess their capabilities in disaster prevention, preparedness, response, and recovery activities in a risk-free environment are much more able to respond when the disaster occurs.

###### **What has been done**

CERT training and other preparedness presentations were conducted in several counties. Several counties conducted exercises to test written plans and procedures. After Action Report Improvement Plans were written by Extension Specialists and given to exercise participants.

###### **Results**

After Action Review Improvement Plans were developed and given to local jurisdictions for their implementation. Included were qualitative and quantitative descriptions of improvements the jurisdiction could make in the emergency plans and procedures. One county official said, "Thank you University Extension for the excellent exercise and the comprehensive improvement plan. We now have a detailed plan we can use to improve our existing emergency procedures." Counties that conducted exercises have adjusted plans to be more prepared.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
805	Community Institutions, Health, and Social Services

#### Outcome #5

##### 1. Outcome Measures

Number of county Extension offices that adopted or reviewed disaster plans and preparedness measures during the past year.

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2012	31

##### 3c. Qualitative Outcome or Impact Statement

###### **Issue (Who cares and Why)**

Missouri has been and will likely continue to experience a number of disasters. Each is costly in dollars and can cost lives. Disaster preparedness can help mitigate cost and hasten recovery. MU Extension is a key partner with local state and federal agencies. MU Extension employees and county offices must be prepared for potential emergencies or disasters that affect its employees or places of work.

###### **What has been done**

We continue to promote and use the county office based disaster plan template (2008) and the MU Extension Emergency Management Guidance. Each year during preparedness campaigns--Earthquake Awareness, Severe Weather Awareness and National Preparedness Months--all offices were encouraged to pull out the plan and review it for refreshing faculty and staff on procedures and make possible changes needed.

###### **Results**

All 111 offices have the plan in place; 31 offices reported reviewing their plan during one of the major hazard awareness campaigns. We are seeing significant engagement of regional extension faculty in providing Community Emergency Response Team (CERT) training, participating in Local Emergency Planning Committees (LEPC), Community Organizations Active in Disasters (COAD), Citizen Corps programs, and Long Term Recovery Committees--all encouraged via the MU Extension Emergency Management Guidance. With each significant disaster event, county offices, faculty and administrators have followed the guidance appropriately to secure the safety

of individuals and their families and the offices in order to be able to serve the public.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
805	Community Institutions, Health, and Social Services

#### Outcome #6

##### 1. Outcome Measures

Dollar value of resources leveraged (volunteer hours, grants for warning systems, etc.) for emergency management.

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2012	1120500

##### 3c. Qualitative Outcome or Impact Statement

###### **Issue (Who cares and Why)**

Missouri has experienced a number of disasters (and this will likely continue). Although Missouri had no Presidential disaster declarations in FY12, numerous counties were still recovering from devastating floods and tornadoes in 2011 and beginning to deal with drought. Engaging citizens and organizations in disaster preparedness can help mitigate cost and hasten recovery as well as secure funding for disaster preparedness and recovery efforts that can save money and lives.

###### **What has been done**

We trained CERT and faith-based groups and assisted numerous COADs and LTRCs as they worked on tornado and flood recovery and case management of unmet human needs. We worked closely with the SBA to assist businesses in their recovery, opened a Business Recovery Center in Joplin to provide key financial services to businesses impacted by the tornado, and followed with personally contacting nearly 200 businesses.

###### **Results**

The work with several of LTRCs and COADS resulted in garnering additional funds for training and recovery activities in the communities. An example of long term impact includes Wayne County. In 2007, Extension drew together a disparate group of individuals from a variety of agencies to form the Wayne County LTRC in 2007, which has worked to help area citizens impacted by floods and other natural disasters. To date, over \$1.2 million in repair and

replacement of property has occurred in Wayne County as a result.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
805	Community Institutions, Health, and Social Services

#### V(H). Planned Program (External Factors)

##### External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

##### Brief Explanation

MU Extension faculty have been fully engaged in local, state and federal recovery efforts since the flooding and tornadoes of 2011. MU Extension played a major role in creating and assisting in long term recovery committees in counties affected by the flooding on Mississippi and Missouri Rivers and in Joplin (facilitation, community organizing, coordination, extension information, educational programming, and linkages to other agencies and organizations, hosting). We participated in state level multi-agency meetings (MOVOAD/Partnership) and provided faculty expertise as requested.

MU Extension has always responded to urgent needs of communities and citizens but has created its Community Emergency Management Program to support federal, state and local efforts using only internal financial and human resources. This program is supported by leveraging federal funds and by using very limited internal funds and faculty to support this important program.

While we have an incredible set of teams across the state working on this, we have limitations. Our state emergency management specialist was deployed in April 2011 and returned September 2012, we covered that responsibility by reassigning existing faculty to form a team for this program during a time when we were dealing with recovery from major tornadoes and severe Missouri and Mississippi River flooding as well as the onset of drought.

Each member of every regional CEMP team has other primary responsibilities to other programs. We have had a hiring freeze in effect since November 2008, state appropriation cuts from 2010 through 2012 of nearly 20%, and reduced local funding--all of which have limited our capacity to deliver local and state programs and develop follow up evaluation. In addition, we have spent considerable time on relationship building with our funding stakeholders. Some of these stakeholders have also been severely affected by state budget cuts. The need to garner grant and contract funding is essential.

