

2013 NY State Agricultural Experiment Station Research and Cornell University Research and Extension Combined Annual Report of Accomplishments and Results

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I. Report Overview

1. Executive Summary

Cornell University Executive Summary - Report

At Cornell University, Federal Formula Funds are administered strategically to address a wide range of issues in the state and foster integration of applied research and extension programming.

Cornell University Agricultural Experiment Station (CUAES), the New York State Agricultural Experiment Station (NYSAES), and Cornell Cooperative Extension (CCE) work collaboratively to determine planned programs that align with NIFA priority areas and direct funds to research and extension projects as well as those that integrate research and extension. The approach used to integrate the work of the experiment stations and Cooperative Extension is designed to serve the citizens of New York State and improve the human condition through excellence in scholarship; linking research, non-formal teaching and extension to real life challenges and opportunities. Director level staff in CUAES, NYSAES, and CCE meet regularly as an Integrated Program and Research Team (IPaRT) to discuss relevant issues, research and extension projects and new opportunities.

IPaRT recruits and communicates with a group of richly diverse research and extension stakeholders (referred to as the Program Council), who provide input and inform priorities for use of Federal Formula Funds. Program Council reviews proposals which have been submitted through an internal competitive process through which faculty may apply for federal formula funds for projects with research and extension components that match the current priorities. In addition, 31 active Program Work Teams comprised of extension educators, faculty, and stakeholders from across New York State work together to develop, implement, and evaluate priority programs.

This report documents the intentional planned program work that resulted from Federal Formula Funds. Further detail, outcome indicators and success stories are included in the formal report.

Each organization is described below to better explain our unique system at Cornell University:

Cornell University Agricultural Experiment Station

The CUAES links Cornell's world-class research facilities with one of the nation's most comprehensive statewide cooperative extension systems. Through this engaged, interactive system we address pressing issues that directly affect the health and welfare of the state and beyond. Many of today's most urgent societal concerns - from childhood obesity to invasive species to global climate change - are not bound by state or national boundaries.

With more than 130 years of experience identifying, quantifying, and responding to emerging issues in an ever-changing world, CUAES directs some of the most important projects in the state on a broad range of topics with six general themes: Global Food Security & Hunger; Youth, Family, & Community;

Climate Change; Food Safety; Sustainable Energy; and Childhood Obesity.

The station also manages over 12,000 acres of farms and forests and seven farms, facilities and over 177,000 square feet of greenhouse space, providing critical research services to scientists. Our student-run farm, Dilmun Hill, which uses organic agricultural practices, is a model of a student-run agricultural operation that has been emulated by other organizations and universities. Every aspect of our operation - from staff development to forest management to farm equipment - is viewed through the lens of sustainability.

The Cornell University Agricultural Experiment Station:

- Manages more than \$5.5 million in federal Hatch grants, and in 2013 administered 209 active projects.
 - Annually distributes approximately \$1.5 million to new competitively reviewed projects. Federal formula grants are an essential element of Cornell's research portfolio, supporting applied research that benefits residents of the state, region, and the nation.
 - Manages an operational budget that is approximately \$3.5 million and employs 48 full-time staff including 41 in operations and seven in administration.
 - Operates seven farms with agricultural production and forest acreage across the state, from Willsboro on Lake Champlain to Long Island on the Atlantic Seaboard.

New York State Agricultural Experiment Station

Established in 1880, NYSAES in Geneva has existed for more than 130 years developing cutting-edge technologies essential to feeding the world and strengthening New York economies. The focus of both research and extension programs at NYSAES is on the production, protection and processing of horticulture food crops, turf and hybrid willow for renewable energy. While our programs have traditionally addressed global food security and hunger issues, the Experiment Station is also well positioned to address other challenges identified as high priorities by NIFA.

The New York State Agricultural Experiment Station:

- Operates on a budget that is approximately \$29 million with \$9.1 million funded through SUNY's base budget.
 - Employs 290 staff and 37 tenure-track professors.
 - Partners with Faculty and Extension Associates: on the range of 10 visiting scientists, 10 postdocs, 25 research and extension associates.
 - Extends research and knowledge through students. In recent years there have been 50 to 55 graduate students conducting masters and doctoral studies.
 - Encourages cross departmental/Research Association operations: Our four departments -- horticulture; plant pathology and plant-microbe biology; entomology and food science - have faculty in Geneva and Ithaca. The main focus is on improving the genetics, cultivation, production, protection, handling and processing of fruit and vegetable crops.
 - Partners with the Northeast Center for Food Entrepreneurship (NECFE), at the NY Food Venture Center at Geneva to provide assistance to over 200 food entrepreneurs annually, promoting sustainable economic development in rural communities.

Campus includes:

- U.S. Department of Agriculture's Plant Genetic Resources Unit (PGRU), responsible for the collection of apple, sour cherry and cold-hardy grapes and selected seed-propagated crops, such as onion, garlic,

broccoli, cabbage and winter squash; and the Grape Genetics Resources Unit (GGRU), responsible for the national program on grape genetics and genomics.

- A central Geneva campus made up of 20 major buildings, several smaller buildings for farm machinery storage and similar purposes, and 3 houses with rooms rented to graduate students, visiting scientists, and postdocs.

- Two pilot plants -- the Fruit & Vegetable Processing Pilot Plant and the Vinification & Brewing Technology Laboratory -- provide opportunities for entrepreneurs and processors to add value to the state's raw products.

