2011 South Dakota State University Combined Research and Extension Annual Report of Accomplishments and Results

I. Report Overview

1. Executive Summary

As a result of major budget cuts over the past several years, the College of Agriculture and Biological Sciences at South Dakota State University was forced to change the way it accomplishes its land-grant mission of teaching, research and Extension. While research and academics are not immune to the funding cuts, the most visible change was in SDSU Extension. Half way through fiscal year 2011, it was announced that programming would no longer be delivered through the county offices, but rather eight regional centers would house all field specialists. Even though many people saw the restructuring as extreme, many of the educators remained diligent in their professions; however, approximately 45 educators were lost through the process. While difficult, the restructuring has provided SDSU Extension with unique opportunities to examine itself and emerge stronger, more sustainable, and as committed as ever to South Dakota.

The College of Agriculture and Biological Sciences at South Dakota State University greatly enhances the quality of life in South Dakota through teaching, research and outreach. This is accomplished with research at the South Dakota Agricultural Experiment Station, educational programming conducted by SDSU Extension, and through Academic Programs. The SDSU College of Education and Human Sciences is an important partner to the ABS College, contributing to the understanding of the world and how it affects health and wellness, educational processes, and environmental issues.

The South Dakota Agricultural Experiment Station conducts research that will ultimately enhance the quality of life for South Dakotans. Much of the Agricultural Experiment Station research is done at the SDSU campus in Brookings, however, a considerable amount is conducted at six field stations and at the West River Agricultural Research in Rapid City. Current research priorities for AES are based on bio-renewable energy economic development, applied genomic solutions, natural resource stewardship, community innovation and leadership, and enhancing grain/livestock food system economic development. Educational programming for SDSU Extension is offered within five program areas: Competitive Crop Systems, Competitive Livestock Systems, Youth and Community Leadership, Food and Family, and Urban/Rural Initiatives.

The 2011 population estimate of South Dakota by the US Census Bureau is 824,082. From 2000 to 2010, it was the fastest growing state in the Midwest. The state grew by 7.9%; however, the minority population had a significant gain of 38.1 percent. Lincoln County continues to be the fastest growing county in South Dakota. One-third of the population is found in the two largest counties, and 47 percent of the population is found in the five largest counties. Forty-one counties had a loss in population since the 2000 census, most of which also have had a continual decline in population during the past 50 years.

South Dakota's poverty rate of 13.7% is very close to the national average. Poverty rates in many South Dakota counties continue to be among the highest in the United States. Five of the 10 poorest counties in the country are in South Dakota. Unfortunately, the population of these five counties combined is 82% American Indian or Alaska Native.

The American Indian population represents nearly nine percent of the total state population. Unemployment, alcoholism, poor diet, obesity, diabetes and other health and social problems are prevalent in reservation areas with high poverty rates. South Dakota State University has developed working agreements with the four 1994 Land Grant Institutions located in South Dakota, and is continuing to offer programs that address these social and economic needs. South Dakota has a substantial American Indian population, and we place great value on education programs that serve this audience. While all Extension programs are available to the entire population of South Dakota, many of the programs that target American Indian needs are funded through FRTEP.

Total Actual Amount of professional FTEs/SYs for this State

Year: 2011	Extension		Research	
	1862	**1890**	**1862**	**1890**
Plan	128.3	0.0	157.8	0.0
Actual	106.9	0.0	190.8	0.0

II. Merit Review Process

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

- Internal University Panel

- External Non-University Panel

- Expert Peer Review

2. Brief Explanation

All Ag Experiment Station research projects are subjected to peer and merit review prior to implementation. All Hatch and multi-state projects require independent peer reviews from two scientists that are knowledgeable in the respective subject area. The department head or a departmental executive committee identifies peer reviewers. The department head and the AES Director serve as merit reviewers.

A standard review instrument facilitates peer and merit reviews. Reviewers are required to comment on why the proposed research is needed, it's relevance to agriculture, the target audience, and how it compliments other research. Proposals for research grants that are funded by stakeholder groups are subjected to review by the stakeholders themselves and by college administrators. Much like the CRIS system, stakeholder groups ask for annual progress reports on funded research.

SDSU Extension administrators serve as the merit review team for the respective components of the plan of work. Department heads, specialists and educators conduct peer reviews of programs.

III. Stakeholder Input

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

- Use of media to announce public meetings and listening sessions
- Targeted invitation to traditional stakeholder groups
- Targeted invitation to non-traditional stakeholder groups
- Targeted invitation to traditional stakeholder individuals

- Targeted invitation to non-traditional stakeholder individuals
- Targeted invitation to selected individuals from general public
- Survey of traditional stakeholder groups
- Survey of traditional stakeholder individuals
- Survey specifically with non-traditional groups
- Survey specifically with non-traditional individuals

Brief explanation.

The South Dakota State University College of Agriculture and Biological Sciences solicited formal stakeholder input in many forms, from many sources, and at many locations. Methods of inviting stakeholder input included meetings or other communication with: Agricultural Experiment Station Research Farm Advisory Boards; Research Review Meetings with agricultural check-off groups including the South Dakota Soybean Research and Promotion Council, South Dakota Corn Utilization Council, South Dakota Beef Industry Council, South Dakota Oilseeds Council, South Dakota Pork Producers Council, South Dakota Wheat Commission, and others. Input was also sought from state agricultural commodity groups including Ag Unity, the South Dakota Pork Alliance, the South Dakota Stockgrowers/Cattlewomen, and the South Dakota Veterinary Medical Association; and from meetings with organizations that fund research such as the National Institutes of Health, U.S. Department of Energy, National Science Foundation, NASA, Environmental Protection Agency, and the National Centers for Disease Control and Prevention. In addition, stakeholder input was solicited from governmental agencies, including: the Office of the Governor, the South Dakota Department of Agriculture, South Dakota Department of Environment and Natural Resources, South Dakota Game, Fish and Parks, South Dakota Department of Education and Cultural Affairs, Office of the State Veterinarian, Social Services, Job Service, National Agricultural Statistics Service, 1994 Institutions, and others. In addition, stakeholder input was sought at SDSU field day tours; SDSU agricultural meetings; Community Leader Meetings throughout the state; meetings with the South Dakota Board of Regents, South Dakota Legislature, and other elected officials and boards; and events open to the public such as the South Dakota State Fair and DakotaFest. Additional input was solicited during comprehensive CSREES Departmental and Institutional Reviews, which span teaching, research and Extension activities.

Input specifically for projects involving McIntire-Stennis funds was sought from the South Dakota Nurseryman's Association, the South Dakota Parks and Recreation Association, the U.S. Forest Service, and also from special project-oriented groups.

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
- Open Listening Sessions
- Needs Assessments
- Use Surveys

Brief explanation.

County Extension Advisory Boards provide citizen input, guidance, and direction for county programming that target priority needs and issues, and are appointed by County

Commissioners. Membership on this board is expected to represent the racial population mix of the county and of the various interest groups served by Extension. The State Extension Advisory Board provides guidance and direction to SDSU Extension, and informally to the Agricultural Experiment Station. Members of this board are elected from each County Extension Advisory Board, and the 1994 land grant institutions.

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
- Survey of traditional Stakeholder groups
- Meeting with the general public (open meeting advertised to all)
- Survey specifically with non-traditional groups

Brief explanation.

Stakeholder input is directed across the broad scope of the College of Agriculture and Biological Sciences and to activities supported by Smith Lever, Hatch, McIntire-Stennis, and other funds. Stakeholder input was not directed exclusively to SDSU Extension or Agricultural Experiment Station. The multidisciplinary input system used a variety of techniques that included: direct input, surveys and questionnaires, nominal group technique and other appropriate methods.

3. A statement of how the input will be considered

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

Brief explanation.