Therefore, priorities shifted to focus on long-term disaster recovery, with less focus on programming to conduct exercises and some impact collection. We are also working to

bring into alignment our reporting system with the impact indicators and provide sufficient training for faculty and staff in evaluation and reporting. This has been a slow process but we continue to improve. For Northwest Missouri, an Extension economist conducted an analysis as to how the prolonged flooding would impact sales tax and property tax income for county governments using data from past significant flood events for rural counties on both the Missouri and Mississippi Rivers. Local extension councils were also given assistance in planning as some saw six months of promised funding from county government disappear with drops in sales tax expected from the prolonged closure of interstate highways and the halt of tourism and local commercial activity. Local government officials were targeted with assistance in communication and coordination.

## **V(I). Planned Program (Evaluation Studies)**

### **Evaluation Results**

Surveys conducted with workshop participants generally indicated a high degree of learning and intent to use what had been learned. Likewise 69 of 136 Extension faculty delivering programming responded to an online survey conducted in July 2012: 79% worked with community partners, 67% shared disaster resources from EDEN, responses, 45% conducted educational programs, 15% conducted moisture tests. The average ratings on 5 pt. Likert scale (5 being highest) of regional faculty indicating their competence to locate the following were: printed guides 4.21, web based guides 4.21, phone numbers for disaster recovery 3.99, services available for recovery 3.88, MU Extension policy guidance for recovery 4.22; They indicated feeling prepared to address post disaster stress 3.39; importance of training for post disaster stress 3.75; importance for facilitating community collaboration 4.34.

A focus group each conducted in Joplin and in a rural flood county explored impact of the coordinated long-term recovery efforts in which Extension was one of the key partners. Both communities were active in meeting the basic needs of their residents, which included making sure different populations within the community were being served. For example, resource sheets were available in Spanish; mobile meals programs assured that mobility impaired residents were informed of unfolding events, proactively assessed the homebound for support needs, and provided caregiver training. Cited were many examples of problem solving, initiative, responsibility and innovation taken by local leaders to form relationships across traditional boundaries for the benefit of the entire community, noting "In fair-weather time, we form relationships." Although participants were vocal about the collaborative nature of the recovery activities, they identified specifically Extension's role in forming the LTRC, developing resource guides, the FAPRI study, coordinating bimonthly resource coffees/daily briefings in both communities, staffing resource centers, working collaboratively, facilitating business recovery, and being an integral part of the community prior to the disaster.

We also determined from our work and monitoring that effective and functioning COADs and LTRCs are growing in numbers as a result of our work and the demands created by the disasters. Several have accomplished preventative work that will pay off: installation of emergency warning systems in the community, planning for disasters, conduct of exercises to simulate disaster, etc.

Presentations made at EDEN (panels) and at two other national conferences on the collaboration among the five states of MO, TN, MS, LA and AR provided valuable lessons learned in each state and across states in dealing with the flooding and tornadoes.

### **Key Items of Evaluation**

Community emergency management has been the epitome of a nimble, reliable, responsive and relevant Extension engagement in disaster preparedness, mitigation and recovery. Every bit of previous training and planning was used by specialists' time over large regions of the state.

This year MU Extension became heavily involved in the long-term recovery process collaborating with local, state and federal partners at community based and state-based disaster organizations. Through the Community Emergency Management Program we assisted in recovery from 2011 flooding, tornadoes in Joplin, Sedalia, St. Louis, and Branson, and emerging severe drought in 2012--focusing assistance to long term recovery committees and contributing to revival of resilient families, businesses, farms and communities. Communities' disaster recovery periods have been shortened. Lives, jobs and countless dollars in emergency recovery operations have been saved. And the whole community builds a greater sense of cohesion. In follow-up evaluation with severely affected communities, long term recovery committees credited Extension for its work in providing educational resources and supporting long term recovery efforts. One striking example is one business owner who lost both his home and business in the tornado. He approached the local Chamber for assistance, who directed him to University of Missouri Extension to assist him. The MU Extension office offered resources; ultimately, the business owner not only rebuilt, but expanded his business offerings and hired additional employees.

Documenting impact of the work with COADs, disaster recovery, and community resiliency is difficult. Yet we are seeing these longer term efforts yielding more prepared communities and community capacity to respond and recover. Without the work of Extension, many communities in rural areas would not have systems in place to deal as well as they have with long-term disaster recovery. They are much better at advocating for themselves in the policy arena as well.

Long -term recovery will continue to be our primary focus for Joplin and communities and farms along the Missouri and Mississippi Rivers.

**V(A). Planned Program (Summary)**

**Program # 18**

**1. Name of the Planned Program**

Sustainable and Viable Communities

Reporting on this Program

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
608	Community Resource Planning and Development	39%			
610	Domestic Policy Analysis	3%			
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	36%			
805	Community Institutions, Health, and Social Services	11%			
806	Youth Development	11%			
	<b>Total</b>	100%			

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	20.0	0.0	0.0	0.0
Actual Paid Professional	18.0	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
696964	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
717352	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

## V(D). Planned Program (Activity)

### 1. Brief description of the Activity

We will form planning committees/advisory panels, facilitate participatory visioning and planning workshops, moderate local issues forums, train moderators and conveners for forums and issue framing, hold community meetings and conduct presentations, gather data and use decision support tools to analyze alternatives for the community with citizens and decision makers, work with communities to address a specific need or issue. We will train trainers, provide analysis, training and consultation for local and state government, and assist with organizational development, fund development, board training, and tailoring content to local community need. We will provide counseling and expertise, coaching, and we will assist with engaging Spanish-speaking populations and other diverse groups.

In addition to conducting training and workshops, we will conduct intensive courses (such as the Community Development Academy and local leadership development programs) and conferences (such as the partnering on the Cambio de Colores Conference) to share state of the art knowledge and research and to integrate research with community needs. Work with media and facilitate partnerships to assist in working to meet needs of Spanish-Speaking and other minority populations.