- The NYS IPM Program
- The NYS Seed Testing Laboratory
- IR-4 Field Research Program
- Cornell Agriculture and Food Technology Park adjacent to the main NYSAES campus
- Administers other research/extension laboratories - Hudson Valley at Highland, NY, and the Cornell Lake Erie Research and Extension Laboratory at Portland, NY.
- Operates eleven farms for experimental plot work close to the Geneva campus with a total of 870 acres. There is also one acre of glasshouse space on the campus.

Cornell Cooperative Extension

CCE extends Cornell University's land-grant programs to citizens all across New York State. With a presence in every county and the five boroughs of NYC, CCE puts research into practice by providing high-value educational programs and university-backed resources that help solve real-life problems, transforming and improving New York families, farms, businesses and communities.

County associations of Cornell Cooperative Extension work with their local boards, committees and volunteers to influence decisions on program priorities and delivery. Our county extension associations and multi-county programs are separate 501(c) 3 organizations under the general supervision of Cornell University as agent for the state of New York.

Cornell Cooperative Extension:

- Annually reaches 1.3 million people directly, and 15 million indirectly.
- Employs 1,056 local and regional staff and educators organized around program initiatives and local needs.
 - Uses 54 specialists to provide programming in integrated pest management, energy education and vegetable and field crop production and management.
 - Extends community work by partnering with over 43,000 volunteers who advise, plan, teach and mentor in all program areas.
 - Partners with over 400 Cornell faculty; primarily from the College of Agriculture and Life Sciences and the College of Human Ecology.
 - Engages a program development process that relies heavily on county input to identify issues of local importance. Often research is informed by the two-way flow of information and experience.
 - Includes 55 distance learning centers across New York State, and is fully equipped to deliver events and instruction through various modes including webinars and on-demand videos to remote audiences, and social media applications.

Collective, planned program areas are described below. Note that planned program areas have changed beginning with FY14. The work that is underway, and the emphasis areas that shape the work, have not changed but the planning and articulation of how that work will be done has shifted to align with the CCE Strategic Plan under the advisement of the CUAES, NYSAES, and CCE Integrated Research and Planning Team (IPaRT).

GLOBAL FOOD SECURITY AND HUNGER

Our research and education programs focus on improving the global food system as a whole -- from "farm to table" -- and include analyses of domestic and international policies that affect the food system, food security and hunger.

Our programs match Cornell University's global health priority, defined as "research, service, and training that addresses health problems that transcend national boundaries, that disproportionately affect the resource-poor, and that are best addressed through multidisciplinary solutions." Domestic programs enhance and contribute to international work, particularly those in developing countries. Programs address diverse issues of global food security such as: soil resources and soil health, reliable production guidelines and genetic improvement of animals and animal production. Our education program complements research in many ways -- by encouraging farmers to grow new crop varieties and employ innovative production and business practices and by informing consumers about improved food products. Our research analyses and education programs also influence and direct government food policy, particularly surrounding issues of food insecurity on a national scale.

Research and extension programs also support the success of agriculture, horticulture and related businesses, a mission central to the land grant university. Our programs help business owners: improve productivity and sustainability through resource management; adopt new technologies and practices; improve their marketing strategies and business management skills and identify alternative enterprises. Programs also help businesses respond to the potential impacts of changing climates by selecting production principles and practices that will ensure their economic and environmental survival.

In all of our work, we integrate research and extension to quickly identify problems, focus scientific effort to resolve them, field-test and evaluate technology and cultural practices and implement environmentally superior innovations/practices for the agricultural, horticultural and natural resource communities.

Outcomes include the following:

- Boost U.S. agricultural production.
- Improve global capacity to meet growing food demand.
- Foster innovation to fight hunger by addressing food insecurity in vulnerable populations
- Assure the long-term viability and well-being of the agricultural/horticulture industry and rural communities in New York State.
 - Promote economically and environmentally sound products and practices, and safer, healthier products.
 - Assist producers, horticulture businesses and natural resource managers to optimize production management and improve profitability and sustainability in accordance with their goals.
 - Increase the use of sustainable practices that result in improved or protected soil, air and water quality and production of high quality and safe food and fiber.
 - Improve soil health and productivity, resulting in increased farm profitability and improved environmental quality.

CLIMATE CHANGE

Researchers are exploring the growing challenges posed by climate change and are investigating strategies to address expected impacts and developing new resources to reduce the human "carbon footprint". Multidisciplinary researchers, educators and extension faculty -- from plant biologists to economists to climatologists -- are engaged in quantifying current trends and predicting future impacts, adapting/moderating practices to reduce human impacts, and communicating/preparing for damage from climate related events. Outcome areas have been identified as:

- Reduce factors contributing to climate change at the individual, community, industry and institutional levels.
- Develop agricultural systems that maintain high productivity in the face of a changing climate.
- Help producers and communities adapt to changing environments.
- Sustain economic vitality, identify challenges and take advantage of emerging economic opportunities offered by new technologies and innovations.

SUSTAINABLE ENERGY

With some of the highest energy costs in the nation, New York residents need information on viable renewable energy options, as well as strategies to promote energy conservation, while farmers, forest owners and agricultural producers in the state are eager to explore new markets.

- Explore opportunities to leverage the state's vast resources of available land and organic waste streams to bolster new, renewable energy initiatives, considered a vital part of forward-looking national energy policy.
- Help New York lead efforts to pursue the national goal of energy independence.
- Encourage communities to focus on locally-produced and owned energy sources and/or lower cost external sources, helping to retain energy dollars within the state.
- Reduce energy costs to boost the economic health of agriculture/horticulture/natural resource and sectors that these disciplines might support.
- Reduce energy costs to boost the financial security of individuals and families and the operations of local governments.
- Improve waste management and waste reduction efforts to enhance and protect the environment, resulting in improved soil, air, and water quality; reduced risk for individuals and families; and an improved economic climate for businesses and government.