Stakeholder input is reviewed, considered and used as a basis to create SDSU Extension programs and AES research projects. This happens at the state level, when SDSU Extension program leaders consider developing new programs, or renew existing programs. It happens at the field education unit and county level when District Extension Directors and Extension Educators implement programs. For the Agricultural Experiment Station, it occurs when scientists and department administrators consider the allocation of resources and application of grant funds in support of research projects.

Brief Explanation of what you learned from your Stakeholders

Land grant universities have traditionally been known for rural development efforts. In response to stakeholder requests over the past decade, SDSU Extension has offered an increasing amount of community and economic development programs. SDSU Extension continues

to enhance Community Innovation and Leadership as a formal educational program area.

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
3541447	0	3111028	0

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	4318529	0	3111028	0
Actual Matching	4318529	0	3170146	0
Actual All Other	0	0	0	0
Total Actual Expended	8637058	0	6281174	0

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous			
Carryover	3535930	0	0	0

V. Planned Program Table of Content

S. No.	PROGRAM NAME
1	Global Food Security and Hunger
2	Climate Change
3	Sustainable Energy
4	Childhood Obesity
5	Food Safety

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Global Food Security and Hunger

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
201	Plant Genome, Genetics, and Genetic Mechanisms	0%		35%	
202	Plant Genetic Resources	0%		3%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	0%		16%	
205	Plant Management Systems	22%		0%	
302	Nutrient Utilization in Animals	0%		20%	
304	Animal Genome	0%		2%	
307	Animal Management Systems	0%		4%	
315	Animal Welfare/Well-Being and Protection	2%		0%	
405	Drainage and Irrigation Systems and Facilities	12%		0%	
501	New and Improved Food Processing Technologies	0%		2%	
502	New and Improved Food Products	0%		12%	
601	Economics of Agricultural Production and Farm Management	15%		3%	
602	Business Management, Finance, and Taxation	17%		3%	
801	Individual and Family Resource Management	32%		0%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2011	Extension		Research	
	1862	**1890**	**1862**	**1890**
Plan	45.5	0.0	89.0	0.0
Actual Paid Professional	39.5	0.0	108.5	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**
1597856	0	1433730	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
1597856	0	1566523	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

- Provide Vocational and Agricultural Skills Training
- Partner with Oglala Sioux Tribe Land Office
- Partner with Lakota Funds
- Partner with USDA Farm Service Agency
- Partner with Lakota Ranch Beginning Farmer/Rancher Program
- Partner with Local Producers to Serve as Mentors
- Conduct Commodity Market Workshops
- Conduct Estate Planning Conferences
- Develop Personal Finance Program
- Conduct Agricultural Drainage Workshops and Forums
- Partner with Other Land Grant Universities

2. Brief description of the target audience

-
- Oglala Lakota Beginning Farmers and Ranchers
- Farmers
- Ranchers
- Producers
- Ag Land Owners
- Women in Agriculture
- Drainage Contractors

3. How was eXtension used?

Upon completion of a crosswalk between the Knowledge Area Classification System and the NIFA Priority Areas, approximately 37% of SDSU Extension programming efforts were expended on Global Food Security and Hunger. For this reporting period, programming was delivered primarily through SDSU Extension Issue-Based Teams. A crosswalk to the NIFA Priority Areas was also performed with the Issue-Based Teams, based on team descriptions and impact indicators. SDSU Extension programming efforts for Global Food Security and Hunger are administered through SDSU's Agriculture and Natural Resources program area. SDSU Extension was used to deliver numerous educational activities such as presentations, seminars, field tours and workshops.

V(E). Planned Program (Outputs)

1. Standard output measures

2011	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	11515	25200	5229	1260

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

Year: 2011

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2011	Extension	Research	Total
Actual	16	38	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

● Number of AES research projects which are intended to enhance agricultural profitability and address global food security.
Not reporting on this Output for this Annual Report

Output #2

Output Measure

● Number of CES programs for producers which are intended to enhance agricultural profitability and address global food security.
Not reporting on this Output for this Annual Report

Output #3

Output Measure

● Number of AES projects that are specifically related or intended to enhance Global Food Security and Hunger.

Year	Actual

2011	49

Output #4

Output Measure

● Increase the Number of Native American Producers.

Year	Actual
2011	0

Output #5

Output Measure

● Increase Family Financial Stability.

Year	Actual
2011	0

Output #6

Output Measure

● Prepare Families for Farm Transitions.

Year	Actual
2011	0

Output #7

Output Measure

● Increase Personal Financial Skills.

Year	Actual
2011	0

V(G). State Defined Outcomes

O. No.	OUTCOME NAME
V. State Defined Outcomes Table of Content	
1	Average dollar per head of economic impact because of improved livestock production efficiencies.
2	Number of producers indicating greater knowledge of market indicators affecting their marketing plan.
3	Number of producers using in-depth analysis/ration balancing.
4	Number of producers growing alternative crops.
5	Number of Graduates of the Pine Ridge Beginning Farmer/Rancher Program.
6	Number of People that Increased the Financial Stability for their Family.
7	Increase Knowledge of Crop and Livestock Commodity Markets.
8	Participants Will Learn Aspects of Personal Financial Skill Building.
9	Increase Increase Knowledge of Agricultural Drainage.

Outcome #1

1. **Outcome Measures**

   Average dollar per head of economic impact because of improved livestock production efficiencies.

   Not Reporting on this Outcome Measure

Outcome #2

1. **Outcome Measures**

   Number of producers indicating greater knowledge of market indicators affecting their marketing plan.

   Not Reporting on this Outcome Measure

Outcome #3

1. **Outcome Measures**

   Number of producers using in-depth analysis/ration balancing.

   Not Reporting on this Outcome Measure

Outcome #4

1. **Outcome Measures**

   Number of producers growing alternative crops.

   Not Reporting on this Outcome Measure

Outcome #5

1. **Outcome Measures**

   Number of Graduates of the Pine Ridge Beginning Farmer/Rancher Program.

2. **Associated Institution Types**

   - 1862 Extension
   - 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	9

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Much of the land on Pine Ridge Reservation in South Dakota is operated by non-Native producers. It is the desire of the tribe to improve local land utilization, and support sovereignty through an increase of Native American producers. New producers with agricultural production experience do not have the framework to match capital and land access to starting their own agricultural enterprise.

What has been done
The Pine Ridge Beginning Farmer/Rancher Program was started by SDSU in the fall of 2009. In 2011, 16 students enrolled in an intensive training program in vocational and agricultural skills. Eleven core subject areas were taught along with 26 short courses. Subject matter in the program includes personal finance, range management, beef quality assurance, livestock and production methods, herd health, winter feeding, grazing plans and Ag mechanics.

Results
In 2011, nine students graduated from the program. Overall, 15 new ranchers have been provided with the necessary skills to engage in a livestock production operation on Pine Ridge Reservation. Thus far, seven of the students that have completed the course are involved as owners or partners in a livestock operation. This represents a significant economic impact for the reservation area. A governing board has been established with the goal of providing training opportunities and to continue the development of the organization.

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #6

1. Outcome Measures

Number of People that Increased the Financial Stability for their Family.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	91

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
With rising land values and profit margins narrowing, estate planning has never been more important. And women?s involvement in agribusiness is increasingly important as a component of success in farm and ranch production and management.

What has been done
SDSU Extension economists conducted estate planning workshops in several cities. Additionally, workshops and presentations were conducted to inform producers how to utilize marketing and insurance tools to manage their risk, Also, SDSU Extension has implemented projects and programs targeted for women in agriculture. Programs and presentations include:
Annie?s Project/SASSY
Women?s Ag Day
Tax Planning Clinic
How Big is Enough?
Planning for Retirement
Value in Decision Making
Sustaining the Legacy
Estate Planning

Results
Producers have said that the value of the Estate Planning and Farm Transition Conferences held by SDSU Extension are worth a million dollars ? due to the changes they made to their estate plan and the reduction of potential estate taxes. Legacy Workshops conducted for seven farm and ranch operations were very successful with the all of the participants saying the program was beneficial. Half the participants had written personal, wealth and management inventories and 38% held family business meetings to help guide their future. Farm and ranch women in South Dakota have been empowered and prepared for increased participation in agricultural decision-making and management though SDSU Extension programs. More than 200 women participated in Annie?s Project/SASSY training programs.
Number of people that increased their knowledge of financial records or record keeping skills 199.
Number of people that increased the use of financial records 89.
Number of people that increased their knowledge of estate planning and farm transitions 137.

