

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

**Program # 10**

**1. Name of the Planned Program**

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%		0%	
	<b>Total</b>	100%		0%	

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

**1. Actual amount of FTE/SYs expended this Program**

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	47.0	0.0	0.0	0.0
Actual Paid Professional	14.8	0.0	0.0	0.0
Actual Volunteer	380.0	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
889330	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
889330	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
2213547	0	0	0

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

**1. Brief description of the Activity**

- Increase the number of youth reached in 4-H programs.
- Strengthen statewide volunteer management infrastructure.

- Organize staffing structure based on curricular/issues programming.
- Design learning experiences and conduct training with Extension and Outreach staff, volunteers, Iowa State University staff, and community and state partners that contribute to the life skill outcomes of leadership, citizenship, communications, and learning in environments that meet youths' needs in long-term settings (clubs, after school programs, and other out-of-school time).
  - Build state and community level capacity to ensure policies and opportunities are based on the principles and practices of positive youth development.
  - Collect data on statewide volunteer training delivery and 4-H club youth enrollment.
  - Train staff and community groups on best practices of positive youth development, youth in governance, after school programming, youth/adult partnerships, volunteer development, healthy living (including childhood obesity), STEM (including food safety), citizenship, leadership, communication, and the arts.
  - Utilize online volunteer development training system for 4-H volunteers.
  - Implement multi-faceted marketing infrastructure to communicate positive youth development principles, practices, and programming successes via news releases, brochures, on-line training, and webinars.
  - Partner with state and national entities to report after school outreach data.
  - Conduct 4-H Afterschool programming across Iowa.
  - Work with other states' 4-H Youth Development staff to evaluate the positive impact of 4-H participation in young people's lives.

#### **4-H Afterschool**

- 167 Extension and Outreach staff, 249 after-school staff, and 834 volunteers trained in youth development principles, practices, and 4-H curricula
- 16,908 children and youth K-12 engaged in 4-H Afterschool programming
- 53 4-H Afterschool Clubs developed statewide
- 653 4-H Afterschool community partners

#### **4-H Youth Science**

- 9 new environmental education programs formed reaching over 80 youth
- 1,485 educators, Extension staff, and volunteers trained to utilize youth science curricula
- 31,634 enrollments in science, engineering, and technology curricula.
- \$256,000 in funding was secured for the establishment of an Iowan North Central Region STEM Hub.

#### **Service Learning**

- Secured NCVS grant of \$500,000 to implement Reach Out Iowa (ROI)
- Conducted 193 service learning training sessions with 4,000 youth
- Provided over \$100,000 to communities to support more than 100 service learning projects
- 4,000 youth participants partnered with community volunteers benefitting 13,000 Iowans
- More than 60% of 50 partner organizations now engage youth in leadership positions

#### **4-H Volunteer Development**

- 1,919 volunteers participated in state designed training on youth development principles and practices
- 92 volunteers participated in New Volunteer Training
- 7,590 adult volunteers assisted in the implementation of youth development programs
- 107 volunteers and 43 staff attended state level training planned and implemented by volunteers
- 26 staff participated in Everyone Ready; on-line volunteerism professional development program

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

- K-12 youth
- Adult and youth volunteers
- Federal, state, community, and Iowa State University level leaders, collaborations, organizations, and agencies
  - Extension educators
  - K-12 teachers

**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>	7590	50266	105538	24562

**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 youth who retain membership in 4-H clubs after 1 year of membership.

<b>Year</b>	<b>Actual</b>
2012	3824

**Output #2**

**Output Measure**

- Number of volunteers completing one training/yr.

<b>Year</b>	<b>Actual</b>
2012	1919

**Output #3**

**Output Measure**

- Number of youth who participate in 4-H Afterschool.

<b>Year</b>	<b>Actual</b>
2012	16908

**Output #4**

**Output Measure**

- Number of local partnerships initiated or strengthened.

<b>Year</b>	<b>Actual</b>
2012	2792

**Output #5**

**Output Measure**

- Number of new clubs developed using innovative and emerging 4-H club models.

<b>Year</b>	<b>Actual</b>
2012	82

**Output #6**

**Output Measure**

- Number of 4-H livestock exhibitors certified in Food Safety and Quality Assurance (FSQA).

<b>Year</b>	<b>Actual</b>
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2012 10975

**Output #7**

**Output Measure**

- Number of 4-H'ers enrolled in Foods, Nutrition, Physical Health, Fitness, and Sports project areas.

Not reporting on this Output for this Annual Report

**Output #8**

**Output Measure**

- Number of pre-service teachers and educators trained in Connecting Learning & Living Curricula on connecting youth with MyPyramid concepts and understanding the origins of food.

<b>Year</b>	<b>Actual</b>
2012	446

**Output #9**

**Output Measure**

- Number of youth reached by educators trained in Connecting Learning & Living Curricula (agriculture, environmental, food, and nutrition emphasis).

<b>Year</b>	<b>Actual</b>
2012	8891

**Output #10**

**Output Measure**

- Number of youth and adults trained using climate curricula.

Not reporting on this Output for this Annual Report

**Output #11**

**Output Measure**

- Number of youth and adults trained using sustainable energy curricula.

Not reporting on this Output for this Annual Report

**Output #12**

**Output Measure**

- Enrollments in Foods, Nutrition, Physical Health, Fitness, and Sports curricula areas.

<b>Year</b>	<b>Actual</b>
2012	46192

**Output #13**

**Output Measure**

- Enrollments in Science, Engineering, and Technology curricula areas.