CHILDHOOD OBESITY AND NUTRITION

Childhood obesity prevention research and education at Cornell University are based upon an ecological approach, focusing on individuals and their interactions among the multiple environments that surround them. This approach recognizes that there are inherent multiple levels of influence that affect a child's health and body weight. Research topics include nutrition and hunger, nutrition education and behavior, built and natural environments, physical activity promotion, healthful food availability, food product development and health care organization, services and policies.

Extension programs are designed to 1) connect research and practice, 2) result in positive behavior change, 3) build on the strengths of families and youth, 4) develop strong collaborations resulting in community changes for optimal health promotion and 5) provide policymakers with the knowledge to develop appropriate policies to promote healthy lifestyles. Extension programs target children, families and the community at large, with an emphasis on low- and moderate-income audiences. The programs are collaborative and work directly with key community organizations.

All efforts are intended to:

- Ensure ability to select affordable nutritious foods.
- Guide families to make science-based decisions about health and well-being.
- Prevent childhood weight problems and reduce long-term risks for chronic disease by encouraging healthy eating and increased physical activity.
- Improve community food security and healthful food-choice options.

FOOD SAFETY

Cornell's statewide food safety research and education program serves a broad constituency

including food producers, processors and retailers, as well as consumers. The program encompasses the National Institute of Food and Agriculture food safety components: investigating causes of microbiological contamination and microbiological resistance, educating consumers and food safety professionals and developing food processing and storage technologies.

Programs are developed and delivered through many channels, including workshops, research-based publications and ongoing, technical support for policy makers and regulators

For example, Cornell's nationally recognized Good Agricultural Practices Program provides growers, packing house operators, government officials and industry trade association personnel with information and strategies to protect consumer health and reduce hazards and risks in the production of fresh fruits and vegetables. Educational materials designed and developed at Cornell are being used across the country to provide farmers with a better understanding of good agricultural practices related to food safety.

Consumer education programs focus on safe handling and preparation of foods, conveying important practices in preventing illness along with avoiding food cross-contamination. Programs target moderate and low income adults, 4-H and other youth.

All efforts are intended to:

- Provide for the nutritional well-being and safety of New York residents by assuring a continuous, reasonably-priced supply of wholesome foods.
- Improve food safety and food-handling practices throughout the food system.
- Reduce the incidence of food-borne illnesses.

YOUTH, FAMILY, AND COMMUNITY

Our Youth, Family, and Community plan reflects the priorities of the National Institute of Food and Agriculture's institute of the same title. Youth programs focus on science, engineering and technology learning opportunities and life skill development.. By participating in experiential learning opportunities related to science and technology, youth gain confidence in these areas, which studies show leads to economic growth for our region and the state. Through life skills programs, youth develop abilities that are necessary for their successful transition to adulthood.

Family programs emphasize human development and social well-being, economic well-being, and quality of home and work environments. Our parenting and dependent care programs integrate research with community education on parenting. Economic programs help participants enhance their financial literacy skills and adopt effective financial management behaviors. Research also draws on a broad-based and diverse set of social science and design methodologies to understand how planning, design and management of the built environment affects individuals, groups, organizations and communities, and how this knowledge influences innovative design solutions to pressing social and cultural issues.

Research and extension related to community help citizens and local officials build strong and vibrant communities. Programs emphasize community and economic development; connections between people, their land and the environment; the agriculture/community interface; and youth citizenship. Programs in this area include community farmland protection initiatives, youth community action projects involving young people and adults working together to make valuable contributions to their communities and public-private partnerships that spur innovative strategies to address complex community development issues.

Efforts in the following report were focussed on impactin youth, families and communities as follows:

Youth

- Enhance youth development.
- Empower youth to become life-long learners who lead healthy, satisfying, and productive lives.
- Ensure that youth become caring and contributing members of society, enhancing the quality of life for themselves, their families and their communities.
 - Prepare the next generation of scientists as youth become knowledgeable, contributing participants in science and technology-related issues in their communities and chosen professions.
 - Support youth as community leaders who make decisions and take action on issues of public/community concern .

Family

- Improve parenting practices that result in better child and youth outcomes.
- Improve parent/caregiving practices, resulting in parents and caregivers reporting increased confidence in their roles.
 - Improve financial status of targeted NYS residents.
 - Improve indoor air quality in low income households resulting in better health outcomes.

Community

- Enable vibrant and resilient communities.
- Ensure that diverse interests and populations are engaged in the community development process.
- Increase the quality of life, sense of community, environmental health, ecological integrity, effective decision-making capabilities and new economic opportunities in communities.
 - Strengthen community networks that link diverse sub-groups.
 - Increase local capacity for management and protection of local environmental resources.
 - Avoid or minimize conflicts between agriculture, horticulture and natural resource enterprises and community members and resolve them within communities when they occur.
 - View agriculture, horticulture and natural resource enterprises as contributing and positive factors in the community.
 - Help communities protect and enhance their financial, infrastructure, human, environmental, and social resources.
 - Support retirees who want to develop leadership capacity to engage in the application of science-based solutions to environmental problems at the community level.
 - Diversify local economies to improve sustainability.