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
801	Individual and Family Resource Management

Outcome #7

1. Outcome Measures

Increase Knowledge of Crop and Livestock Commodity Markets.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
There is no elimination of risk for crop and livestock producers, but with the proper risk management tools, producers can become more knowledgeable and make better decisions, leading to higher profits for their operation.

What has been done
SDSU Extension conducted workshops and presentations to inform producers how to utilize marketing and insurance tools to manage their risk.
Programs and presentations include:
Beef Outlook and Management
Cattle Markets
Cattle Market Review
Finishing Budgets
Crop Costs and Outlook
Crop Livestock Risk Management Workshop
Changes in Crop Insurance
Crop Budgets and Outlook

Results

Number of producers that increased their knowledge of the marketing tools available 153.
Number of producers that increased their understanding that marketing needs to tie directly to breakeven 78.
Number of producers that increased their understanding about the role of livestock insurance 9.
Number of producers that increased their understanding about the role of crop insurance 71.
Number of program attendees or contacts 3701.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management

Outcome #8

1. Outcome Measures

Participants Will Learn Aspects of Personal Financial Skill Building.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	11

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
As poverty in South Dakota continues to rank higher than the national average, it is imperative that citizens have the opportunity to learn how to budget their money and save for their future needs.

What has been done
SDSU Extension developed the Save Wisely Spend Smart curriculum that teaches participants a four part financial series. Participants learned about Budgeting Basics, Credit Basics, Digging Out of Debt, Planning for the Future through Savings & Investment, and Developing Your Individual Plan for the Future. Materials included for the series included a student notebook, handouts, budget book, cash tracker, debit card register and financial calculators. Eleven people in five counties participated in the program.

Results

Ninety-eight percent of the participants reported gaining knowledge in basic budgeting. Several people stated that the most valuable thing they learned was how to set up a budget and the importance of setting financial goals. Ninety-one percent of the participants said that they gained knowledge in credit basics, with the biggest gain in understanding credit definitions. Eighty-four percent reported knowledge gain in dealing with debt, with finding spending leaks and paying down debt as changes to make in the short term. Ninety percent of the people also reported knowledge gain with savings and investments. Many participants reported being excited and inspired to apply their new gained knowledge to their situations.

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #9

1. Outcome Measures

Increase Increase Knowledge of Agricultural Drainage.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Increasing trends in precipitation, high agricultural commodity prices and rising land prices have led to an increased interest in subsurface tile drainage in South Dakota. Improved drainage benefits agricultural production by lowering high water tables, which reduces crop stress from poor aeration and allows for timely field operations. This results in increased yields, but there concerns about negative environmental impacts. Technology makes tiling easier today, but a lot can go wrong if landowners don?t understand the technical and federal aspects of tiling.

What has been done

SDSU, partnering with North Dakota State University and the University of Minnesota, hosted several agricultural drainage workshops and forums. Topics covered during the workshop include:

design fundamentals, design tools, layout considerations, pipe grades, pipe sizing, cut sheets, pump (lift) station design, managed (controlled), drainage design, soils data and tools for drainage design, yield mapping and drainage, wetland delineations, and legal considerations.

Results

More than 100 participants, including producers, farmers, drainage contractors, and county employees, representing nearly 100,000 acres took advantage of the learning opportunities. Of the 67 survey respondents, 80% said that the information they obtained was useful to very useful. Most participants would like to see the workshops held every 1-2 years and many would like to see the workshops last longer. An overwhelming number of learning experiences were reported, notably that there are many benefits to drain management and that with a better understanding, all entities can sit down at the table and discuss tiling, knowing that it can be done without hurting the environment.

4. Associated Knowledge Areas

KA Code	Knowledge Area
405	Drainage and Irrigation Systems and Facilities

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

In April 2011, all SDSU Extension employees were informed of the decision for the restructuring of SDSU Extension. Due to the severity of the restructuring, involvement in program reporting became disrupted and less complete. Approximately 45 educators were lost through the restructuring process. Despite the obstacles, many employees persevered and were able to offer successful impacts for this reporting effort.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

For this reporting period, SDSU Extension's programming efforts are delivered through Issue-Based Teams. Approximately 10 of the 33 teams fit under the umbrella of Global Food Security and Hunger. Each of these teams meet face-to-face several times a year and also via webinars and other communication methods periodically. Orchestrated by team leaders, program planning occurs that includes developing impact indicators that are used to help measure the success of the program. These indicators are inclusive, not exclusive to the process of evaluating the program. Most of the evaluation studies for SDSU Extension programs are conducted in-house with some combination of the teams, program

leaders, district directors and SDSU Extension administration. The data collection methods for the individual projects vary from pre and post surveys, post then pre surveys, and post interviews, but the most common method is post only survey.

Key Items of Evaluation

Due to the restructuring of SDSU Extension, many factors have made good evaluation results practically impossible. Many changes started taking place half way through the reporting year and many changes will be taking place for at least the next full year. While SDSU's College of Agriculture and Biological Sciences resources have been greatly reduced, SDSU Extension is finding opportunities to make big improvements. With the increased importance of program impact and evaluation, SDSU Extension is taking several steps to become more accountable. Currently, we do not have a single individual dedicated to evaluation, but we are now in the process of hiring a fulltime evaluator. We are also beta testing a new Program Business Plan that includes a detailed section on evaluation plans. The completion of the plan will be mandatory for all SDSU Extension programs. As we move forward, we will not only know that our programs are successful and making a difference, we will be able to prove it empirically.

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Climate Change

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	0%		5%	
102	Soil, Plant, Water, Nutrient Relationships	0%		33%	
111	Conservation and Efficient Use of Water	0%		2%	
112	Watershed Protection and Management	0%		2%	
121	Management of Range Resources	50%		13%	
122	Management and Control of Forest and Range Fires	25%		2%	
124	Urban Forestry	0%		2%	
131	Alternative Uses of Land	0%		4%	
133	Pollution Prevention and Mitigation	0%		2%	
134	Outdoor Recreation	0%		4%	
135	Aquatic and Terrestrial Wildlife	0%		13%	
136	Conservation of Biological Diversity	0%		16%	
141	Air Resource Protection and Management	25%		2%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2011	Extension		Research	
	1862	**1890**	**1862**	**1890**
Plan	6.8	0.0	40.4	0.0
Actual Paid Professional	4.3	0.0	30.7	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**
172741	0	491136	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
172741	0	533739	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 Training Sessions on Pasture and Grazing Management
- Participate in Ranch Systems Workshops
- Conduct Ranch Visits and Hands-On Field Sessions
- Conduct Public Tours of National Forest Allotment
- Partner with North Central Sustainable Agriculture Research and Education
- Partner with South Dakota Grasslands Coalition
- Provide Training for Public Land Permittees
- Provide Range Management Training for Beginning Ranchers
- Provide Training for Ag Lenders Camp

2. Brief description of the target audience

- Ranchers
- Livestock Producers
- Agricultural Lenders
- Land Assessors
- Governmental Agency Personnel
- Dairy Farmers

3. How was eXtension used?

Upon completion of a crosswalk between the Knowledge Area Classification System and the NIFA Priority Areas, approximately 4% of SDSU Extension programming efforts were expended on Climate Change. For this reporting period, programming was delivered primarily through SDSU Extension Issue-Based Teams. A crosswalk to the NIFA Priority Areas was also performed with the Issue-Based Teams, based on team descriptions and impact indicators. SDSU Extension programming efforts for Climate Change are administered through SDSU's Agriculture and Natural Resources program area. SDSU Extension's involvement with the Climate Change program was quite limited, but did include several training sessions and field tours.