To facilitate entrepreneurship as an economic development strategy, we will work in selected settings (communities and regions in the state) to develop models of excellent entrepreneurial community practice, community economic development and regional economic development strategies.

We will engage with eXtension, partner with other states for training and delivery, and develop collaborative partnerships with local, state and national organizations for programming and funding (e.g. regional rural development centers, Federal Reserve, state agencies, rural development council, USDA-RD, state economic development organization, etc.). In addition we will engage campus-based faculty (extension and other) with regional extension faculty to work collaboratively and across disciplines to develop and deliver programs that are based on research and best practice while engaging with the community for its development and to inform research and teaching on campus. To the extent possible, we will provide internships for graduate students and class projects that are based in the community, and engage graduate students in evaluation while providing opportunities for research.

### 2. Brief description of the target audience

Targeted audience will be all social groups in the community, including low-income, minority, youth, adults, community leaders, local government and policy making groups, and state and local agencies. We will provide no limitation on gender, ethnic or religious diversity, lifestyle choice, etc. Also targeted among adults will be those who are currently serving in a leadership role in an agency, organization, neighborhood, club, community, business or aspire to serve; local and state government officials; and

professionals working in community development.

On the collective scale, we will work with organizations, neighborhoods, communities, counties and/or multi-county regions. In particular, we will pay attention to those that have experienced economic downturn, have few other opportunities, and demonstrate a reasonable amount of motivation, desire and commitment to work toward a viable future for their community.

**3. How was eXtension used?**

State and regional faculty regularly participated in professional development offered via eXtension, especially webinars jointly sponsored by the North Central Regional Center for Rural Development and those offered as part of eXtension's Entrepreneurship Community of Practice. A faculty member from this program served on the Missouri eXtension committee and participated in eXtension national events as well as actively contributes and participated in the Entrepreneurship Community of Practice. Several faculty members presented training via webinars offered through eXtension and actively participated in providing answers for questions posted to eXtension. Most community development faculty members are registered eXtension users.

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	22498	14233	4426	10441

**2. Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

Year: 2012

Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2012	Extension	Research	Total
<b>Actual</b>	6	7	13

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Number of in-depth leadership development programs conducted.

<b>Year</b>	<b>Actual</b>
2012	20

**Output #2**

**Output Measure**

- Number of other conferences, courses, and workshops held.

<b>Year</b>	<b>Actual</b>
2012	68

**Output #3**

**Output Measure**

- Number of communities/regions engaged.

<b>Year</b>	<b>Actual</b>
2012	76

**Output #4**

**Output Measure**

- Number of organizations we assisted.

<b>Year</b>	<b>Actual</b>
2012	120

**Output #5**

**Output Measure**

- Percent of participants in workshops and training indicating they would recommend the program to others.

<b>Year</b>	<b>Actual</b>
2012	94

**Output #6**

**Output Measure**

- Mean ranking (Likert scale of 1 to 5, with 5 being highest) of overall value of program by participants in workshops and training.

<b>Year</b>	<b>Actual</b>
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2012

5

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Mean response of participants in planning processes (On Likert 5 pt scale with 5 highest) reporting they feel they have an increased voice and opportunity to participate in the community.
2	Average change in mean score of participants' (Likert 5 pt scale with 5 highest) self-reported learning from post-pre-post survey.
3	Number of participants reporting taking on increased, different, or new leadership roles in community.
4	Number of communities/organizations developing or updating a plan.
5	Number of communities reporting engagement in plan/project implementation.
6	Million dollar value of resources generated/leveraged/or saved by communities and organizations.
7	Number of businesses and new organizations started.

**Outcome #1**

**1. Outcome Measures**

Mean response of participants in planning processes (On Likert 5 pt scale with 5 highest) reporting they feel they have an increased voice and opportunity to participate in the community.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	4

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Local officials want to serve citizens and local citizens want to contribute to and improve their community. Participation is the foundation of democracy. Citizens who are encouraged to participate are more likely to contribute to the community both in actions and contributions. Communities need methods to dialogue on contentious issues without generating deep conflicts.

**What has been done**

Training, decision-making and planning programs use facilitation methods that allow people to have a voice and encourage diversity of participation that reflects the make-up of community. This was central to leadership development, economic development, planning, and the Community Development Academy offerings.

**Results**

The governing group of the Windsor Farmers Market commented about the training they received on bylaws development commented, "We said to ourselves, "We can do this!""

From a Jefferson County participant, "I have started a fund at Jefferson College to make scholarships available for homeless youth, who are still in school, to go to college. The EJC Homeless Youth Committee will be the ones to decide who gets the scholarships."

"This process of planning has made a huge difference is how we approach the future of Arnold. We are all working together," said one committee member.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
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**Outcome #2**

**1. Outcome Measures**

Average change in mean score of participants' (Likert 5 pt scale with 5 highest) self-reported learning from post-pre-post survey.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2012	2

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Many community leaders, local elected officials and volunteers lack an understanding of the factors that influence the community, the local economy, development strategies and a basic understanding of collaboration and impacting the collective future of the community.

**What has been done**

We offered an array of workshops, training and courses in planning, economic analysis and development, tourism, decision-making and policy, organizational and leadership development, and local government finance. Several foci also included a regional approach, urban neighborhoods, community health, and community food systems, using technology and data as well as offering the Community Development Academy.

**Results**

The St. Louis Neighborhood Leadership Academy "provided the base for my organization to move forward in securing funds and meet our mission."