Total Actual Amount of professional FTEs/SYs for this State

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	1550.0	0.0	30.0	0.0
Actual	1056.0	0.0	34.0	0.0

II. Merit Review Process

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

- Combined External and Internal University External Non-University Panel
- Expert Peer Review

2. Brief Explanation

CUAES, NYSAES and CCE use one integrated process of merit review for applied research and extension projects, including integrated and multistate activities. Key elements of the process are described here including statistics from the most current (2013) proposal cycle.

Review Process (Research, Extension, and Integrated Projects with Designated Funding):

Principal investigators are asked to consult program priorities (established as outlined in the stakeholder involvement section) and develop detailed pre-proposals for new or revised projects funded by Federal Formula Funds.

Pre-proposals are reviewed for purpose and relevancy by a joint advisory Program Council (see stakeholder involvement section) and other external stakeholders, the principal investigator's department Chair, Extension Program Associate/Assistant Directors, and the Agricultural Experiment Station directors (Ithaca and Geneva). Reviews are submitted via a secure website.

For research proposals:

- Agricultural Experiment Station directors make final determination of pre-proposals for development into full proposals.
- Full proposals are reviewed by two or three peer reviewers, suggested by the PI's Department Chair.
- The final proposal is submitted to NIFA through REEPORT.
- Pending approval by NIFA, funds are allocated to a unique account associated with their specific project.

For extension proposals:

- Extension Program Directors rank/recommend extension pre-proposals.
- Extension Program Directors meet with Agricultural Experiment Station (Ithaca and Geneva) staff to discuss potential R-E linkages among extension pre-proposals.
- Extension Assistant Director, Organizational Development & Accountability reviews for equal program opportunity and affirmative action considerations.
- Extension Program Directors finalize Smith-Lever funding recommendations and communicate decisions and needed modifications.

Cornell University Review Criteria:

- Anticipated significance of results relative to current priority needs or opportunities
- Scientific merit of objectives
- Clarity of objectives
- Appropriate methodology
- Feasibility of attaining objectives
- Accomplishment during previous projects
- Research performance and competence of investigator(s)
- Relevance of the proposed work to state, regional, or national goals
- Impact on underserved audiences
- Level of research-extension integration
- Relevance to stakeholders

For FY13, our most current data, a total of 171 pre-proposals were submitted to CUAES, NYSAES and CCE of which 99 were funded.

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 of the general public
- Survey specifically with non-traditional groups
- Survey specifically with non-traditional individuals
- Survey of selected individuals from the general public

Brief explanation.

Gaining stakeholder input and encouraging stakeholder participation is a system-wide expectation of all levels and units. Across the system, all of the stakeholder participation methods listed are employed; no single unit uses them all.

At the state level, we have a single multidisciplinary program council. Membership is intentionally monitored and updated to ensure involvement and ties to traditional and non-traditional constituents and established and emerging partnerships. The council provides guidance for CUAES, NYSAES and CCE by setting broad priorities for applied research and extension programming.

In addition, we have 31 active Program Work Teams (PWTs). PWTs are made up of extension educators, faculty, and stakeholders who work together to develop, implement and determine priority programs within PWTs and to advise IPaRT as needed. PWTs are expected to nurture research-extension integration, to encourage campus-field interactions and collaborations, to take multi-disciplinary approaches, to evaluate their efforts, and to involve their external members in all aspects of their work. More than 1,000 participants were involved in the work of these teams in 2013.

Since 2001, forty-nine (48) PWTs have been authorized and supported to develop and deliver integrated applied research and extension programming across the state. As needs change or work is completed, PWTs are developed/decommissioned.

Beyond this state-level program development and stakeholder input structure/process, each of Cornell Cooperative Extension's county extension associations continue to work closely with local stakeholders via participation in their local governance structures, i.e. board of directors, and advisory committees. Formal advisory committees are also used to guide New York City Extension programs. In 2013, more than 2,500 board and committee volunteers from diverse backgrounds

participated and assisted in the direction, priority setting of programs throughout the state. Over 43,000 committed volunteers assisted with program delivery adding to stakeholder involvement.

In counties, stakeholder input is sought from all audiences including "under-represented or under-served" audiences. One of the strategies used for gaining input and developing working relationships with new audiences is by networking and partnering with organizations that have existing and strong relationships with target groups. Local boards of directors and advisory committees also recruit an intentionally diverse membership representative of the people and the needs in the community.

Effective involvement of youth in program determination and implementation is a priority. Our local advisory committees are expected to include youth members as part of the needs assessment and decision making structure. In 2013, more than 7,000 youth served in governance and program delivery roles statewide.

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

1. Method to identify individuals and groups

- Use Advisory Committees
- Use Internal Focus Groups
- Use External Focus Groups
- Open Listening Sessions
- Needs Assessments
- Use Surveys

Brief explanation.

Across all levels of the system, all of the techniques listed were used; the mix of methods varied from site to site and program to program. All of our units are expected to have active and diverse advisory processes and to intentionally consider audiences not currently served. Activities of our state level councils and PWTs are described in other questions in this section. Needs assessments, focus groups, and use surveys are conducted at the individual level of program units as well as in our statewide plan of work process.

As a method of tracking program needs and input received, CCE educators are expected to submit narrative reports of efforts including efforts intentionally planned to engage underserved populations. For the 2013 reporting year, more than 139 impact statements were submitted exemplifying programming intended for underserved audiences.