V(E). Planned Program (Outputs)

1. Standard output measures

2011	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	1342	1500	70	0

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

Year: 2011
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2011	Extension	Research	Total
Actual	2	28	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

● Number of stakeholders receiving information regarding sustainable consumer horticulture.

Year	Actual
2011	1648

Output #2

Output Measure

● Development and delivery of civic engagement "tool kit" curriculum to individual stakeholders.
  Not reporting on this Output for this Annual Report

Output #3

Output Measure

● Number of individuals enrolled in "Managing Your Business" and "CORE FOUR" business
  planning courses.
  Not reporting on this Output for this Annual Report

Output #4

Output Measure

● Number of Ag Experiment Station Research Projects Related to Climate Change.

Year	Actual
2011	23

Output #5

Output Measure

● Increase Knowledge of Healthy Grazing and Pasture Lands.

Year	Actual
2011	0

Output #6

Output Measure

● Increase Knowledge of Nutrient Flow

Year	Actual
2011	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content	
O. No.	**OUTCOME NAME**
1	Number of strategic, business or marketing plans developed.
2	Total dollar value of strategic, business or marketing plans.
3	Number of people that take on new leadership roles
4	Number of stakeholders that improve consumer horticulture fertilizer, composting and soil nutrient practices.
5	Number of Ranchers that Increased their Knowledge to Maintain Healthy Grazing and Pasture Lands.
6	Quantify Improvements in Plant Diversity and Production of South Dakota Grasslands.
7	Increase the Understanding of Nutrient Flow through a Livestock Facility.

Outcome #1

1. Outcome Measures

Number of strategic, business or marketing plans developed.

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Total dollar value of strategic, business or marketing plans.

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

Number of people that take on new leadership roles

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

Number of stakeholders that improve consumer horticulture fertilizer, composting and soil nutrient practices.

Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

Number of Ranchers that Increased their Knowledge to Maintain Healthy Grazing and Pasture Lands.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	229

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Ranchers depend on the sustainability of the grasslands they manage. Maintenance of this extensive resource is critical to the livelihood of ranchers and the surrounding rural communities.

What has been done
SDSU Extension Specialists and Educators have conducted or participated in numerous training sessions, workshops and field tours. Most notable are South Dakota Grazing School, Holistic Management in the Black Hills, Birds at Home ? Birds on the Range, and the Doud Ranch Tour. Other educational activities include Range Camp and Range Days for high school students and the Ag Lenders Camp for bankers and rural appraisers.

Results
Hundreds of producers and ranchers in South Dakota now have additional tools and knowledge to help them maintain healthy and diverse ecosystems. More than 50 ranchers have initiated a Vision Statement, of which 12 have been completed. The South Dakota Grazing School has been so successful that it prompted the SD Natural Resources Conservation Service administrators to require attendance at the school by livestock producers qualifying for the Conservation Stewardship Program for the grazing lands they manage.
Approximately 70 high school students received intensive training in range management, gaining a better appreciation for the value of rangeland and the challenges of managing it. More than a dozen agricultural lenders and land assessors increased their knowledge of plant identification and range management, giving them important tools that benefit them in the real estate market.

4. Associated Knowledge Areas

KA Code	Knowledge Area
121	Management of Range Resources

Outcome #6

1. Outcome Measures

Quantify Improvements in Plant Diversity and Production of South Dakota Grasslands.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Too much grazing pressure and fragmentation of eastern Great Plains grasslands by row crop agriculture and urban sprawl has made the grasslands vulnerable to noxious weed and non-native species invasion, increased wildlife nest predation, general loss of habitat, and increased erosion and runoff.

What has been done
Researchers from the SDSU Ag Experiment Station examined the effects of prescribed grazing, fire, and inter-seeding with grasses and legumes on plant diversity, structure, and productivity of eastern South Dakota grasslands. A study was conducted to evaluate the effects of patch-grazing and traditional management on vegetation structural heterogeneity, invasive species control, and waterfowl and grassland bird response. Replications of grazing treatment, patch-grazing and traditional grazing were selected on grassland sites in eastern South Dakota. Patch-grazing was applied to a portion of the pasture for 30 days using temporary fencing after which cattle were allowed to graze the entire pasture. Traditional management was applied by cattle grazing a portion of the pasture for 30 days and then removed from the pasture. Vegetation and bird data were collected and analyzed.

Results
The investigators, scientists, and non-governmental agency and governmental agency personnel have learned that early season defoliation (grazing or fire) can enhance the native warm-season component of planted grasslands. Investigators also learned that beef production will not suffer from early intensive stocking aimed at improving the native warm-season component of pastures. These grazing management techniques could increase efficiency of pastureland use of the eastern Dakotas.

4. Associated Knowledge Areas

KA Code	Knowledge Area
121	Management of Range Resources
122	Management and Control of Forest and Range Fires

Outcome #7

1. Outcome Measures

Increase the Understanding of Nutrient Flow through a Livestock Facility.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
There is increasing interest in air emissions from livestock production, partly because livestock facilities are growing in size, but also because air and water quality regulations are being applied that were once exempt. During manure handling and storage, nutrient losses can occur to the surrounding water and air. These losses to the atmosphere and nearby water systems not only decrease the fertilizer value of the manure, but can lead to serious air and water quality issues. Currently, there is no information on emissions for monoslope barns that producers can access to determine if they are in compliance with the air quality rules and regulations.

What has been done
SDSU scientists are leading a multistate project to gather baseline data for gases and dust emissions emitted from monoslope barns, and evaluate how manure handling systems impact the emissions. Data was collected to form two data sets:
?Data set one includes continuous air quality and environmental data for monoslope cattle barns
?Data set two is lab-scale measurements of nitrogen release from a urine and feces mixture for beef cattle.
The ongoing research will use the measurements to develop models that estimate nutrient flow through a livestock operation. The measurements and model will enable improved site-specific estimates of emissions and manure nutrient values, at a potential cost-savings to the producer and allow for further investigation on the impact of pollution reduction strategies.

Results
More than 300 people took part in two open houses that conducted informative sessions covering manure handling, environmental regulations, producer perspectives, and on-going research. More than 84% of survey respondents indicated that they gained an understanding of air quality

regulations and the need for their research, and a better understanding of how gases and dust are measured. The first data set is the most comprehensive data set of environmental factors of temperature, air speed and airflow through monoslope cattle facilities that can support multiple additional studies on airflow conditions, natural ventilation, and management decisions. The second data set confirms that the labeled nitrogen methodology works for monitoring nutrient flow through manure systems, and that this methodology can now be applied to different systems.

4. Associated Knowledge Areas

KA Code	Knowledge Area
141	Air Resource Protection and 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

Brief Explanation

In April 2011, all SDSU Extension employees were informed of the decision for the restructuring of SDSU Extension. Due to the severity of the restructuring, involvement in program reporting became disrupted and less complete. Approximately 45 educators were lost through the restructuring process. Despite the obstacles, many employees persevered with their programs and were able to offer successful impacts for this reporting effort.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

For this reporting period, SDSU Extension's programming efforts are delivered through Issue-Based Teams. Approximately 3 of the 33 teams fit under the umbrella of Climate Change. Each of these teams meet face-to-face several times a year and also via webinars and other communication methods periodically. Orchestrated by team leaders, program planning occurs that includes developing impact indicators that are used to help measure the success of the program. These indicators are inclusive, not exclusive to the process of evaluating the program. Most of the evaluation studies for SDSU Extension programs are conducted in-house with some combination of the teams, program leaders, district directors and SDSU Extension administration. The data collection methods for the individual projects vary from pre and post surveys, post then pre surveys, and post interviews, but the most common method is post only survey.