CDA participants reported increased knowledge and skills in networking, community development processes, working with diverse groups, handling conflict and facilitating participatory planning. "Talking about the "need to please disease" and how to get away from that feeling was so helpful to me as I try to make everything work in my community."

Pilot Grove citizen's work to develop a local grocery realized people are willing to step up and speak out for an issue (122 citizens at the initial meeting), pursue and finance it with outside assistance.

Dent Count Youth Leadership Academy participants noted: I have learned how to better interact

with others in order accomplish a collective goal. I learned how to be a good leader. I have learned a good way to bring problems in the community to attention.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
610	Domestic Policy Analysis
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services
806	Youth Development

#### Outcome #3

##### 1. Outcome Measures

Number of participants reporting taking on increased, different, or new leadership roles in community.

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2012	379

##### 3c. Qualitative Outcome or Impact Statement

###### **Issue (Who cares and Why)**

In order to build sustainable communities research shows there needs to be programs that teach members of the community about the communities. Effective communities provide community leadership programs to build a critical mass of citizens educated about their community to fill leadership roles as they become open over time. Community leadership development is a means of succession planning.

###### **What has been done**

Cohort programs with multiple sessions have been designed based on research that in-depth programs increase skill and knowledge acquisition and graduate commitment to leadership roles. Evaluation data has been used for improvement. Programs provide activities for alumni engagement, opportunities to gain additional skills and knowledge. Programs focused targeted rural, youth, urban neighborhood and low-income community leadership engagement.

**Results**

In Saline County, 90% of the community members involved in the SALT leadership training decided to become actively involved in shaping a leadership program and other local collaborative efforts over the past two years including: becoming the new director of the Chamber of Commerce, moving from being a couch potato to running 5K and half marathons, starting a community development corporation for minorities, planning a Bob Jones jazz festival for the county, getting reconnected with a spouse and 6 children, weathering an illness with unflagging optimism and strength.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services
806	Youth Development

**Outcome #4**

**1. Outcome Measures**

Number of communities/organizations developing or updating a plan.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	71

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Community organizations must be able to effectively collaborate and engage constituents in planning for the future in order to leverage resources and initiate projects and serve constituents. Citizens want input into the community or organization. Funding organizations require a proposal to show relation to a plan. For implementation a plan shows the needed sequence for a successful outcome.

**What has been done**

We provided training through the Community Development Academy, facilitation using methods that allow people to have voice, and technical assistance to build capacity of residents and organizations to engage in planning for community action. We conducted an in-depth series of workshops in community economic development and education in two regions and several courses in basic economic development fundamentals.

**Results**

Board training participants noted, "This gives us new direction. We were able to work as a cohesive group. We developed an action plan in a very short period of time."

Community input for Columbia Imagine identified factors that affect city development and their relationships to one another. The results are serving as a reference for city planners and development of strategies for approaching the goal setting sessions of the next phase.

Within three years of participating in CDA, over 50% reported updated community or organizational plans and 33% indicated developing new community projects.

A Herculaneum city councilman noted, "In 2006 we wrote a plan for Herculaneum and we meant it." The city recently listed 20 accomplishments from the plan it created with Extension facilitation. The mayor said, "We refer to our Master Plan before we start any development or improvement projects. The Plan has guided us wisely for all these years and we revisit it for its relativity every year."

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services
806	Youth Development

**Outcome #5**

**1. Outcome Measures**

Number of communities reporting engagement in plan/project implementation.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
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**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Local officials and organizations wish to implement what citizens and members want. Organizations want to improve services to clientele. Citizens want input into the community or an organization of which they are a member or clientele. Plans are important as guides for future activity. They serve very little purpose if they are merely written and do not serve as a guide for future community action.

**What has been done**

Implementation is long-term commitment and extension works with communities every step of the way. We provided facilitation, technical assistance, resource information and training for communities as they implement plans on a wide range of projects from community gardens to offender re-entry, from economic development to tourism, from preserving historic schools and other buildings to responding to business closures or relocations, from summer youth programs to food access.

**Results**

The Ozarks Country School Association has raised nearly \$45,000 in support of existing one-room schools. A tour map of Texas County one-room schools has been created and is being distributed. Three schools in the Ozarks have been saved from destruction this year. Two non-profit organizations have been formed to fundraise for restoration work on two schools in the region. Two comprehensive books and three oral history projects are underway.

Johnson County CARES planned, opened, and is sustaining a homeless shelter that housed on average 20 residents per night December through March.

A Willamsburg, MO community resident noted, "Nothing we have accomplished would have been possible without the help of Extension. We have had 50+ people involved in making improvements in Markham Springs Recreation Area, have put on annual festivals, and have replaced elementary school playground equipment. The historic rock house has been refurbished and is now available for rent and public use."

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services
806	Youth Development

**Outcome #6**

**1. Outcome Measures**

Million dollar value of resources generated/leveraged/or saved by communities and organizations.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	10

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Failure of traditional economic development strategies forces communities to seek new ways to spur economic activity. To build sustainable communities, education and facilitation for capacity building has to assist communities and organizations in creating resources through increased volunteerism, nonprofit, private and publicly leveraged investment, and generated efficiencies to create sustained economic value and development.

**What has been done**

We provided workshops, facilitated implementation of plans, and provided technical assistance for fundraising and grant writing, volunteer and fiscal management to communities and regions, nonprofit organizations and local governments. Leadership programs included economic components. In-depth and sustained work continued with specific communities and regions.

**Results**

Lexington's Tourism Commission's annual membership drive realized a dramatic 45% increase in revenues, and its annual auction fundraiser resulted in a 76% increase in revenues. Tourism is one of the key economic pillars of the community.