Example titles of the narrative reports included:

- "People sometimes have a hard time accepting my uniqueness",
- 1st Annual Breastfeeding Summit
- 2013 SNAP Participation Gains at Tompkins County Farmers' Markets
- 4-H Regional Robotics: Creative Strategies for Building Volunteer Capacity
- 4-Hers Learn Job Readiness Skills through Teen Mentoring
- Grow With The Flow (GWTF)/Hydroponics Learning Model (HLM)
- Program at the Police Athletic League (PAL)
- Adapting Positive Financial Literacy Behaviors Through Education
- CCE helps farmers with a new crop Collaborate in Successful Marketing Event

- Cold Storage Project Provides Farm-to-School Apples
- Empowering Homeless Adults to Live a Healthy Life.

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

Brief explanation.

All of the techniques listed were used in 2013 but methods varied site to site and program-to-program across the system. Structures and processes for aggregating data are addressed in this section. The most active data gathering occurred in three venues - local advisory bodies, PWTs, and the Program Council. Web based surveys; interactive webinars and response to social media also provide programmatic feedback.

Preparing staff to understand how to meet the needs of stakeholders is a priority. We continued statewide efforts to provide current resources for educators regarding equal program opportunity. In 2013 mandatory staff training on Title VI Civil Rights was offered six times. Additionally six trainings driven by outcomes related to diversity and inclusion were offered to staff across the state via live webinars. Training topics included - Using Socio-Economic Demographics, Accessing & Interpreting Demographic , Enhancing Our Volunteer Profile, What's Cultural Competency Got to do With Me?, Diversity 101 and Creating and Implementing Working Agreements.

In 2012, Cornell Cooperative Extension completed a comprehensive strategic planning process to inform choices about programs and operations. The sample size was roughly 6,000 with participants completing surveys and discussion groups. Input and observations were gathered from multiple perspectives about programs, our effectiveness, opportunities for improvement, and new areas of growth. The Cornell Cooperative Extension strategic planning survey continues to shape planned programs and efforts.

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.

The stakeholder input process for statewide program development jointly utilized by CUAES, NYSAES and CCE was established in February 2001.

Our Program Council and PWTs work to improve program focus, relevance, and planning activities. Their input informs federal formula funding priorities and provides project specific input on relevance and value of proposed work. Members of our Program Council have direct input that informs decisions regarding funding of current extension and research projects, contributing ratings of perceived relevance. Our statewide applied research and extension priorities are updated annually, communicated to faculty and staff, and used as a primary criterion in funding decisions.

Regular communications with Program Council members especially focused on off-campus and external members, have been used each year to keep these stakeholders abreast of the decision-making process, and notified about the projects that were funded.

County associations of Cornell Cooperative Extension work with their local boards, committees and volunteers to influence decisions on program priorities and delivery. Our county extension associations and multi-county programs are separate 501(c) 3 organizations under the general supervision of Cornell University as agent for the state of New York. Their local plans of work are established under guidance of stakeholders in local advisory structures and governing boards and are in alignment with the statewide plan of work.

The CCE Strategic Planning Survey done in 2012 provided input and observations from multiple perspectives about programs, our effectiveness, opportunities for improvement, and new areas of growth. This input was used to develop People, Purpose, Impact: A Strategy for Engagement in the 21st Century.

Brief Explanation of what you learned from your Stakeholders

Stakeholders help to frame and shape plans of work, strategic plans, funding proposals, programs, and educational activities. System wide, by design, the Program Council and PWTs have reaffirmed our commitment to the NIFA priorities and have elevated needs and opportunities to make use of campus resources for educational programs. Feedback from stakeholders is sought in a variety of ways, welcomed and considered for planning. Communication between CUAES, NYSAES and CCE is open and regular at IPaRT meetings and through funding decisions.

Examples of feedback that came in from the CCE Strategic plan survey include concerns about/interests in: county and school mandated expenses, energy expenses, interest in working with underserved audiences, farm labor/migrant worker issues, distance education approaches, locally

sourced foods, partnering with others to leverage resources. As these interests/concerns came in they were channeled through program staff, IPaRT, and PWTs ultimately effecting the program development process and the body of knowledge about community needs.

IV. Expenditure Summary

Institution Name: Cornell University

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
7610172	0	6406767	0

Institution Name: NY State Agricultural Experiment Station

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

Institution Name: Cornell University

2. Totaled Actual dollars from Planned Programs Inputs				
Extension			Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	6876925	0	5278723	0
Actual Matching	6876925	0	7354292	0
Actual All Other	0	0	0	0
Total Actual Expended	13753850	0	12633015	0

Institution Name: NY State Agricultural Experiment Station

2. Totaled Actual dollars from Planned Programs Inputs				
Extension			Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	1329429	0	1266794	0
Actual Matching	1329429	0	1772231	0
Actual All Other	0	0	0	0
Total Actual Expended	2658858	0	3039025	0

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous				
Carryover	0	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 -- Nutrition and Childhood Obesity
5	Food Safety
6	Youth, Family, and Community

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Global Food Security and Hunger

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	11%		8%	
201	Plant Genome, Genetics, and Genetic Mechanisms	0%		5%	
202	Plant Genetic Resources	0%		14%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	0%		4%	
204	Plant Product Quality and Utility (Preharvest)	6%		5%	
206	Basic Plant Biology	16%		2%	
211	Insects, Mites, and Other Arthropods Affecting Plants	0%		9%	
212	Pathogens and Nematodes Affecting Plants	2%		18%	
213	Weeds Affecting Plants	2%		3%	
215	Biological Control of Pests Affecting Plants	5%		5%	
216	Integrated Pest Management Systems	3%		6%	
301	Reproductive Performance of Animals	0%		4%	
302	Nutrient Utilization in Animals	6%		2%	
305	Animal Physiological Processes	3%		3%	
306	Environmental Stress in Animals	0%		2%	
307	Animal Management Systems	19%		3%	
404	Instrumentation and Control Systems	0%		2%	
501	New and Improved Food Processing Technologies	3%		3%	
601	Economics of Agricultural Production and Farm Management	24%		0%	
604	Marketing and Distribution Practices	0%		2%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	427.8	0.0	12.0	0.0
Actual Paid Professional	303.0	0.0	15.0	0.0
Actual Volunteer	8325.0	0.0	0.0	0.0