Key Items of Evaluation

Due to the restructuring of SDSU Extension, many factors have made good evaluation results practically impossible. Many changes started taking place half way through the

reporting year and many changes will be taking place for at least the next full year. While SDSU's College of Agriculture and Biological Sciences resources have been greatly reduced, SDSU Extension is finding opportunities to make big improvements. With the increased importance of program impact and evaluation, SDSU Extension is taking several steps to become more accountable. Currently, we do not have a single individual dedicated to evaluation, but we are now in the process of hiring a fulltime evaluator. We are also beta testing a new Program Business Plan that includes a detailed section on evaluation plans. The completion of the plan will be mandatory for all SDSU Extension programs. As we move forward, we will not only know that our programs are successful and making a difference, we will be able to prove it empirically.

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Sustainable Energy

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
201	Plant Genome, Genetics, and Genetic Mechanisms	0%		10%	
202	Plant Genetic Resources	10%		10%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	10%		21%	
204	Plant Product Quality and Utility (Preharvest)	0%		5%	
205	Plant Management Systems	10%		5%	
502	New and Improved Food Products	0%		3%	
503	Quality Maintenance in Storing and Marketing Food Products	0%		3%	
511	New and Improved Non-Food Products and Processes	35%		40%	
512	Quality Maintenance in Storing and Marketing Non-Food Products	0%		3%	
608	Community Resource Planning and Development	20%		0%	
805	Community Institutions, Health, and Social Services	15%		0%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2011	Extension		Research	
	1862	**1890**	**1862**	**1890**
Plan	3.5	0.0	4.3	0.0
Actual Paid Professional	7.5	0.0	20.2	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**
302297	0	319851	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
302297	0	353611	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 Research Experiments in Bioenergy, Biofuels, and Cellulosic Materials.
- Conduct Pyrolysis Experiments.
- Develop Processes That Fractionate Biomass Materials.
- Conduct Tests That Identify Genotypes That Yield Superior Biomass.
- Conduct Extrusion Pretreatment Studies.
- Provide Leadership Training and Assist In Strategic Business Planning.
- Facilitate The Implementation Of Community Projects.
- Conduct Community Development Meetings and Workshops.
- Partner With Family, Career, and Community Leaders Of America
- Counsel Potential Entrepreneurs.

2. Brief description of the target audience

- Researchers and Scientists
- Crop Producers
- Agricultural Commodity Group Leaders with Interests in Biofuels.
- Biofuels industry leadership.
- Citizens of South Dakota
- Community Leaders

3. How was eXtension used?

Upon completion of a crosswalk between the Knowledge Area Classification System and the NIFA Priority Areas, approximately 7% of SDSU Extension programming efforts were expended on Sustainable Energy. For this reporting period, programming was delivered primarily through SDSU Extension Issue-Based Teams. A crosswalk to the NIFA Priority Areas was also performed with the Issue-Based Teams, based on team descriptions and impact indicators. SDSU Extension programming efforts for Sustainable Energy are administered through SDSU's Community Development and University Education program area. SDSU Extension's involvement with the Sustainable Energy program was limited, in part because of the restructuring of SDSU Extension, but did include numerous meetings and sessions developing business plans and implementing strategic plans.

V(E). Planned Program (Outputs)

1. Standard output measures

2011	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	4973	4300	6585	1180

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

Year: 2011

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2011	Extension	Research	Total
Actual	9	14	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of stakeholders receiving energy conservation information through consultation, workshops, displays and other methods.
  Not reporting on this Output for this Annual Report

Output #2

Output Measure

- Number of Ag Experiment Station Research Projects Related To Bioenergy Or Biofuels.

Year	Actual
2011	9

Output #3

Output Measure

- Number of Face-To-Face Hours Teaching Community Capacity Building.

Year	Actual
2011	290

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content	
O. No.	**OUTCOME NAME**
1	Number of people reporting some form of energy conservation, such as adding insulation, caulking, etc.
2	Number of people that purchased an energy-saving appliance.
3	Number of home energy audits conducted
4	Increase the Knowledge of Cellulosic Biomass Feedstock.
5	Increase Understanding of Civic Involvement through the Community Capacity Building Program.
6	Increase Knowledge of Alternate Cropping Systems.

Outcome #1

1. Outcome Measures

Number of people reporting some form of energy conservation, such as adding insulation, caulking, etc.

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Number of people that purchased an energy-saving appliance.

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

Number of home energy audits conducted

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

Increase the Knowledge of Cellulosic Biomass Feedstock.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
America must reduce its dependency on fossil fuels and foreign oil while at the same time build strong communities and create new jobs.

What has been done
Scientists at SDSU continue their research to better understand the genetic makeup of the biomass characteristics that lead to higher yield crops and higher quality bio-oil. By comparing simultaneous saccharification and fermentation in submerged versus solid substrate processes, researchers can further their development of cellulose pulp into ethanol.

Results
Researchers increased their knowledge of biology and genetics of grasses and forbs that have potential as cellulosic biomass feedstock. Tests show that new, high-biomass-yielding cultivars will be needed to insure sustainable biomass production across diverse landscapes, especially on marginal lands that are unsuitable for the production of conventional crops. Pyrolysis experiments that varied the heating rate, particle size, and the moisture content of corn stover, switchgrass, and prairie cord grass show that the moisture content had the most significant difference on the yield of bio-oil. The quality of the dark brown, free-flowing bio-oils is also closely dependent on lower viscosity and oxygen content. As SDSU researchers better understand feedstock type and conversion technologies, the potential to replace a significant amount of fossil fuels greatly increases.

4. Associated Knowledge Areas

KA Code	Knowledge Area
202	Plant Genetic Resources
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
511	New and Improved Non-Food Products and Processes

Outcome #5

1. Outcome Measures

Increase Understanding of Civic Involvement through the Community Capacity Building Program.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	1914

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Sustainable energy starts with vibrant communities and vibrant communities need strong leaders, growing human capacity, and lower poverty. New businesses, new jobs, and new opportunities for growth result when citizen leaders apply the educational tools offered by SDSU Extension.

What has been done
SDSU Extension has worked with communities across South Dakota to energize the economy and establish a promising future for the next generation. Several communities took advantage of a series of classes called ?Managing Your Business?, taught by an extension specialist/professor in the Entrepreneurial Studies Program.
Assistance was provided with feasibility studies, marketing plans and acquiring financing.

Results
Communities across South Dakota are building social and human capitol in their rural areas. People from all age groups have increased their understanding of the importance of civic involvement and acknowledge increased community capacity after participating in SDSU Extension programs and activities. There were 12 new business start-ups, 14 business expansions and 6 business updates or rejuvenations in rural communities. With the help of SDSU Extension, communities are working together and becoming much stronger. Eleven communities have gotten involved with serving families with food needs, either with food shelves or senior programs. A growing Hispanic population due to the increase in dairies has one rural community assisting the families with community gardens and helping build a soccer field. Throughout rural South Dakota, participation of different ethnic groups has increased, but the leadership in the communities has not changed noticeably, indicating that more work still needs to be done.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services

Outcome #6

1. Outcome Measures

Increase Knowledge of Alternate Cropping Systems.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The wheat-fallow cropping system in western South Dakota has proven to be unsustainable and has resulted in degradation of the soil and the environment. Diverse no-till continuous cropping systems were adopted by growers in the region, but a shortage of soil moisture is a limiting factor in continuous no-till systems. An alternate cropping system to the traditional wheat-fallow needs to be developed.

What has been done
SDSU researchers conducted experiments that include a long-term diversified, no-till rotation study and a cover crop evaluation study in western South Dakota. Nine cover crop treatments were established during the growing season by replacing the fallow phase of the rotation with alternative crops adapted to western South Dakota. Cover crop treatments were compared to a no cover crop summer fallow control.