Since gaining its 501c3 status in late 2010, the Healthy Dent County Council raised more than \$10,000 in donations and \$15,000 in state funds, increased program and services revenues to provide fitness opportunities. A Women's Expo raised over \$3,000 while promoting local businesses that help women be healthier.

Community Development Academy participants from the last three years reported leveraging over \$400,000 in community volunteer hours. As a result of Extension facilitated master plans, Hillsboro generated over \$1 million to renovate streets, and Herculaneum's 20 completed projects included a new high school and a \$7 million dollar bridge to divert Doe Run (lead smelter) trucks

away from the center of residential area.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services
806	Youth Development

#### Outcome #7

##### 1. Outcome Measures

Number of businesses and new organizations started.

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Condition Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2012	96

##### 3c. Qualitative Outcome or Impact Statement

###### **Issue (Who cares and Why)**

With the current recession there is a good deal of concern about how unemployment affects the economic wellbeing of families and communities. While the general economic climate has the largest impact on jobs, communities can look for niches that can create local jobs and business. As the economy expands the businesses might continue to grow. Job creation does not happen rapidly and quality planning and decision-making can facilitate economic vitality and growth.

###### **What has been done**

We worked with a variety of communities, organizations and agencies to create decisions that could lead to business/organization creation and build capacity for community and economic growth. Community planning and analysis are an important part of creating capacity for communities for job and business creation and support. We provided training, facilitation, analysis, mapping and other tools in support of communities, regions and urban neighborhoods.

###### **Results**

Participants in the Missouri Rhine Valley Association Fall Fare delighted in the opportunity to evaluate many locally produced products in a venue as beautiful as Robbler Winery, indicating they see the opportunities in shopping locally and enjoying the benefits of products from this region.

A Brunswick committee is focused on opening a retail market store featuring local garden produce and artisan products. The group is visiting with local producers to identify interest, looking at other communities for examples and seeking outside advisory assistance.

After workshops on using social media to advance business, 11 member businesses of Old Trails Regional Partnership have initiated or expanded their business exposure through social media. The OTRP received the MO Department of Tourism Pathfinder Award as "trailblazing marketers who successfully promote and build niche markets."

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
806	Youth Development

#### V(H). Planned Program (External Factors)

##### External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

##### Brief Explanation

The principle factor affecting outcomes is the scarcity and reduced resources for development in communities due to the economic recession. Emergency service programs such as shelters, food pantries, and health clinics are hit particularly hard because they have seen both an increase in demand for their services and a reduction of resources available to support their work. Midsized nonprofits have dwindled through consolidation and the reduction of resources. The mid-sized nonprofits are the organizations that provide the bulk of the human services in small and rural communities. The emerging large organizations are limiting the scope and diversity of their programs, resulting in an explosion of new, smaller, community-based nonprofits with few staff, limited resources and capacity to provide services. Programs designed to strengthen nonprofits tend to focus on small community-based organizations that have fewer other options for educational resources and support

In the current economic climate there is both a need for more resources while fewer resources are available. As a result fewer grants are available for communities to access. This requires more careful planning for the use of resources and scaling back of plans to address communities' and civic organizations' issues. The needs for jobs and incomes are acute, but creating them is difficult because all of the macro economic factors are pushing in the opposite direction. The best that can be hoped is for small increases in jobs and income until the macro economy responds more robustly. In this economic climate apparently small outcomes are really great achievements. The number of natural weather disasters in the state has also impacted community and organizational budgets for conducting and implementing plans.

The forces external to the community locality and structure that affect its status and its future are important to take into account in the process of evaluating programs. These forces include: the devolution of authority for action and service delivery to the community; the double bind created by trying to maintain quality with fewer resources; expectations for sharing power and responsibility; interdependence, diversity, collaboration, and communication; and displacement of the developmental paradigm with the globalization paradigm.

Other external factors affecting outcomes include limitations of faculty time and pressures with decreased federal, state and local funding; the third year of a university hiring freeze; limitations imposed by economic downturn for program sponsors; participants and leaders and their demands and interests changing. The impact of four tornadoes (including Joplin) and the Mississippi and Missouri River flooding retargeted resources, constraining local and state government, and our time in Extension. Finally tracking communities for outcomes over longer periods of time is both difficult and expensive and the causation effect becomes problematic due to other factors that influence action in the community arena.

## **V(I). Planned Program (Evaluation Studies)**

### **Evaluation Results**

Post session or post program evaluations show that programs are well received and valued by communities, leaders, citizens and partners. Nearly 95% of participants surveyed would recommend programs to colleagues and other organizations and communities. Ultimately, for small communities a savings or generation of a few thousand dollars can be substantial.

The most recent Community Development Academy follow-up survey showed: value rated as 4.39 on 5.0 scale; 52% said learning led to new projects; most indicated significant increases in the volunteer hours leverage for communities and organizations. Important to note is that approximately one third of the participants are graduate students at the time they participate, albeit active students on their campuses.

Research shows Community Leadership Development programs are yielding engaged, new, and diverse rural and urban leaders. On average, each local program conducted in the last three-five years resulted in 10 community projects. A path analysis has been developed that connects individual outcomes at participant level to community outcomes.

Over the past seven years, the Extension Community Economic and Entrepreneurial Development program leveraged more than \$275 million in economic value for the

communities and regions involved. In addition to job retention and development, new leaders and new networks have emerged to support viable economic development. Participants in the Stronger Economies Together program have developed plans that have translated into stronger collaboration and development of new opportunities in these regions and other areas.