<b>Year</b>	<b>Actual</b>
2012	31634

**Output #14**

**Output Measure**

- Enrollments in Citizenship, Leadership, and Communication curricula areas.

<b>Year</b>	<b>Actual</b>
2012	16053

**V(G). State Defined Outcomes****V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Percentage of pre-service teachers and educators who participate in CLL training will self-report a 1 to 3-point increase in confidence/knowledge in teaching MyPyramid concepts and the origins of food.
2	As reported by educators, percentage of youth participating in CLL lessons who increased their knowledge of the MyPyramid and making healthy food choices.
3	As reported by educators, percentage of youth participating in CLL lessons who made healthy food choices; tried new foods; and made healthier food choices during snacks, lunch, and class parties.
4	As reported by educators, percentage of youth participating in CLL lessons who increased their knowledge regarding growing food from plants.
5	As reported by educators, percentage of youth gardeners participating in CLL lessons who improve their vegetable consumption.
6	Percentage of 4-Hers ages 12-18 taking the FSQA certification test who self-report improved techniques and practices in livestock drug injections, record keeping, and food product safety and biosecurity.
7	Percentage of youth participating in sustainable energy workshops who self-report increased knowledge of what sustainable energy means, the importance of sustainable energy, and/or promising sustainable energy technologies.
8	Percentage of youth participating in climate change workshops who self-report increased knowledge of the causes and/or consequences of climate change.
9	Percentage of 4-H'ers in grades 4-6 taking the FSQA certification test who self-report improved techniques and practices in livestock drug injections, record keeping, and food product safety and biosecurity.
10	Percentage of youth participating in Iowa 4-H STEM programs who self-reported an increase in STEM process skills necessary to be successful in STEM courses and careers.
11	Percentage of youth from randomly selected 4-H clubs who self-report they demonstrate outstanding communication practices in sending and receiving written, visual, and oral message after being engaged in 4-H club experiences.
12	Percentage of youth from randomly selected 4-H clubs who self-report they demonstrate productive citizenship practices by being fair and trustworthy, identifying community needs, organizing service learning projects, and participating in community issues after being engaged in 4-H club experiences.
13	Percentage of youth from randomly selected 4-H clubs who self-report they demonstrate effective leadership practices in working with others, listening to others' ideas, sharing one's own ideas, and handling conflict respectfully after being engaged in 4-H club experiences.
14	Percentage of youth from randomly selected 4-H clubs who self-report they demonstrate successful learning practices by creating project learning goals, analyzing the strengths and weaknesses of different ideas, using time efficiently, and applying lessons learned to new experiences after being engaged in 4-H club experiences.
15	Percentage of youth who self-report an increase in civic engagement knowledge and intent to engage in service projects in their communities.

## **Outcome #1**

### **1. Outcome Measures**

Percentage of pre-service teachers and educators who participate in CLL training will self-report a 1 to 3-point increase in confidence/knowledge in teaching MyPyramid concepts and the origins of food.

### **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)**

Iowa ranks 15th highest in obesity/overweight prevalence and is in the bottom 10% of fruit and vegetable consumption in the United States. Youth ages 8 to 18 sit in front of a screen for an average of 7 hours and 23 minutes each day and prefer being indoors rather than going outdoors. Youth and adults are disconnected with the natural environment, where food comes from, and the ability to make good decisions regarding their health and well-being. Together, these situations dramatically increase physical, mental, behavioral, and learning problems.

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

446 teachers, pre-service teachers, extension staff, volunteers, other educators, and community partners attended a CLL training for one of the following: 8 USDA People's Garden (partnership with WSU, Cornell, ISU, U of Arkansas extension services) and Wellmark (health insurance provider) Foundation Healthy Gardens, Healthy Youth grant's school garden intervention sites; 5 ISU and UNI pre-service curriculum and instruction classes, 2 Team Nutrition Iowa Communications Network satellite sessions, and 4 other CLL sessions. They completed and received several MyPyramid/MyPlate concept and origin of food lessons. They also completed pre and post workshop surveys and provided input in other ways. Outcome impact was also collected from a Connecting Learning and Living on-line survey.

#### **Results**

\* 90% of the training participants reported increases in knowledge, interest, and confidence in delivering MyPyramid/MyPlate and the origins of food. Mostly Ag Ed pre-service teachers represented the other 10% of respondents.

\* 100% appreciated and said they would use what they learned and the lessons plans from

training.

\* Educators provided 38 examples of students choosing healthy foods, trying new foods, and making healthy choices at lunch, snack time, or home. Examples include: "They chose healthy foods/fruits and vegetables for lunch/snacks/home." (16 comments) "They were more willing to try/tried new foods." (20 comments)

\* Educators provided 11 examples of changes in their knowledge related to the origins of food. Examples include: "I didn't know that all food starts from the soil." "I didn't know you could grow these fruits and vegetables in Iowa." "Thank you. I am supposed to teach these concepts but I didn't know how to teach MyPyramid/MyPlate."

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

#### Outcome #2

##### 1. Outcome Measures

As reported by educators, percentage of youth participating in CLL lessons who increased their knowledge of the MyPyramid and making healthy food choices.

Not Reporting on this Outcome Measure

#### Outcome #3

##### 1. Outcome Measures

As reported by educators, percentage of youth participating in CLL lessons who made healthy food choices; tried new foods; and made healthier food choices during snacks, lunch, and class parties.

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2012	91

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

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

Iowa ranks 15th highest in obesity/overweight prevalence and is in the bottom 10% of fruit and vegetable consumption in the United States. Youth ages 8 to 18 sit in front of a screen for an

average of 7 hours and 23 minutes each day and prefer being indoors rather than going outdoors. Youth and adults are disconnected with the natural environment, where food comes from, and the ability to make good decisions regarding their health and well-being. Together, these situations dramatically increase physical, mental, behavioral, and learning problems.