Results
Long-term yield results from the study have shown that the inclusion of broadleaf crops such as sunflower, safflower and peas; along with warm season grass crops like corn helps to break weed and disease cycles and can improve wheat yields and profitability when soil moisture is not limiting. The impact of cover crops on the following winter wheat crop was quantified by measuring crop yield and quality. Results from the cover crops study showed no significant effect of cover crop on winter wheat grain protein and test weight. The lowest yield was recorded for winter wheat following grain pea and the highest yield was for winter wheat grown after an oat/pea cover crop where residue was left standing in the field. Removal of residue lowered winter wheat yield by about 5%. These preliminary results on cover crops seem to indicate that management as well as type of cover crop may significantly influence the yield of the subsequent crop.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant 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 Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

In April 2011, all SDSU Extension employees were informed of the decision for the restructuring of SDSU Extension. Due to the severity of the restructuring, involvement in program reporting became disrupted and less complete. Approximately 45 educators were lost through the restructuring process. Despite the obstacles, many employees persevered and were able to offer successful impacts for this reporting effort.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

For this reporting period, SDSU Extension's programming efforts are delivered through Issue-Based Teams. Approximately 4 of the 33 teams fit under the umbrella of Sustainable Energy. Each of these teams meet face-to-face several times a year and also via webinars and other communication methods periodically. Orchestrated by team leaders, program planning occurs that includes developing impact indicators that are used to help measure the success of the program. These indicators are inclusive, not exclusive to the process of evaluating the program. Most of the evaluation studies for SDSU Extension programs are conducted in-house with some combination of the teams, program leaders, district directors and SDSU Extension administration. The data collection methods for the individual projects vary from pre and post surveys, post then pre surveys, and post interviews, but the most common method is post only survey.

Key Items of Evaluation

Due to the restructuring of SDSU Extension, many factors have made good evaluation results practically impossible. Many changes started taking place half way through the reporting year and many changes will be taking place for at least the next full year. While SDSU's College of Agriculture and Biological Sciences resources have been greatly reduced, SDSU Extension is finding opportunities to make big improvements. With the increased importance of program impact and evaluation, SDSU Extension is taking several steps to become more accountable. Currently, we do not have a single individual dedicated to evaluation, but we are now in the process of hiring a fulltime evaluator. We are also beta testing a new Program Business Plan that includes a detailed section on evaluation plans. The completion of the plan will be mandatory for all SDSU Extension programs. As we move forward, we will not only know that our programs are successful and making a difference, we will be able to prove it empirically.

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Childhood Obesity

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
701	Nutrient Composition of Food	15%		6%	
702	Requirements and Function of Nutrients and Other Food Components	20%		40%	
703	Nutrition Education and Behavior	20%		35%	
704	Nutrition and Hunger in the Population	0%		15%	
724	Healthy Lifestyle	15%		4%	
802	Human Development and Family Well-Being	5%		0%	
806	Youth Development	25%		0%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2011	Extension		Research	
	1862	**1890**	**1862**	**1890**
Plan	25.0	0.0	9.7	0.0
Actual Paid Professional	37.4	0.0	6.0	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**
1511485	0	172813	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
1511485	0	183614	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 Nutrition Workshops
- Provide Healthy Food Choices Display and Educational Materials
- Conduct Head Start Parents Meetings
- Demonstrate Exercise Programs
- Conduct Monthly Afterschool Nutrition Classes
- Present Meal Planning Information to Seniors
- Conduct Grocery Store Tours
- Deliver KidQuest (Fitness, Food, and Fun) Program
- Facilitate SFP 10-14 Program

2. Brief description of the target audience

- Youth
- Parents
- Families
- People Living in Poverty

3. How was eXtension used?

Upon completion of a crosswalk between the Knowledge Area Classification System and the NIFA Priority Areas, approximately 35% of SDSU Extension programming efforts were expended on Childhood Obesity. For this reporting period, programming was delivered primarily through SDSU Extension Issue-Based Teams. A crosswalk to the NIFA Priority Areas was also performed with the Issue-Based Teams, based on team descriptions and impact indicators. SDSU Extension programming efforts for Childhood Obesity are administered through SDSU's Family and Consumer Sciences and 4-H Youth Development program areas. SDSU Extension was used to deliver numerous educational activities such as workshops, camps, school programs, presentations and seminars.

V(E). Planned Program (Outputs)

1. Standard output measures

2011	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	16204	16800	14167	7083

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

Year: 2011
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

  Number of Peer Reviewed Publications

2011	Extension	Research	Total
Actual	1	7	0

V(F). State Defined Outputs

Output Target

Output #1

  Output Measure

  ● Number of students who participate in KidQuest/school based nutrition programs.

Year	Actual
2011	600

Output #2

  Output Measure

  ● Number of participants in Healthy Meals in a Hurry program
    Not reporting on this Output for this Annual Report

Output #3

  Output Measure

  ● Number of One-On-One Contacts Related to Childhood Obesity.

Year	Actual
2011	30371

<u>Output #4</u>

Output Measure

● Number of Participants in the Promoting Health and Nutrition and Physical Activity Program.

Year	Actual
2011	6042

<u>Output #5</u>

Output Measure

● Number of Hours Taught with Nutrition and Physical Activities Programs.

Year	Actual
2011	352

<u>Output #6</u>

Output Measure

● Increase the Ability of Youth to Resist or Refuse Participation in Risk Behaviors.

Year	Actual
2011	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content	
O. No.	**OUTCOME NAME**
1	Number of people that increased their frequency in using the food label to make food choices.
2	Number of people that adopted 1 or more practices to choose/consume healthier snack choices.
3	Number of people that adopted 1 or more healthy practices to healthy eating when dining out
4	Increase Knowledge and Awareness of Preparing Healthy Meals.
5	Increase the Amount of Time People Spend with Physical Activities.
6	Increase Consumption of Fruits and Vegetables.
7	Increase Communication between Parents and Children.

Outcome #1

1. Outcome Measures

Number of people that increased their frequency in using the food label to make food choices.

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Number of people that adopted 1 or more practices to choose/consume healthier snack choices.

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

Number of people that adopted 1 or more healthy practices to healthy eating when dining out

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

Increase Knowledge and Awareness of Preparing Healthy Meals.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	2542

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Obesity increases the risk of many chronic diseases, such as heart disease, hypertension, stroke and diabetes. The leading causes of death in South Dakota are heart disease and cancer, which both have risk factors related to diet. Sixty-five percent of adults and 33.6% of youth ages 5-19 in South Dakota are overweight or obese.

What has been done

SDSU Extension offers or participates in a variety of programs that help the citizens of South Dakota eat healthier meals, which help to reduce the problem of obesity in the state. Programs include:
Choose My Plate
Cook Simply Eat Smart
Exploring Food
KidQuest
MyPyramid
Cooking for One or Two
Healthy Food Choices
What's in Your Drink and Eating Out!
Shopping Matters Grocery Store Tour
Make Half Your Grains Whole

Results

Thousands of participants across South Dakota learned valuable skills and gained knowledge about nutrition and healthy eating. Approximately 2,542 people reported that they increased their knowledge and awareness of preparing healthy meals. Another 1,775 people said they gained knowledge of portion distortion and portion control and more than 100 people said that they have increased the number of meals that they eat at home.

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior

Outcome #5

1. Outcome Measures

Increase the Amount of Time People Spend with Physical Activities.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	690

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Our American society, with all its modern luxuries, has created an environment that promotes physical inactivity, and South Dakota is no exception. More than 50% of South Dakota adults report doing less than 30 minutes of moderate physical activity per day, and those having no vigorous physical activity reached nearly 75%. Physical inactivity, poor diet, and obesity are greatly contributing to the health problems and chronic diseases that our citizens of South Dakota are facing today.