2. Institution Name: Cornell University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
2519351	0	2025316	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
2519351	0	2753262	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

2. Institution Name: NY State Agricultural Experiment Station

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	0	1112588	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	1541055	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

This is a comprehensive program entailing a wide range of applied research activities and multiple education methods depending on context and need. Campus-based faculty and extension associates, regional specialists and county-based educators are involved in designing, implementing, and evaluating tailored research and educational efforts depending on the focus and scope of their role. Multi-disciplinary, multi-institutional and collaborative programs are developed often with the insights of stakeholder groups and through Program Work Teams and Regional Agricultural teams.

2. Brief description of the target audience

Key audiences served, directly and indirectly, in enhancing agricultural and horticultural business viability include: established producers; new and young producers, consultants and service providers, input suppliers, cooperative directors and managers, marketing firms, governmental agencies, lenders, and local/state/federal governmental leaders. Food security and hunger programming addresses individuals and families, caregivers, nutritionists, community leaders, human service providers and food policy makers at the local, state, and national levels.

3. How was eXtension used?

Cornell Cooperative Extension supports and promotes eXtension communities of practice, the eXtension public site and the professional development offered through eXtension.org. Staff across the state are encouraged to be involved in appropriate COPs, and the link to eXtension is promoted on the front page of the Cornell Cooperative Extension public staff site. Currently 363 staff are registered users of eXtension. Staff have cited the usefulness of COPs - particularly where there are identified national projects - such as with Financial Security for All COP.

Examples of participation in COPs that fall into this plan of work area include:

- Global Food Security and Hunger
 - Cooperatives *
 - Animal Manure Management
 - Apples *
 - DaireXNET
 - Farm Safety and Health
 - Forest Farming
 - Grapes
 - Sheep
 - Beef Cattle
 - Horses
 - Organic Agriculture
 - Pest Management
 - Niche Meat Processor Assistance Network
 - Greenhouse and Nursery Production
 - Small and Backyard Flocks
 - Local and Regional Food Systems
 - Enhancing Rural Capacity
 - Pesticide Environmental Stewardship *
- *Cornell Faculty/Staff are on Leadership Team

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	323320	7775285	57355	1372109

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

Patent Applications Submitted

Year: 2013

Actual: 3

Patents listed

Strawberry Plant Named "Walker"; Courtney Weber
 Biological Control of Crown Gall Disease on Grapevines; Thomas Burr, Desen Zheng
 Compositions and Methods for Enhancing Germination; Gary Gergstrom, Julia Crane, Michael Frodymna

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	8	365	373

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- (1.1a) # producers/ horticulture/natural resources business persons completing education programs on business management, finance, business planning and marketing, human resource management, risk management, production economics, and business transitions. Not reporting on this Output for this Annual Report

Output #2

Output Measure

- (1.2a) # producers/ horticulture business persons completing programs to expand profitability, develop marketing options, diversify or substitute alternative products or enterprises, and/or increase operational efficiencies. Not reporting on this Output for this Annual Report

Output #3

Output Measure

- (1.4a) # producers, horticulture business persons, and/or natural resource managers completing education programs on existing and new production-management practices and techniques.

Not reporting on this Output for this Annual Report

Output #4

Output Measure

- (1.5a) # producers, horticulture businesses, and/or natural resource enterprise managers completing education programs on potential environmental impacts of practices, requirements and opportunities of environmental regulations and programs, and whole farm systems
Not reporting on this Output for this Annual Report

Output #5

Output Measure

- (1.6a) # of children, youth, and adults completing education programs on: identifying food insecurity, how to obtain food assistance, how to balancing available resources by planning food choices, and improve the sufficiency and quality of the diet.
Not reporting on this Output for this Annual Report

Output #6

Output Measure

- (1.6b) # of policy makers and citizens participating in education programs on status of food security in their communities and possible actions to promote increased food security.
Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	(1.1b) # participants demonstrating knowledge or skill gains in business management, finance, business planning and marketing, human resource management, risk management, production economics, inter-generational transfer and other business transitions.
2	(1.1c) # participants documented to have applied knowledge or skills gained to strengthen existing business operations.
3	(1.1d) # participating family-owned agricultural/ horticultural/natural resources businesses that plan for succession, transfer, or sale of their business.
4	(1.1e) # participants reporting improved agricultural/ horticultural business profitability attributed at least in part to program participation.
5	(1.1f) # business owners successfully completing an inter-generational transfer or other desired dispensation of their business attributed at least in part to program participation.
6	(1.2b) # participants demonstrating knowledge or skill gains related to expanding profitability, developing marketing options, diversifying or substituting alternative products or enterprises, and/or increasing operational efficiencies to solve immediate concerns.
7	(1.2c) # participants documented to have initiated one or more alternative or expanded ventures.
8	1.2d) # participants or producer groups who adopt practices of value-added production through retaining control of their product further in the processing chain, starting their own value added business, or forming alliances.
9	(1.2e) # of new food, horticultural, and agricultural businesses and/or new enterprises within existing businesses reported by program participants and attributed at least in part to program participation.
10	(1.3b) # participants who demonstrate knowledge gains related to needs of potential employees and/or availability of qualified employees.
11	(1.3c) # participants documented to have made one or more changes in human resources practices to enhance labor availability or retention.
12	(1.3d) # producers/ horticultural businesses reporting improved labor availability, performance, and/or retention of higher skilled and more valuable human resource team members attributed at least in part to program participation.
13	(1.4b) # of producers, horticulture business persons, and/or natural resource managers demonstrating knowledge/skill gains in existing/new practices and techniques; improved product handling and storage to maintain quality and food safety; and/or improving production efficiency through adoption of best management practices.
14	(1.4c) # of producers, horticulture business persons, and/or natural resource managers modifying existing practices and/or adopted new production management practices to address current issues and improve yield efficiency, consistency and/or quality.
15	(1.4d) # of producers, horticulture business persons, and/or natural resource managers who report improved ability to anticipate and respond to environmental and market variations through alternative production management strategies.
16	(1.4e) # technical assistance providers documented to have incorporated current best management practices in their recommendations.