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

113 on-line evaluation survey responses were completed by 80% classroom teachers, 9% day care providers, 5% extension program leaders, and 6% volunteer leaders, naturalists, community garden coordinator, Ag-in-the-Classroom educator, health and wellness program leader, and local foods project leader. The surveys represented 8,891 youth participating in ISUEO CLL lessons and activities. The CLL trainings and the majority of the lessons they receive empower them to encourage students to try new foods and make healthy food choices at school, home, and as a personal preference. The Healthy Gardens, Healthy Youth grants in 58 classrooms emphasize those outcomes.

#### **Results**

\* 91% of the 8,891 participating students chose healthy foods.

\* Educators provided 7 examples of changes in knowledge and sharing what they learned regarding MyPyramid. Examples include: "The students struggled with categorizing foods before the lessons were taught. By the end of the lessons, they had to prepare a menu using all the food groups. Over 90% of the class scored at or above 92% on their menu. They shared their menu in the classroom with other students and they took their menus home to share with parents." "They built a food pyramid." "They were able to put foods into food groups." (4 comments), "They put food into food groups at home"

\* Educators provided 8 examples of changes in knowledge regarding healthy food choices. Examples include: "They are more aware of what foods are healthy for them." (2 comments) "They discussed healthy food choices." (4 comments) "They tell their parents about healthy foods to eat." (2 comments)

\* Educators provided 38 examples of students choosing healthy foods, trying new foods, and making healthy choices at lunch, snack time, or home. Examples include: "They chose healthy foods/fruits and vegetables for lunch/snacks/home." (16 comments) "They were more willing to try/tried new foods." (20 comments)

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

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

#### **Outcome #4**

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

As reported by educators, percentage of youth participating in CLL lessons who increased their knowledge regarding growing food from plants.

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

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2012	91

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

**Issue (Who cares and Why)**

Iowa ranks 15th highest in obesity/overweight prevalence and is in the bottom 10% of fruit and vegetable consumption in the United States. Youth ages 8 to 18 sit in front of a screen for an average of 7 hours and 23 minutes each day and prefer being indoors rather than going outdoors. Youth and adults are disconnected with the natural environment, where food comes from, and the ability to make good decisions regarding their health and well-being. Together, these situations dramatically increase physical, mental, behavioral, and learning problems.

**What has been done**

113 on-line evaluation survey responses were completed by 80% classroom teachers, 9% day care providers, 5% extension program leaders, and 6% volunteer leaders, naturalists, community garden coordinator, Ag-in-the-Classroom educator, health and wellness program leader, and local foods project leader. The surveys represented 8,891 youth participating in ISUEO CLL lessons and activities. The majority of the CLL lessons focus on how food plants grow. About 25% of the lessons guide youth through actual outdoor gardening experiences. Healthy Gardens, Healthy Youth grants provide funding to start school gardening. Many other CLL participants are actually gardening with youth.

**Results**

- \* 91% of the 8,891 participating students learned about growing food from plants.
- \* 64% (72) of the educators reported using actual gardens.
- \* Educators provided 83 examples of increased knowledge and skills regarding growing food from plants. Examples include: "They discussed/talked about/shared their new knowledge and skills about growing seeds/plants/gardens." (53 comments) "They talked about what part of the plant/what plants do foods come from." (12 comments)
- \* Educators provided 23 examples of sharing gardening knowledge and skills with family and others and starting gardens at home. Examples include: "Students showed the gardens to their family and others." (9 comments) "Students asked/helped parents to plant gardens at home." (10 comments) "A group of 4th grade students kept a garden blog." "Forty students signed up to do summer gardening."

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

## **Outcome #5**

### **1. Outcome Measures**

As reported by educators, percentage of youth gardeners participating in CLL lessons who improve their vegetable consumption.

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

- 1862 Extension

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

Change in Action Outcome Measure

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

<b>Year</b>	<b>Actual</b>
2012	94

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

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

Iowa ranks 15th highest in obesity/overweight prevalence and is in the bottom 10% of fruit and vegetable consumption in the United States. Youth ages 8 to 18 sit in front of a screen for an average of 7 hours and 23 minutes each day and prefer being indoors rather than going outdoors. Youth and adults are disconnected with the natural environment, where food comes from, and the ability to make good decisions regarding their health and well-being. Together, these situations dramatically increase physical, mental, behavioral, and learning problems.

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

113 on-line evaluation survey responses were completed by 80% classroom teachers, 9% day care providers, 5% extension program leaders, and 6% volunteer leaders, naturalists, community garden coordinator, Ag-in-the-Classroom educator, health and wellness program leader, and local foods project leader. The surveys represented 8,891 youth participating in ISUEO CLL lessons and activities. 90% of the CLL food lessons focus on increasing fruit and vegetable consumption and that is also the main point of growing the gardens. Healthy Gardens, Healthy Youth grants include fruit and vegetable snack opportunities in 9 classroom lessons, and the Wellmark grant provided funds for the snacks.

#### **Results**

- \* 94% of the 8,891 participating youth ate fruits and vegetables.
- \* Educators provided 26 examples of students eating more fruits and vegetables for lunch, snacks, in the classroom and at home.
- \* Students also shared garden produce with their families, other families in needs, and to a Crisis Center.
- \* 58 Healthy Gardens, Healthy Youth grant sites have provided fruit and vegetable snacks at least 9 times to more than 1,200 students. The same students harvested and ate cool season and warm season crops from their gardens. Cornell has the results of those experiences and will

share them in 2013-14.