Other long-term results are most often reported from in-depth engagement with communities and nonprofit organizations for planning that involves purposefully including the diverse community voices. The continued attribution and acknowledgment of Extension's role in facilitating the creation of plans for communities as they implement and complete plans and then revise plans is indicative of the role we can play in revitalizing both urban and rural communities. While examples abound, leaders from Herculaneum, Hillsboro, Arnold, Williamsburg, Johnson County, Saline County, Lafayette County and neighborhoods such as St. Louis' Old North and the Independence Northeast are among the most outspoken about the role we have played in their communities.

### **Key Items of Evaluation**

Data collection is consistent with the key outcome indicators developed in the North Central region for CRED programs. Most workshops use a similar survey at the end of the session to assess learning. Protocols have been developed for collection of impact data regarding application of knowledge and changes effected for communities and organizations, such as implementation and results, leverage of resources etc. The numbers reported rely on participant and key informant attribution. In addition, participants in community leadership programs receive follow-up surveys 6-12 months to determine learning and additional application, using a normed survey developed in concert with several other North Central states. For the Community Development Academy, participants provide in-depth information about their learning on the key topics through daily written feedback and a focus group at the end of each course. An online survey is conducted approximately every three years to determine mid-term and longer impacts.

Our evaluation study of ExCEED (community economic development) shows that formation of the human capital and the social capital is what underpins the empirical data collected about impact in terms of jobs created, businesses started, resources leveraged and generated. The Community Development Academy is a proven model that increases capacity to address complex community issues and work in diverse environments. Participants come from around the US and the world and are applying what they have learned to all five program areas in NIFA.

Community and organizational outcomes generally are accrued in the long term. For example, a planning process is by definition about the future. Over time other factors can intervene which can stop a community or cause it to change its plans. Often it takes a community some time to re-group.

Measuring long-term impact is not a precise science. Little research has been done that can be applied and transferred. Case studies and the ability to tell the story over time are important, as the results are contextual. Rarely are we able to prove causation. Communities and participants report that money was saved, but do not report an amount. In addition to the fact that our numbers are those attributed by leaders and participants (and at that, we don't always sufficiently ask about ongoing impact), the impact in terms of social and civic value as well as economic value is likely much higher.

**V(A). Planned Program (Summary)**

**Program # 19**

**1. Name of the Planned Program**

Business Development

Reporting on this Program

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
602	Business Management, Finance, and Taxation	70%			
603	Market Economics	10%			
604	Marketing and Distribution Practices	10%			
608	Community Resource Planning and Development	10%			
	<b>Total</b>	100%			

**V(C). Planned Program (Inputs)**

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	11.0	0.0	0.0	0.0
Actual Paid Professional	10.0	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
292612	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
319993	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

Business counseling and training.

**2. Brief description of the target audience**

Small business owners, managers and their employees. Individuals who want to start a business. Partners, stakeholders and funding agencies, including elected officials.

**3. How was eXtension used?**

Made available for clients and training attendees.

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	2010	442135	0	0

**2. Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

Year: 2012

Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2012	Extension	Research	Total
Actual	0	0	0

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Number of counseling clients.

<b>Year</b>	<b>Actual</b>
2012	554

**Output #2**

**Output Measure**

- Training customer satisfaction (scale 1-7 high).

<b>Year</b>	<b>Actual</b>
2012	7

**Output #3**

**Output Measure**

- Number of applied research projects.

<b>Year</b>	<b>Actual</b>
2012	0

**Output #4**

**Output Measure**

- Website statistics (in millions).

<b>Year</b>	<b>Actual</b>
2012	1

**Output #5**

**Output Measure**

- Counseling hours.

<b>Year</b>	<b>Actual</b>
2012	2829

**Output #6**

**Output Measure**

- Counseling customer satisfaction (scale 1-7 high).

<b>Year</b>	<b>Actual</b>
2012	7

**Output #7**

**Output Measure**

- Training attendees.

<b>Year</b>	<b>Actual</b>
2012	2414

**Output #8**

**Output Measure**

- Training events.

<b>Year</b>	<b>Actual</b>
2012	181

**Output #9**

**Output Measure**

- Training hours x attendees.

<b>Year</b>	<b>Actual</b>
2012	7242

**Output #10**

**Output Measure**

- Number of counseling sessions.

<b>Year</b>	<b>Actual</b>
2012	1520

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Increase in knowledge.
2	Business owners will start or expand a business as appropriate to their business goals.
3	Business owners will make or revise decisions about the type of business or business structure as appropriate to their business goals.
4	Business owners will prepare a business plan as appropriate to their business goals.
5	Business owners will develop financial projections as appropriate to their business goals.
6	Business owners will seek start-up funding as appropriate to their business goals.
7	Business owners will develop management systems as appropriate to their business goals.
8	Business owners will investigate legal and compliance issues for their business as appropriate to their business goals.
9	Business owners will develop a marketing plan as appropriate to their business goals.
10	Business owners will commercialize products as appropriate to their business goals.
11	Business owners will inform stakeholders of the outcome of their work with the University of Missouri Extension Business Development as appropriate to their business goals.
12	Number of jobs created.
13	Dollar amount of sales and contracts (in millions).
14	Dollar amount of business investments, including loans and equity approved loans (in millions).
15	Number of new businesses started.

**Outcome #1**

**1. Outcome Measures**

Increase in knowledge.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	1

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Learning exceeds expectation by increasing 1.27 on a 5-point scale. This is important because it demonstrates the effectiveness of classroom training. Attendees and stakeholders care about training effectiveness.