17	(1.4f) # of producers, horticulture business persons, and/or natural resource managers documented to have improved economic returns to agricultural business profitability and vitality resulting from enhanced production management practices.
18	(1.5b) # of producers, horticulture businesses, and/or natural resource managers demonstrating knowledge/skill gains re environmental impacts of practices, environmental regulations and programs, whole farm systems including integrated nutrient management, integrated pest management, waste management, and water protection.
19	(1.5c) # of producers, horticulture businesses, and/or natural resource managers documented to have assessed potential environmental impacts of their operations and developed and acted on plans to eliminate or minimize those concerns.
20	(1.5d) # of producers, horticulture businesses, and/or natural resource managers documented to have developed and implemented nutrient management and/or waste management plans or modified existing plans to meet production and environmental goals and meet regulations.
21	(1.5e) # of producers, horticulture businesses, and/or natural resource managers documented to meet or exceed current environmental protection standards as a result of participating in relevant educational programs.
22	(1.5f) # resource managers reporting reduced environmental concerns for participating enterprises.
23	(1.6c) # of program participants who demonstrate knowledge or skill gains related to status of food security in their communities and possible actions to promote increased food security.
24	(1.6d) # of program participants who know what to do related to food insecurity problems such as how to obtain food assistance, how to balance available resources by planning food choices, and how to improve the sufficiency and quality of the diet.
25	(1.6e) # of program participants who have acted to improve their food security status.
26	(1.6f) # of participating communities that assess food insecurity and develop appropriate action plans.
27	(1.6g) # of individuals or households documented to have improved food security status.
28	(1.6h) # of participating communities reporting declines in food insecurity indicators.
29	High Value from High Tunnels

Outcome #1

1. Outcome Measures

(1.1b) # participants demonstrating knowledge or skill gains in business management, finance, business planning and marketing, human resource management, risk management, production economics, inter-generational transfer and other business transitions.

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

(1.1c) # participants documented to have applied knowledge or skills gained to strengthen existing business operations.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	7159

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #3

1. Outcome Measures

(1.1d) # participating family-owned agricultural/ horticultural/natural resources businesses that plan for succession, transfer, or sale of their business.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	414

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #4

1. Outcome Measures

(1.1e) # participants reporting improved agricultural/ horticultural business profitability attributed at least in part to program participation.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1949

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #5

1. Outcome Measures

(1.1f) # business owners successfully completing an inter-generational transfer or other desired dispensation of their business attributed at least in part to program participation.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	104

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #6

1. Outcome Measures

(1.2b) # participants demonstrating knowledge or skill gains related to expanding profitability, developing marketing options, diversifying or substituting alternative products or enterprises, and/or increasing operational efficiencies to solve immediate concerns.

Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

(1.2c) # participants documented to have initiated one or more alternative or expanded ventures.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	862

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #8

1. Outcome Measures

1.2d) # participants or producer groups who adopt practices of value-added production through retaining control of their product further in the processing chain, starting their own value added business, or forming alliances.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	475

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #9

1. Outcome Measures

(1.2e) # of new food, horticultural, and agricultural businesses and/or new enterprises within existing businesses reported by program participants and attributed at least in part to program participation.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	536

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #10

1. Outcome Measures

(1.3b) # participants who demonstrate knowledge gains related to needs of potential employees and/or availability of qualified employees.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	344

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #11

1. Outcome Measures

(1.3c) # participants documented to have made one or more changes in human resources practices to enhance labor availability or retention.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	298

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #12

1. Outcome Measures

(1.3d) # producers/ horticultural businesses reporting improved labor availability, performance, and/or retention of higher skilled and more valuable human resource team members attributed at least in part to program participation.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	47

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #13

1. Outcome Measures

(1.4b) # of producers, horticulture business persons, and/or natural resource managers demonstrating knowledge/skill gains in existing/new practices and techniques; improved product handling and storage to maintain quality and food safety; and/or improving production efficiency through adoption of best management practices.