\* CLL facilitator presented to approximately 130 school foodservice providers how school garden and ISUEO nutrition lessons could help achieve positive outcomes of the new school lunch meal pattern.

\* ISUEO CLL participants are working with institutions, Team Nutrition, Farm to School, local food producers, Healthiest State, Blue Zone, HyVee, and other health and nutrition interest groups to increase fruit and vegetable consumption in Iowa.

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

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

#### **Outcome #6**

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

Percentage of 4-Hers ages 12-18 taking the FSQA certification test who self-report improved techniques and practices in livestock drug injections, record keeping, and food product safety and biosecurity.

Not Reporting on this Outcome Measure

#### **Outcome #7**

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

Percentage of youth participating in sustainable energy workshops who self-report increased knowledge of what sustainable energy means, the importance of sustainable energy, and/or promising sustainable energy technologies.

Not Reporting on this Outcome Measure

#### **Outcome #8**

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

Percentage of youth participating in climate change workshops who self-report increased knowledge of the causes and/or consequences of climate change.

Not Reporting on this Outcome Measure

#### **Outcome #9**

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

Percentage of 4-H'ers in grades 4-6 taking the FSQA certification test who self-report improved techniques and practices in livestock drug injections, record keeping, and food product safety and biosecurity.

## 2. Associated Institution Types

- 1862 Extension

### 3a. Outcome Type:

Change in Action Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2012	80

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Providing a safe and healthy food supply has always been a key issue to the American consumer, but in recent years this issue has become even more important to consumers, wholesale distributors, restaurant chains, and foreign export markets with the recall of various foods and the outbreak of food borne illnesses. Not only details on treatments and/or medications given to animals, but also how animals have been raised and treated throughout their lives has become front page news. Consequently, livestock producers continually strive to improve management practices to ensure American citizens have the safest food supply in the world.

#### What has been done

A comprehensive food safety and quality assurance curriculum program (FSQA) is conducted each year with 4-H'ers. Through the use of a variety of educational materials including video tutorials to hands-on learning, youth learn about animal identification, source verification (when and where the animals are born and raised), biosecurity measures (cleanliness techniques, disease contamination, on-farm disease transmission), drug treatments and injections, quality record keeping, and appropriate animal handling and welfare requirements.

#### Results

In the 2011/2012 program year, 33 counties were randomly selected to have youth enrolled in Food Safety and Quality Assurance training complete a survey. Youth in grades 4-6 were administered a written survey of nine questions regarding how their FSQA techniques and practices were changed in the areas of record keeping, medication administration, animal welfare, and ethics. Of the 1,341 youth who were eligible to receive the survey, 641 youth completed the survey. Of the 641 youth who completed the survey, approximately 80% of the youth indicated they strengthened their behavioral practices after attending the FSQA training courses in the areas of record keeping, medication administration, animal welfare, and ethics. 4-H'ers and livestock producers are being rewarded for superior meat products and for raising their animals in certain environmental conditions. For example, beef animals with no antibiotic treatments or animals that are raised a certain way can receive a premium anywhere between \$.05 -\$.10/pound for a 4-H'er. Each year, the meat industry spends over \$80 million in meat inspection costs. Much of this cost could be reduced at the producer level by educating youth on how to treat and handle their animals correctly. Knowing that a single disease outbreak or a food recall can cause irreversible damage to the U.S. markets, it is imperative to continue to educate youth on the

important topics that are covered in this curriculum. Iowa is the top state for both hog production and egg layer production producing more than \$10 billion in livestock value across all commodities, and also generates millions of dollars in agriculture jobs to the state economy. Iowa's 4-H youth are the future farmers and livestock producers of this state and are needed to increase job growth and economic development.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

#### Outcome #10

##### 1. Outcome Measures

Percentage of youth participating in Iowa 4-H STEM programs who self-reported an increase in STEM process skills necessary to be successful in STEM courses and careers.

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2012	44

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

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

According to the Committee on Prospering in the Global Economy of the 21st Century's report *Rising above the Gathering Storm*, (The National Academies Press, 2007), the United States faces a critical shortage of young people with the skills and training to meet 21st century workforce needs and make scientifically informed decisions. In 2008 a Congressional Research Service (CRS) report (Kuenzi, 2008) urged the immediate need for STEM-related workforce development. The Iowa Department of Economic Development reports: The state's manufacturing sector contributes the largest share of state gross domestic product (GDP) of any major sector with \$23 billion contributed in 2009. In order for Iowa youth to be successful in the 21st century they must be prepared with the skills and meet workforce needs.

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

Throughout the state of Iowa, Extension 4-H programs offer STEM learning opportunities for Iowa youth to increase their STEM process skills and improve their positive attitudes toward STEM education and careers through workshops, school enrichment activities, STEM themed camps, after school programs, and clubs as well as individual project work on STEM related topics.

Programming provided during these in- and out-of-school opportunities utilized national 4-H curriculum such as The Power of Wind, Iowa State University and other Land Grant University resources such as GEAR Tech 21, and other available science education resources such as those available through NASA and NOAA.