**What has been done**

Faculty use branded programs to ensure high quality training. We have also developed peer review teams to ensure quality of offerings and skill of the instructor.

**Results**

Results were excellent, because goal of 1.0 was significantly exceeded.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
602	Business Management, Finance, and Taxation
603	Market Economics
604	Marketing and Distribution Practices
608	Community Resource Planning and Development

**Outcome #2**

**1. Outcome Measures**

Business owners will start or expand a business as appropriate to their business goals.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	60

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Businesses started are the key to creating jobs. Kauffman Foundation research demonstrated that companies under five years old create most of the net new jobs. This makes our work important in helping local communities' economy recover from the Great Recession.

**What has been done**

Business Development Specialists are trained how to assist new businesses startups' achieve success.

**Results**

Excellent, exceeded goal

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
602	Business Management, Finance, and Taxation
603	Market Economics
604	Marketing and Distribution Practices
608	Community Resource Planning and Development

**Outcome #3**

**1. Outcome Measures**

Business owners will make or revise decisions about the type of business or business structure as appropriate to their business goals.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	7

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Most business owners know the structure desired before intervention, however for those looking for alternative structures it is important.

**What has been done**

Business Development Specialist responds to request and find needed expertise when issues identified, normally this is recommending good attorneys to assist in the establishment of structure.

**Results**

Results are appropriate as this is not the key focus of the program, instead it is an issue that comes up and when identified it is important to resolve.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
602	Business Management, Finance, and Taxation
603	Market Economics
604	Marketing and Distribution Practices

**Outcome #4**

**1. Outcome Measures**

Business owners will prepare a business plan as appropriate to their business goals.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	170

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Business plans are a leading indicator to business startup and expansion. Communities need business activity in order to be viable.

**What has been done**

We keep the Business Development Specialist trained and equipped on how to effectively develop business plans

**Results**

Estimated results are very good with 170 plans developed. The focus is on helping owners and managers plan and manage effectively.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
602	Business Management, Finance, and Taxation
603	Market Economics
604	Marketing and Distribution Practices
608	Community Resource Planning and Development

**Outcome #5**

**1. Outcome Measures**

Business owners will develop financial projections as appropriate to their business goals.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	805

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Financial projections help owners think through ideas that start or expand businesses. It also assists in attracting the needed capital to develop the plan.

**What has been done**

Added software to assist Business Development Specialist. In addition we provided training enabling specialist to become certified as NDC Economic Development Finance Professionals. This makes our specialist capable to set and work with any economic development professional or lender on an equal basis.

**Results**

Specialists developing financial projections attracted \$13,525,107 in closed loans and equity, which is a leading indicator to jobs being created. We view this as an effective result.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
602	Business Management, Finance, and Taxation
603	Market Economics
604	Marketing and Distribution Practices
608	Community Resource Planning and Development

**Outcome #6**

**1. Outcome Measures**

Business owners will seek start-up funding as appropriate to their business goals.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	760

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Start-up businesses and business growth are the keys to job growth; funding is a good leading indicator.

**What has been done**

Business Development Specialist offer training for businesses and are trained to understand how to assist business owners and managers seek growth and start-up funding.

**Results**

Results are good.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
602	Business Management, Finance, and Taxation
603	Market Economics
604	Marketing and Distribution Practices
608	Community Resource Planning and Development

**Outcome #7**

**1. Outcome Measures**

Business owners will develop management systems as appropriate to their business goals.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	120

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Management systems are critical for companies that are ready to scale their idea or business. This is where many businesses fail because they exceed the knowledge of the owner or manager.

**What has been done**

Assessment processes are under development to enable expansion of this area because about 70% of all jobs occur during this phase (growth) of business development.

**Results**

Results are good but we have a lot of undeveloped potential. Kathy Macomber, BDS in Lamar is chair of a peer effort to develop better coaching and assessment techniques to improve results. Those were rolled out at our annual meeting and should be fully deployed during the upcoming year.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
602	Business Management, Finance, and Taxation
603	Market Economics
604	Marketing and Distribution Practices
608	Community Resource Planning and Development

**Outcome #8**

**1. Outcome Measures**

Business owners will investigate legal and compliance issues for their business as appropriate to their business goals.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	5

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Legal issues are important to make sure business a is structured correctly and in compliance with local, state and federal laws and regulations

**What has been done**

Results are focused on finding appropriate help, as Business Development Specialists are not experts in legal or compliance issues.

**Results**

Good results are dependent on effective assessments and referrals. At this, we are successful.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
602	Business Management, Finance, and Taxation
603	Market Economics
604	Marketing and Distribution Practices
608	Community Resource Planning and Development

**Outcome #9**

**1. Outcome Measures**

Business owners will develop a marketing plan as appropriate to their business goals.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	75

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Helping business owners and managers access markets to grow sales is an effective way to create jobs for a community. This year we deployed a new economic gardening program that is modeled after and trained by the best in the U.S.

**What has been done**

This year we developed and deployed an economic gardening program to link to our procurement program and international trade program. This enables our Business Development Specialist to assist with identifying best market opportunities for the company, whether domestic, government or international. Marketing plans enable that knowledge to be converted into a plan that can be communicated and deployed.

**Results**

Results are good, but still as an early stage in the process, we invested a lot of time in training, which lowered results this year.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
602	Business Management, Finance, and Taxation
603	Market Economics
604	Marketing and Distribution Practices

**Outcome #10**

**1. Outcome Measures**

Business owners will commercialize products as appropriate to their business goals.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Universities care about research being commercialized to demonstrate their importance in supporting the economic viability of the community.