What has been done
SDSU Extension offers many programs that educate, demonstrate and encourage the people of South Dakota to become more physically active. Programs include:
Steps to Physical Fitness
Food and Fitness
KidQuest
Recreation & Games
Families Eating Smart and Moving More
Healthy People 2011 Walk-a-Mile
Kids Yoga

Results
Approximately 690 people involved in SDSU Extension programs said that they increased the amount of time spent doing physical activities. In the KidsQuest program conducted in 20 different schools in South Dakota, 27% of the 600 5th and 6th graders reported that they increased the frequency of physical activity with their family.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

Outcome #6

1. Outcome Measures

Increase Consumption of Fruits and Vegetables.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	874

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Closely related to obesity and lack of exercise is poor nutrition, which South Dakotans are falling short of when it comes to the consumption of fruits and vegetables. The CDC recommends approximately five or more servings (3-6 cups) of fruits and vegetables a day per person, while the National Cancer Institute recommends nearly double that to help prevent cancers and other chronic diseases. South Dakota is worse than the national average with approximately 81% of adults and 84% of youth in grades 9-12 consuming less than five servings of fruits and vegetables per day. Fruits and vegetables contain essential vitamins, minerals and fiber that help protect against chronic diseases.

What has been done
SDSU Extension offers or participates in a variety of programs targeted toward improving the nutrition of South Dakota's youth and adults. Programs include:
Fruit and Vegetable Awakening
Fruit & Vegetable Table
Increasing Your Fruits and Veggies
Eating Smart on the Run
KidQuest
100 Calorie Snacks
Healthy Snacks and Drink Choices
We Can! Kids Nutrition
Science of Nutrition
Making Healthy Choices

Results

More than 2,800 people reported that they gained knowledge of fruit and vegetable recommendations and the health benefits associated with eating more fruits and vegetables. Additionally, 874 people said that they increased their consumption of fruits and vegetables.
144 Number of KidsQuest youth that increased their fruit intake.
126 Number of KidsQuest youth that increased their vegetable intake.

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior

Outcome #7

1. Outcome Measures

Increase Communication between Parents and Children.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	75

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Middle school youth become more independent of their parents/guardians and begin to make more choices on their own about friends and activities. Middle school youth are often unsupervised during after school hours and school vacations; therefore, they have more opportunities to engage in self-selected activities. Communication with parents during this developmental stage often becomes more challenging. Parents and youth need to expand their communication and understanding of one another. Youth are also confronted with risk behaviors, such as tobacco, alcohol and drug use.

What has been done
The Strengthening Families Program for Parents and Youth 10-14 (SFP 10-14), Iowa State University Extension, was identified as an evidence-based program for middle school youth and

their parents. More than 50 Extension personnel and community members have been trained as facilitators for SFP 10-14. The program has shown to be effective in delaying the onset of substance abuse among youth, lowering aggression levels, increasing resistance to peer pressure and improving skills of parents to build a positive relationship with their child. SFP 10-14 has been offered in three South Dakota communities with more than 75 participants.

Results
The parent participants of SFP 10-14 reported that they have increased family cohesion and communication in several ways: they include their children in family decision making, have imposed consequences for breaking rules, and can empathize with their children's point of view. The youth participants also reported improved communication with parents, greater appreciation for things parents do for them, and are more accepting of consequences when disciplined.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

V(H). Planned Program (External Factors)

External factors which affected outcomes
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities

Brief Explanation

In April 2011, all SDSU Extension employees were informed of the decision for the restructuring of SDSU Extension. Due to the severity of the restructuring, involvement in program reporting became disrupted and less complete. Approximately 45 educators were lost through the restructuring process. Despite the obstacles, many employees persevered and were able to offer successful impacts for this reporting effort.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

For this reporting period, SDSU Extension's programming efforts are delivered through Issue-Based Teams. Approximately 11 of the 33 teams fit under the umbrella of Childhood Obesity. Each of these teams meet face-to-face several times a year and also via webinars and other communication methods periodically. Orchestrated by team leaders, program planning occurs that includes developing impact indicators that are used to help measure the success of the program. These indicators are inclusive, not exclusive to the process of evaluating the program. Most of the evaluation studies for SDSU Extension programs are conducted in-house with some combination of the teams, program leaders, district directors and SDSU Extension administration. The data collection methods for the individual projects vary from pre and post surveys, post then pre surveys, and post interviews, but the most common method is post only survey.

Key Items of Evaluation

Due to the restructuring of SDSU Extension, many factors have made good evaluation results practically impossible. Many changes started taking place half way through the reporting year and many changes will be taking place for at least the next full year. While SDSU's College of Agriculture and Biological Sciences resources have been greatly reduced, SDSU Extension is finding opportunities to make big improvements. With the increased importance of program impact and evaluation, SDSU Extension is taking several steps to become more accountable. Currently, we do not have a single individual dedicated to evaluation, but we are now in the process of hiring a fulltime evaluator. We are also beta testing a new Program Business Plan that includes a detailed section on evaluation plans. The completion of the plan will be mandatory for all SDSU Extension programs. As we move forward, we will not only know that our programs are successful and making a difference, we will be able to prove it empirically.

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Food Safety

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
211	Insects, Mites, and Other Arthropods Affecting Plants	0%		18%	
212	Pathogens and Nematodes Affecting Plants	0%		20%	
213	Weeds Affecting Plants	0%		4%	
215	Biological Control of Pests Affecting Plants	0%		4%	
216	Integrated Pest Management Systems	12%		10%	
311	Animal Diseases	0%		25%	
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals	0%		4%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	20%		2%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	30%		0%	
722	Zoonotic Diseases and Parasites Affecting Humans	20%		0%	
801	Individual and Family Resource Management	18%		4%	
802	Human Development and Family Well-Being	0%		5%	
901	Program and Project Design, and Statistics	0%		4%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2011	Extension		Research	
	1862	**1890**	**1862**	**1890**
Plan	1.7	0.0	13.8	0.0

Actual Paid Professional	18.2	0.0	25.4	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**
734150	0	693498	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
734150	0	532659	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 and Deliver Food Safe South Dakota Program.
- Partner with NMSU to Develop the Virtual Food Safety Labs.
- Conduct Applied Food Safety Education Lab Course III.
- Develop the Food Safety Scientist Website.
- Develop and Deliver Safe Aid - Food Safety Training for Food Pantry Programs.
- Conduct Food to Market Possibilities Workshops.
- Partner with Feeding South Dakota.

2. Brief description of the target audience

- Food Service Establishments and Employees
- Consumers
- Volunteer Food Preparation Sites
- Temporary Food Preparation Sites
- High School Teachers and College Students
- Food Pantries
- Farmers Markets
- Food Growers
- Seniors

3. How was eXtension used?

Upon completion of a crosswalk between the Knowledge Area Classification System and the NIFA Priority Areas, approximately 17% of SDSU Extension programming efforts were expended on Food Safety. For this reporting period, programming was delivered primarily through SDSU Extension Issue-Based Teams. A crosswalk to the NIFA Priority Areas was also performed with the Issue-Based Teams, based on team descriptions and impact indicators. SDSU Extension programming efforts for Food Safety are administered primarlily through SDSU's Health and Nutritional Sciences. Integrated Pest Management is administered through SDSU's Agriculture and Natural Resources program area. SDSU Extension was

used to deliver numerous educational activities such as presentations, seminars, and certification workshops.

V(E). Planned Program (Outputs)

1. Standard output measures

2011	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	5337	1800	544	260

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

Year: 2011

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

   Number of Peer Reviewed Publications

2011	Extension	Research	Total
Actual	3	17	0

V(F). State Defined Outputs

Output Target

<u>Output #1</u>

   Output Measure

   ● Enrollment in food preparation certification courses in underserved areas of the state.
      Not reporting on this Output for this Annual Report

<u>Output #2</u>

   Output Measure

   ● Number of workshops for high risk consumers in food handling and preservation.
      Not reporting on this Output for this Annual Report

<u>Output #3</u>

   Output Measure

   ● Disseminate Knowledge about SDSU Extension Food Safety Programs.

Year	Actual
2011	2177

Output #4

Output Measure

● Increase Knowledge about Safe Food Practices to Reduce Foodborne Illness.