**Results**

In the 2011/2012 year, youth enrolled in 4-H environmental education programs (covering topics such as, gardening, astronomy, Geospatial navigation, environmental sustainability, nature experiences, ecology, plant science, water quality, conservation, habitat preservation, plant and animal taxonomy, and fish and wildlife service refuge restoration) took the Iowa 4-H Science Self-Assessment. The survey indicated that participants were enthusiastic about science and reported having strong science skills. 71% agreed that they like science, 74% agreed science is useful for solving everyday problems, and 71% agree that there are lots of ways science could be used to solve society's problems. 41% of participants agreed they wanted to pursue a science-related career after graduating from high school. 62% of participants reported they taught others about science through activities such as a demonstration or a presentation at a community meeting and 76% reported helping with a community service project related to science, such as planting trees or cleaning up a stream. For questions related to STEM process skills such as designing a scientific procedure to answer a question or using data to create a graph for presentation to others, 44% of youth reported that participating in 4-H program improved their skill level in completing such tasks. The lower than anticipated percentage of youth reporting change in skills level may be a result of surveying only youth who participated in environmental education programs. We are taking steps in 2013 to evaluate a more representative sample of the offered 4-H STEM programs.

**4. Associated Knowledge Areas**

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

**Outcome #11**

**1. Outcome Measures**

Percentage of youth from randomly selected 4-H clubs who self-report they demonstrate outstanding communication practices in sending and receiving written, visual, and oral message after being engaged in 4-H club experiences.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2012	68

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

According to the study, Are They Really Ready to Work? Employer's Perspectives on the Basic Knowledge and Applied Skills of New Entrants to the 21st Century Workforce (2006), "the future workforce is here, and it is ill-prepared." Business leaders reported that "while the three 'R's are still fundamental to every employee's ability to do the job, applied skills such as team work, critical thinking, and communication are essential for success at work. In fact, at all education levels, these applied skills trump back knowledge skills such as reading and mathematics in importance in the view of employers." High percentages of surveyed employers indicated that high school graduates entering the workforce are deficiently prepared in the most important skills--written/oral communications (written = 81% and oral = 53%), professionalism/work ethic (70%), critical thinking/problem solving (70%), ethics/social responsibility (44%), and teamwork/collaboration (35%).

#### What has been done

All 100 counties offered a county communication event program. 1,741 4-H members participated in public speaking and performance events at the 2012 Iowa State Fair. Increasing communication skills and communication opportunities in the local 4-H club continued to be emphasized at 4-H leader trainings. All Iowa 4-H'ers are expected to demonstrate learning by giving a presentation or demonstration before a group, typically at a club or group meeting. 65 volunteers received training to help members improve the quality of 4-H working exhibits and presentation skills.

#### Results

622 randomly selected 4-H Club members completed the Iowa 4-H Youth Citizenship, Leadership, Communication, and Learning Self-Assessment Tool. The tool, based on a 5-point Likert scale, examined self-reported changes in 4-H Club members' communication practices after participating in 4-H as compared to before participating in 4-H. On average, 49.4% of 4-H Club members indicated a 1-point increase, 14.1% indicated a 2-point increase, 3.7% indicated a 3-point increase, and .3% indicated a 4-point increase in their communication practices after participating in a 4-H Club.

4-H Club members commonly indicated being involved in 4-H helped a young person strengthen communication practices through... 1) creating demonstrations, presentations, and speeches; 2) speaking in front of groups; 3) expressing ideas and asking for help from 4-H Leaders and judging officials; and 4) working together with a team of different aged people and having to speak and write effectively, listen attentively to others' views, and articulately express one's perspectives.

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

## **Outcome #12**

### **1. Outcome Measures**

Percentage of youth from randomly selected 4-H clubs who self-report they demonstrate productive citizenship practices by being fair and trustworthy, identifying community needs, organizing service learning projects, and participating in community issues after being engaged in 4-H club experiences.

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

- 1862 Extension

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

Change in Action Outcome Measure

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

<b>Year</b>	<b>Actual</b>
2012	72

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

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

According to the National League of Cities, an organization dedicated to helping city leaders build better communities, "by participating in local government, youth gain work experience, acquire new skills, learn responsibility and accountability, develop a greater sense of confidence and empowerment, and forge meaningful connections to other youth and adults. Youth involved in positive activities such as service learning are also less likely to pursue risky behaviors. In addition, youth voice in local decision-making can help city officials enact better policies and programs, especially with regard to youth issues." (National League of Cities -- Youth Civic Engagement <http://www.nlc.org/find-city-solutions/iyef/youth-civic-engagement>).

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

4080 Iowa youth are enrolled in the 4-H Citizenship project. 1204 youth and adults contributed 6017 volunteer hours to improve their communities through the State 4-H Youth Conference and Pioneer Community Improvement grants. Twenty-five Iowa 4-H clubs leveraged \$4605 in Pioneer Community Improvement grants into nearly \$18,500 in community improvement projects. Four 4-H members served as delegates to National 4-H Conference; 102 Iowa 4-H'ers participated in the national Citizenship Washington Focus program. Fifteen members interviewed for state level Citizenship project awards. Participation in a service activity is an expectation of all Iowa 4-H members and Iowa 4-H clubs.

#### **Results**

622 randomly selected 4-H Club members completed the Iowa 4-H Youth Citizenship, Leadership, Communication, and Learning Self-Assessment Tool. The tool, based on a 5-point Likert scale, examined self-reported changes in 4-H Club members' citizenship practices after participating in 4-H as compared to before participating in 4-H. On average, 52.1% of 4-H Club

members indicated a 1-point increase, 19.5% indicated a 2-point increase, and .8% indicated a 3-point increase in their citizenship practices after participating in a 4-H Club.