**What has been done**

We have developed a formal program to enable assistance with opportunities to commercialize technology, however this work is now specialized and mostly accomplished with colleagues with in Extension's BDP.

**Results**

Results are actually good because this work is primary handled by a sister program and as a result it is not the key focus of the Business Development Specialist.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
602	Business Management, Finance, and Taxation
603	Market Economics
604	Marketing and Distribution Practices
608	Community Resource Planning and Development

**Outcome #11**

**1. Outcome Measures**

Business owners will inform stakeholders of the outcome of their work with the University of Missouri Extension Business Development as appropriate to their business goals.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	102

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

It is very important to communicate the results and importance of our work to our stakeholders. It is also critical that stakeholder understand the impact on the economic viability of communities and people's lives.

**What has been done**

Ask those who receive service to send letters to elected official regarding effectiveness of our program. Also did several press releases and other PR work to communicate results.

**Results**

Average, but ok because of related work.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
602	Business Management, Finance, and Taxation
603	Market Economics
608	Community Resource Planning and Development

**Outcome #12**

**1. Outcome Measures**

Number of jobs created.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	318

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

The Great Recession has made Job creation the number one issue in Missouri.

**What has been done**

Business Development Specialists focus on using training and tools from the leading indicators categories discussed to create and retain jobs.

**Results**

Results are good as this goal was achieved.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
602	Business Management, Finance, and Taxation
603	Market Economics
604	Marketing and Distribution Practices
608	Community Resource Planning and Development

**Outcome #13**

**1. Outcome Measures**

Dollar amount of sales and contracts (in millions).

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	29307935

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Sales support creation of jobs and reduction of debt, which enable both the business and community to achieve an economically sound footing.

**What has been done**

Through assisting business owners and managers with financial and marketing issues, it has enabled the Business Development Specialist to achieve a good result.

**Results**

Results are significantly improved from last year, we view them as on track.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
602	Business Management, Finance, and Taxation
603	Market Economics
604	Marketing and Distribution Practices
608	Community Resource Planning and Development

### **Outcome #14**

#### **1. Outcome Measures**

Dollar amount of business investments, including loans and equity approved loans (in millions).

#### **2. Associated Institution Types**

- 1862 Extension

#### **3a. Outcome Type:**

Change in Condition Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	13525107

#### **3c. Qualitative Outcome or Impact Statement**

##### **Issue (Who cares and Why)**

Communities care about the number of businesses started because it is an indicator of their economic future

##### **What has been done**

Training and branded programming are in place. In addition, a significant amount of training is done for dislocated workers considering a business or self-employment start.

##### **Results**

Results are effective as goal was exceeded

#### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
602	Business Management, Finance, and Taxation
603	Market Economics
604	Marketing and Distribution Practices
608	Community Resource Planning and Development

**Outcome #15**

**1. Outcome Measures**

Number of new businesses started.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	56

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Communities care about the number of businesses started because it is an indicator of their economic future

**What has been done**

Training and branded programming are in place. In addition, a significant amount of training is done for dislocated workers considering a business or self-employment start.

**Results**

Results are effective as goal was exceeded

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
602	Business Management, Finance, and Taxation
603	Market Economics
604	Marketing and Distribution Practices
608	Community Resource Planning and Development

## **V(H). Planned Program (External Factors)**

### **External factors which affected outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

### **Brief Explanation**

#### **Natural Disasters (drought, weather extremes, etc.)**

Business Development Specialist (BDS) devoted significant time to the Joplin disaster caused by the May of 2011 tornado. A Business Resource Center was established and opened within four days in partnership with SBA. The Center was created to support the redevelopment of 500 damaged or lost businesses. Specialist also worked on the Missouri River flooding caused by Corps of Engineers releasing water in the uplands.

#### **Economy**

Developing and saving businesses has been the focus of the BDS, as the metrics indicate it is with a great deal of success.

#### **Appropriations changes**

State funding is a major issue and funding losses have hindered Extension's BDS programming. However, we have been somewhat successful in offsetting losses with grant funding, but that now seems to be at risk.

#### **Public Policy changes**

Tax policy and regulation are reducing Missouri's business activity significantly below natural levels. Businesses have become unwilling to commit to unknown tax or regulatory risk. For business to make effective investment and growth decisions they need a known tax and regulatory structure for the time horizon of business planning. Short-term tax and fiscal policy has caused businesses to delay decisions that would otherwise be made, particularly around issues that create jobs.

#### **Government Regulations**

See public policy statement

#### **Competing Public priorities**

Limited funding is creating competition for programs like the Business Development Specialist that actually generate tax revenue in excess of the cost of delivery.

This concept is not well understood by elected officials, so we wind up competing with programs that expend funds for other purposes. The reality is our program results cause an increase in tax revenues resulting in the government having expanded capacity to fund

other programs.

**Competing Programmatic Challenges**

None known

**Populations changes (immigration, new cultural groupings, etc.)**

Missouri is losing the individuals with the greatest opportunity to create jobs because of the lack of infrastructure to support technology commercialization, entrepreneurship and early stage scaling of businesses.

**V(I). Planned Program (Evaluation Studies)**

**Evaluation Results**

Results are good with an improving trend. Significant untapped potential still exist with the program. Efforts are underway to systemize approaches to take advantage of this potential. Eight teams are in place to develop the disciplines of Marketing, Management and Finance capacities. The focus is develop systemize capacity to develop entrepreneurs.

**Key Items of Evaluation**

Development of small business owners and entrepreneurs is one of the greatest opportunities for Missouri to develop economically, particularly in rural areas. Results indicate it works, our goal is to lead an effort to develop the networks and skills needed to make that happen timely.