Year	Actual
2011	1979

V(G). State Defined Outcomes

	V. State Defined Outcomes Table of Content
O. No.	**OUTCOME NAME**
1	Number of people that adopted 1 or more food preparation, storage, or preservation practices for increased access to a safe food supply
2	Number of Food Safe South Dakota Participants that Received Certification.
3	Number of Students Completing Applied Food Safety Education Lab Course III.
4	Number of Safe Aid Participants that Received Certification
5	Number of People that Gained New Knowledge at Food to Market Workshops.
6	Review Medicare Part D Plans with Recipients.

Outcome #1

1. Outcome Measures

Number of people that adopted 1 or more food preparation, storage, or preservation practices for increased access to a safe food supply

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Number of Food Safe South Dakota Participants that Received Certification.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	146

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The Centers for Disease Control estimates that each year 48 million Americans get sick from foodborne diseases. Preventing foodborne illness extends far beyond a single program, but specific prevention actions at the local level greatly support the Federal government in implementing its agenda to reduce foodborne diseases.

What has been done
SDSU Extension provided leadership across the state by delivering safe food handling information to consumers, foodservice establishments, volunteer food preparation service sites, and temporary food preparation service sites. SDSU Extension developed and delivered the self-study program Food Safe South Dakota to more than 146 participants.

Results
Participants from across the state representing the majority of the counties were successful in passing the exam. The Food Safe South Dakota certification confirms that the individuals gained or retained knowledge in the following areas:
?Safe Food Storage

?Maintain Safe Food Temperatures
?Cooling Food the Right Way
?Preventing Contamination of Food
?Maintain Proper Hand Washing
?Maintaining Good Personal Hygiene

4. Associated Knowledge Areas

KA Code	Knowledge Area
722	Zoonotic Diseases and Parasites Affecting Humans

Outcome #3

1. Outcome Measures

Number of Students Completing Applied Food Safety Education Lab Course III.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Education of proper food handling is just one partner in preventing foodborne illness. At all levels of industry and government, enhanced lab testing is needed to more quickly identify outbreaks and their causes.

What has been done
Seven high school teachers, 7 undergraduate students from Taiwan and one SDSU Extension Educator completed the Applied Food Safety Education Lab Course III, a course based on the Food Safety Virtual Lab and a hands-on component.
The class focused on:
?Toxins in foods.
?Risks associated with drinking unpasteurized milk.
?Foodborne illness incidence in South Dakota and nationally, and monitoring the food supply through the Food Emergency Response Network (FERN) lab.

All the modules included hands-on laboratory exercises that were the same as the virtual lab. Lectures provided the teachers with additional back-ground material for discussion. The Food Safety Scientist Website was created to provide a medium for teachers to have readily available to use their classroom. Field trips included a dairy processing plant where students obtained lab samples and swabs to investigate for potential food safety issues within the plant.

Results
One of the key objectives was for the students to gain awareness of careers related to the safety of the food supply. All of the teachers and undergraduate students that took the course clearly identified the utilization of food safety issues and careers as an application to science concepts and lab techniques as positive. Seventy-four percent of the students said the virtual labs rated very good to excellent in exposing career paths related to food safety.

All students identified that their knowledge increased in the following areas:
?Awareness for Microbiological and Chemical Lab Safety Practices ? 93%
?Microbial analysis Techniques ? 100%
?Pasteurization of Milk ? 100%
?Food Toxins ? 100%
?Food Biosecurity ? 100%

The high school teachers gained the ability to conduct lab techniques that utilize food safety applications. They are presently using the virtual labs, hands-on lab kits and other educational tools to help teach their science, Ag science, food science, and family consumer sciences classes.
Some of the plans by the teachers include:
?Use the tools and labs as they pertain to the unit in life science being studied ? the human body and 5 kingdoms of life.
?Use the labs to introduce a lab.
?When collecting and studying bacteria swabs while working with dairy and meat products in the food processing class.

4. Associated Knowledge Areas

KA Code	Knowledge Area
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #4

1. Outcome Measures

Number of Safe Aid Participants that Received Certification

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	167

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
One out of 7 people in South Dakota lives at or below the poverty line. An estimated 100,000 people, half of which are children and infants, rely on Feeding South Dakota each year. The Feeding South Dakota program has identified the need to provide food safety training for all of their food pantries across South Dakota.

What has been done
SDSU Extension developed and delivered the self-study program Safe Aid to more than 167 participants. This program consists of five concise fact sheets that cover critical, safe food handling practices associated with food pantries that receive and distribute food products. Feeding South Dakota requires all of the food pantries associated with them to complete the program.

Results
By completing the Safe Aid ? Food Safety Training for Food Pantry Programs, food pantries across South Dakota can certify that they are doing their part in providing safe food for those in need.
The program consists of these five areas:
?Repackaging Bulk Foods
?Risk Management
?Sanitary Surroundings
?Safe Food Handling
?Food Programs and Foodborne Illness

4. Associated Knowledge Areas

KA Code	Knowledge Area
722	Zoonotic Diseases and Parasites Affecting Humans

Outcome #5

1. Outcome Measures

Number of People that Gained New Knowledge at Food to Market Workshops.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	43

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Many South Dakotans are interested in home-food entrepreneurship; however, safe food is critical to the health and safety of the consumer and proper procedures must be followed.

What has been done
SDSU Extension conducted workshops in 4 communities that taught growers and producers about food preservation and the current South Dakota food-safety laws and standards.

Results
Seventy percent of the 61 attendees reported that most of the information that they gained during the workshops was new to them, and 88% said that they intend to use the information, but primarily for food-safety for home use.

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

Review Medicare Part D Plans with Recipients.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	1571

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Many seniors have trouble paying for their prescription drugs. Often times it is difficult to understand how the plan works. It is important for seniors to understand how Medicare Part D applies to them, as making the wrong choice can end up costing money.

What has been done
The SDSU Cooperative Extension Service continues to provide assistance to Medicare beneficiaries regarding health coverage and enrollment in Medicare Prescription Drug Plans (Part D). Extension Educators also trained and mentored professionals and volunteers to meet the demands for educational assistance. These efforts have allowed Medicare beneficiaries to save spendable income.

Results
?SDSU Extension Educators served about 20% of the South Dakota beneficiaries seeking assistance in updating their Medicare Part D plans through the Senior Health Information & Insurance Education (SHIINE) program.
?800 of the beneficiaries changed or added a Medicare Part D plan with a potential savings of $473,019 or an average of $591 per person which could be re-directed to meet other budgetary needs.
?Under the leadership of Extension Educators, 967 Medicare beneficiaries were assisted by volunteers with a potential savings of $234,086 or $242 per person
?390 beneficiaries were assisted in problem solving issues related to the various aspects of Medicare

4. Associated Knowledge Areas

KA Code	Knowledge Area
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

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V(I). Planned Program (Evaluation Studies)

Evaluation Results

For this reporting period, SDSU Extension's programming efforts are delivered through Issue-Based Teams. Approximately 3 of the 33 teams fit under the umbrella of Global Food Security and Hunger. Each of these teams meet face-to-face several times a year and also via webinars and other communication methods periodically. Orchestrated by team leaders, program planning occurs that includes developing impact indicators that are used to help measure the success of the program. These indicators are inclusive, not exclusive to the process of evaluating the program. Most of the evaluation studies for SDSU Extension programs are conducted in-house with some combination of the teams, program leaders, district directors and SDSU Extension administration. The data collection methods for the individual projects vary from pre and post surveys, post then pre surveys, and post interviews, but the most common method is post only survey.

Key Items of Evaluation

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evaluation, but we are now in the process of hiring a fulltime evaluator. We are also beta testing a new Program Business Plan that includes a detailed section on evaluation plans. The completion of the plan will be mandatory for all SDSU Extension programs. As we move forward, we will not only know that our programs are successful and making a difference, we will be able to prove it empirically.