4-H Club members most commonly indicated being involved in 4-H helped a young person strengthen citizenship practices through... 1) being involved in service learning projects to improve one's community; 2) understanding the importance of helping and caring about others; 3) showing respect to others, especially one's elders; 4) working with and learning from other individuals; and 5) emphasizing the importance of giving of one's time/volunteering.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

#### Outcome #13

##### 1. Outcome Measures

Percentage of youth from randomly selected 4-H clubs who self-report they demonstrate effective leadership practices in working with others, listening to others' ideas, sharing one's own ideas, and handling conflict respectfully after being engaged in 4-H club experiences.

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2012	67

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

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

According to Wehmeyer, Agran, & Hughes (1998), youth leadership is part of the youth development process and supports youth in developing: (a) the ability to reflect upon his or her strengths and weaknesses; establish personal and occupational goals; and have the self-esteem, confidence, motivation, and ability to carry them out (including the capacity to develop support networks in order to fully participate in community life and effect positive social change); and (b) the competence to point or direct others on a course of action, influence individuals' opinions and behaviors, and serve as a role model. Evaluations of youth development programs have demonstrated that young people who participate in youth leadership and civic engagement activities consistently get the supports and opportunities needed for healthy youth development (Innovation Center for Community and Youth Development, 2003). Additionally, research shows that youth who participate in developmentally appropriate decision making activities and those

who have access to meaningful youth development supports and opportunities are better prepared to make a successful transition to adulthood (Gambone, Klem, and Connell 2002).

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

2,452 Iowa youth are enrolled in the 4-H Leadership project. More than 1,350 community and project clubs provide leadership experiences for members. 582 youth and 72 adults received leadership training during the Iowa 4-H Youth Conference; 70 youth and adults completed Youth-Adult Partnerships training; 22 4-H members represented Iowa at the National 4-H Congress. Forty high school youth provide leadership as members of the State 4-H Council, planning the 4-H Youth Conference and serving as ambassadors for the 4-H program. 87 youth had volunteer leadership positions with 4-H events during the 2012 Iowa State Fair.

#### **Results**

622 randomly selected 4-H Club members completed the Iowa 4-H Youth Citizenship, Leadership, Communication, and Learning Self-Assessment Tool. The tool, based on a 5-point Likert scale, examined self-reported changes in 4-H Club members' leadership practices after participating in 4-H as compared to before participating in 4-H. On average, 50.6% of 4-H Club members indicated a 1-point increase, 14.3% indicated a 2-point increase, and 2.1% indicated a 3-point increase in their leadership practices after participating in a 4-H Club.

4-H Club members most commonly indicated being involved in 4-H helped a young person strengthen leadership practices through... 1) providing opportunities to have officer roles within 4-H Clubs and team leader roles within activities; 2) presenting and voicing personal opinions effectively in front of a group of people; 3) exhibiting characteristics of responsibility, dependability, character, and trustworthiness; 4) cooperating with others within team settings; and 5) role modeling and setting good examples, such as treating others fairly, for younger 4-H'ers.

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

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

#### **Outcome #14**

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

Percentage of youth from randomly selected 4-H clubs who self-report they demonstrate successful learning practices by creating project learning goals, analyzing the strengths and weaknesses of different ideas, using time efficiently, and applying lessons learned to new experiences after being engaged in 4-H club experiences.

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

- 1862 Extension

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

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2012	69

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

**Issue (Who cares and Why)**

According to the study, *Are They Really Ready to Work? Employer's Perspectives on the Basic Knowledge and Applied Skills of New Entrants to the 21st Century Workforce* (2006), "the future workforce is here, and it is ill-prepared." Business leaders reported that "while the three 'R's" are still fundamental to every employee's ability to do the job, applied skills such as team work, critical thinking, and communication are essential for success at work. In fact, at all education levels, these applied skills trump back knowledge skills such as reading and mathematics in importance in the view of employers." High percentages of surveyed employers indicated that high school graduates entering the workforce are deficiently prepared in the most important skills -- written/oral communications (written = 81% and oral = 53%), professionalism/work ethic (70%), critical thinking/problem solving (70%), ethics/social responsibility (44%), and teamwork/collaboration (35%). Additionally, nearly 75% of surveyed business leaders identified creativity/innovation as a top applied skill rising in importance for new entrants in the workforce.

**What has been done**

23,769 4-H'ers enrolled in one or more of the 38 project areas offered. All curriculum materials available to Iowa 4-H members is selected from the National 4-H Curriculum Directory and utilizes the experiential learning model. All 4-H clubs and members are expected to set goals, evaluate progress towards goals, and keep records of activities and evaluate experiences. 100 counties provide a county fair exhibit opportunity for members to share what they have learned. Participating members share their exhibit goals, what was done, and what was learned as part of exhibit conference judging. Camps, conferences and contests provided additional learning opportunities for selected members to enhance and demonstrate skills learned.

**Results**

622 randomly selected 4-H Club members completed the Iowa 4-H Youth Citizenship, Leadership, Communication, and Learning Self-Assessment Tool. The tool, based on a 5-point Likert scale, examined self-reported changes in 4-H Club members' learning practices after participating in 4-H as compared to before participating in 4-H. On average, 46.5% of 4-H Club members indicated a 1-point increase, 19.2% indicated a 2-point increase, and 3.2% indicated a 3-point increase in their learning practices after participating in a 4-H Club.

4-H Club members most commonly indicated being involved in 4-H helped a young person strengthen learning practices through... 1) defining the purpose or need of projects; 2) creating project learning goals; 3) reviewing a variety of resources related to projects; 4) identifying the strengths and weaknesses of different ideas, solutions, or approaches; 5) reflecting on what is going well and what needs to change during projects to achieve goals; 6) using time wisely to address project goals; and 7) applying what is learned during projects to new experiences.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
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806 Youth Development

### **Outcome #15**

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

Percentage of youth who self-report an increase in civic engagement knowledge and intent to engage in service projects in their communities.

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

- 1862 Extension

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

Change in Action Outcome Measure

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

<b>Year</b>	<b>Actual</b>
2012	88

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

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

In Iowa, 11% of the population lives below the poverty level (US Census), including 13.6% of related children under the age of 18 and 7.7% of individuals aged 65 and older. In 2009, Iowa's drop-out rate increased by 23% (IDOE), and according to the Iowa Youth Survey (2005) 65% of 11th graders do not feel supported in their neighborhoods and 70% do not feel supported in their schools. The statistics below represent some of the contributing factors for people experiencing economic hardship. In Iowa, 6% of Iowa's population is unemployed (USDOL), the highest rate for unemployment in Iowa since 1990. Inability to find affordable housing, eviction foreclosure, domestic violence and lack of employment are factors that contribute most heavily to the fact that 21,000 Iowans were homeless in 2005 (Iowa Statewide Homeless Study). Youth are an untapped resource who could make a difference in their communities, and in turn, could improve their relationships with adults in their communities.

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

The ISU Extension and Outreach 4-H Youth Program created a statewide program called Reach Out Iowa (ROI) with a goal to instill a service learning ethic with 6,900 youth primarily in 6 community sites. The purpose is to create a climate of positive community change that recognizes youths' strengths. Through developing community partners with youth serving agencies, ISU Extension and Outreach staff have:

- \* Trained 4,000 youth in service learning representing all 99 Iowa counties.
- \* Provided more than \$100,000 to communities across the state, specifically targeting Sioux City, Cedar Rapids, Waterloo/Cedar Falls, Des Moines, Marshalltown, and the Winterset and Adair County.
- \* Conducted 193 training sessions with youth and community providers
- \* Supported more than 100 service learning projects that included food and clothing drives;

financial literacy education; high school defensive driving simulations; cabin remodels; dissemination of resource and referral information on poverty-related issues; gardening projects at nursing homes; invasive species education; school readiness activities for disadvantaged youth in an inner city; weatherization of homes; and military family support activities.

\* Impacted 13,000 Iowans who benefitted from the service learning projects. Approximately 50% of the 13,000 (6,500) benefitting from these projects were economically disadvantaged.

\* 50 partner organizations have received training on effective service learning principles and practices and now more than 60% of the organizations engage youth in leadership positions.

### **Results**

Youth experienced significant changes as a result of their participation in service learning projects. Civic knowledge, leadership, community attachment, community responsibility, and personal skills perceptions were greater after the experience as compared to before. Most youth benefitted by working with others and felt included and valued in the project. Their experiences made them care more about needs in their communities and they plan to do other service or volunteer projects. The project met a key performance measure that at least 50 percent of youth would increase their civic knowledge. 87.5% of youth participating in service learning projects indicated they "agree" or "strongly agree" that they plan to do other service or volunteer projects. Recipient organizations were extremely positive about the planning and implementation process. 98% stated that the service learning projects were beneficial to their clients/recipients and that they, too, benefitted from their interaction with the youth and are now more interested in working with youth in the future. Additionally, the project met a key performance measure that at least 75% of recipient organizations would report that the clients/recipients are benefitting from and/or finding the activities provided by the service learning participants to be useful.

### **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**

- Economy
- Appropriations changes
- Public Policy changes
- Competing Public priorities
- Competing Programmatic Challenges

#### **Brief Explanation**

Population shifts continue to concentrate youth in Iowa's 11 most populous counties, with 52% of Iowa's school-aged youth living in those counties in 2012. The impact on the 4-H Youth Development program is the need to devote more resources to programs in those counties, but tight budgets have meant a reduced capacity to fund programs targeted specifically for those counties. Although we were able to partially meet innovative club programming goals with grant funded programs, the ability to sustain these programs when grant funds disappear is unknown.

Focusing attention on specialized innovative program efforts has diluted the amount of resources available to work with more traditional 4-H audiences. Implementation of new

and innovative programs to reach new youth audiences is dependent on both the number of youth residing in the area and staff's ability to develop relationships with potential volunteer citizen pools. Acceptance by current 4-H staff and volunteers of innovative and emerging 4-H club models is critical to the success of the programs and has been challenging.

Aligning program outcomes with NIFA priorities, while maintaining and improving a comprehensive 4-H Youth Development program remains a challenge. The Iowa 4-H Youth Program emphasizes broader youth development and life skills outcomes while NIFA priorities are typically more narrowly focused around single topics. This is especially noticeable in program evaluation efforts of NIFA priorities. However, the Iowa 4-H Youth program has increased efforts to measure knowledge and behavior change of program participants in selected educational programs that match NIFA priority areas (ex: food safety and childhood obesity). We also increased efforts to identify additional STEM opportunities within current educational programs and added staff training on Inquiry Learning methods. The latter efforts were developmental to build capacity for implementation in FY 2013.

Adoption of the Iowa Core Curriculum standards by the Iowa Department of Education and local school districts presents challenges in the ability of the Iowa 4-H Youth Program to partner with schools. Staff continues to evaluate current 4-H curricula to identify core standards met, revising curricula units where necessary to meet core standards needed for use by local school districts. Because local school districts emphasize formal education models as the best way to align local curricula with state and national standards, schools are often hesitant to engage in non-formal youth development educational offerings through Extension and Outreach.

Significant time was spent planning for staff realignment (to occur FY 2013) to better address the challenges addressed above. A priority for ISU Extension and Outreach is to be the leader for K-12 outreach efforts across the university. It is desired that the Iowa 4-H Youth program will provide program expertise in youth development for all units and departments of ISU. Planning efforts for this increased university role has meant less time and resources available for program design and delivery.

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

### **Evaluation Results**

#### **4-H Youth Citizenship, Leadership, Communication, and Learning Self-Assessment Study**

622 randomly selected 4-H club members representing Iowa's 20 Extension and Outreach areas completed the 4-H Youth Citizenship, Leadership, Communication, and Learning Self-Assessment Tool. The tool, based on a 5-point Likert scale (where 1 = not at all and 5 = great deal), examined self-reported changes in 4-H club members' communication, leadership, citizenship, and learning practices after participating in 4-H as compared to before participating in 4-H. 397 females (63.8%) and 225 males (36.2%) completed the self-assessment.

- Reliability analysis of the self-assessment tool indicated that the individual questions within each of the four respective constructs (citizenship, leadership, communication, and learning) represented the conceptual meaning of the given construct. Further, statistical

comparisons of "After" and "Before" responses (all respondents combined) using paired t-tests were conducted for each of the constructs, as well as for the individual questions within the constructs. For each construct and each question, the respondents reported statistically higher "After" scores than "Before" scores.

- 49.4% of 4-H Club members indicated a 1-point increase, 14.1% indicated a 2-point increase, 3.7% indicated a 3-point increase, and .3% indicated a 4-point increase in their communication practices after participating in a 4-H club.
- 50.6% of 4-H Club members indicated a 1-point increase, 14.3% indicated a 2-point increase, and 2.1% indicated a 3-point increase in the leadership practices after participating in a 4-H club.
- 52.1% of 4-H Club members indicated a 1-point increase, 19.5% indicated a 2-point increase, and .8% indicated a 3-point increase in their citizenship practices after participating in a 4-H club.
- 46.5% of 4-H Club members indicated a 1-point increase, 19.2% indicated a 2-point increase, and 3.2% indicated a 3-point increase in their learning practices after participating in a 4-H club.

### **Reach Out Iowa (ROI) Project**

As a result of 4,000 youth receiving service learning training via the Reach Out Iowa project, the following impact was obtained:

- Youth participants experienced significant improvement in civic knowledge, leadership, community attachment, community responsibility, and perceptions of personal skills after participating in service learning projects.
  - 87.5% of youth participants indicated they "agreed" or "strongly agreed" that they plan to do other service or volunteer projects in their communities.
  - 98% of recipient organizations stated the service learning projects were beneficial to their clients and they, too, benefitted from their interaction with the youth and are now more interested in working with youth in the future.
  - Focus groups with adults and youth involved in ROI service learning projects indicated that adults in the community, including teachers and project leaders, see teenagers as capable, responsible, and generous when provided with the opportunity to serve. Youth shared they learned communication, teamwork, and leadership skills and experienced a sense of pride and accomplishment in their work.

## **Key Items of Evaluation**

### **CHILDHOOD OBESITY**

As a result of 446 teachers, pre-service teachers, and other educators participating in Connecting Learning and Living (CLL) training on connecting youth with MyPyramid concepts and understanding the origins of food, the following impact was obtained via surveys:

- 90% of the training participants reported increases in knowledge, interest, and confidence in delivering MyPyramid/MyPlate and the origin of food.
- 100% of training participants indicated they would use what they learned and the lessons plans they received with students.
- 113 educators reported that 91% of 8,891 youth that participated in CLL lessons chose healthy foods after completing the lessons.
- 91% of the 8,891 participating students learned about growing food from plants.
- 94% of the 8,891 participating youth ate fruits and vegetables.

- 64% of the 113 educators reported integrating gardens in their lessons with students.
- 58 Healthy Gardens, Healthy Youth grant sites have provided fruit and vegetable snacks at least 9 times to more than 1,200 students.
- Iowa State University Extension and Outreach CLL participants are working with institutions, Team Nutrition, Farm to School, local food producers, Healthiest State, Blue Zone, HyVee, and other health and nutrition interest groups to increase fruit and vegetable consumption in Iowa.
- Educators shared...
  - "The students struggled with categorizing foods before the lessons were taught. By the end of the lessons, they had to prepare a menu using all the food groups. Over 90% of the class scored at or above 92% on their menu."
  - "Students are more aware of what foods are healthy for them."
  - "Students chose healthy foods/fruits and vegetables for lunch/snacks/home."
  - "Students were more willing to try/tried new foods."
  - "Students shared their new knowledge and skills about growing seeds/plants/gardens."
  - "Students talked about what part of the plant/what plants do foods come from."
  - "Students helped parents plant gardens at home."

### **FOOD SAFETY**

A comprehensive food safety and quality assurance curriculum program (FSQA) is conducted each year with 4-H'ers. Through the use of a variety of educational materials including video tutorials and hands-on learning, youth learn about animal identification, source verification, biosecurity measures, drug treatments and injections, quality record keeping, and appropriate animal handling and welfare requirements.

As a result of 641 youth participating in Food Safety and Quality Assurance training, the following impact was obtained via self-reporting surveys:

- 80% of youth indicated they strengthened their behavioral practices after attending the FSQA training courses in the areas of record keeping, medication administration, animal welfare, and ethics.
- The top three techniques or practices youth indicated they have implemented or changed after participating in FSQA training are
  - Keeping accurate records for identifying animals that are sick
  - Following appropriate drug withdrawal requirements when giving animals medications
  - Understanding that one's practices not only affect their own animals but other animals as well