Not Reporting on this Outcome Measure

Outcome #14

1. Outcome Measures

(1.4c) # of producers, horticulture business persons, and/or natural resource managers modifying existing practices and/or adopted new production management practices to address current issues and improve yield efficiency, consistency and/or quality.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	8076

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
204	Plant Product Quality and Utility (Preharvest)
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
215	Biological Control of Pests Affecting Plants
216	Integrated Pest Management Systems
302	Nutrient Utilization in Animals
307	Animal Management Systems

Outcome #15

1. Outcome Measures

(1.4d) # of producers, horticulture business persons, and/or natural resource managers who report improved ability to anticipate and respond to environmental and market variations through alternative production management strategies.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	2454

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #16

1. Outcome Measures

(1.4e) # technical assistance providers documented to have incorporated current best management practices in their recommendations.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1327

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
204	Plant Product Quality and Utility (Preharvest)
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
215	Biological Control of Pests Affecting Plants
216	Integrated Pest Management Systems
302	Nutrient Utilization in Animals
307	Animal Management Systems

Outcome #17

1. Outcome Measures

(1.4f) # of producers, horticulture business persons, and/or natural resource managers documented to have improved economic returns to agricultural business profitability and vitality resulting from enhanced production management practices.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1503

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
204	Plant Product Quality and Utility (Preharvest)
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
215	Biological Control of Pests Affecting Plants
216	Integrated Pest Management Systems
302	Nutrient Utilization in Animals
307	Animal Management Systems
601	Economics of Agricultural Production and Farm Management

Outcome #18

1. Outcome Measures

(1.5b) # of producers, horticulture businesses, and/or natural resource managers demonstrating knowledge/skill gains re environmental impacts of practices, environmental regulations and programs, whole farm systems including integrated nutrient management, integrated pest management, waste management, and water protection.

Not Reporting on this Outcome Measure

Outcome #19

1. Outcome Measures

(1.5c) # of producers, horticulture businesses, and/or natural resource managers documented to have assessed potential environmental impacts of their operations and developed and acted on plans to eliminate or minimize those concerns.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	679

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
215	Biological Control of Pests Affecting Plants
216	Integrated Pest Management Systems
302	Nutrient Utilization in Animals
307	Animal Management Systems
601	Economics of Agricultural Production and Farm Management

Outcome #20

1. Outcome Measures

(1.5d) # of producers, horticulture businesses, and/or natural resource managers documented to have developed and implemented nutrient management and/or waste management plans or modified existing plans to meet production and environmental goals and meet regulations.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	185

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
307	Animal Management Systems

Outcome #21

1. Outcome Measures

(1.5e) # of producers, horticulture businesses, and/or natural resource managers documented to meet or exceed current environmental protection standards as a result of participating in relevant educational programs.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	178

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
216	Integrated Pest Management Systems
302	Nutrient Utilization in Animals
307	Animal Management Systems

Outcome #22

1. Outcome Measures

(1.5f) # resource managers reporting reduced environmental concerns for participating enterprises.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	34

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
215	Biological Control of Pests Affecting Plants
216	Integrated Pest Management Systems
302	Nutrient Utilization in Animals
307	Animal Management Systems

Outcome #23

1. Outcome Measures

(1.6c) # of program participants who demonstrate knowledge or skill gains related to status of food security in their communities and possible actions to promote increased food security.

Not Reporting on this Outcome Measure

Outcome #24

1. Outcome Measures

(1.6d) # of program participants who know what to do related to food insecurity problems such as how to obtain food assistance, how to balance available resources by planning food choices, and how to improve the sufficiency and quality of the diet.

Not Reporting on this Outcome Measure

Outcome #25

1. Outcome Measures

(1.6e) # of program participants who have acted to improve their food security status.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	7700

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices

Outcome #26

1. Outcome Measures

(1.6f) # of participating communities that assess food insecurity and develop appropriate action plans.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	30

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices

Outcome #27

1. Outcome Measures

(1.6g) # of individuals or households documented to have improved food security status.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1203

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices

Outcome #28

1. Outcome Measures

(1.6h) # of participating communities reporting declines in food insecurity indicators.

Not Reporting on this Outcome Measure

Outcome #29

1. Outcome Measures

High Value from High Tunnels

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The growing season is too short to produce certain high-value crops in New York, and extension of the growing season can benefit consumers by providing a larger local food supply. The high

tunnel system, an unheated greenhouse-like structure, can extend the growing season by a month on each end, and for some crops it reduces the incidence of disease. However, the systems have not been widely used in New York, and growers need to know both what to grow and how to grow it in this modified growing environment.

What has been done

Cold-tender high value crops such as strawberries, raspberries, blackberries, and flowers were evaluated for yield and quality in high tunnels. Hatch funded projects included Optimizing Blackberry Plant and Cane Management in High Tunnels (Pritts, 2011-2014), Blackberry Production in Cold Climates (Pritts, 2008-2011), Season Extension for Raspberries, Blackberries and Strawberries using High Tunnels and Cultural Manipulations (Pritts, 2006-2008), Fostering the Use of High Tunnels for Season Extension in New York State Through Applied Research and Extension (Wien and Reid, 2007-2010), High tunnel blackberries- Smith-Lever (Pritts, 2011-2014). Research included testing varieties, and the economic viability and cropping systems for pest and disease management. Lessons learned in applied research have been shared across the state by regional and local Cooperative Extension staff. Resources, including a free guide, a high tunnels website, two videos on grafting of tomatoes for high tunnels, and high tunnel tours for home gardeners were developed and offered through Cornell Cooperative Extension. Workshops and trainings on using high tunnels for season extension have also been the offered to producers and residents in 22 counties in 2013.

Results

Cornell University research has helped turn a promising new technology into a viable economic option for New York growers. Several research projects have shown that it is possible to extend the crop growing season by a month at each end. High tunnel utilization has become an important part of vegetable, berry and flower production in New York State. Economic analysis showed that the cumulative net profit over the expected 10-year life of a high tunnel is \$44,000 for a single tunnel, or the equivalent of \$600,000 per acre. Use of special techniques such as grafting of high tunnel tomatoes to rootstocks resulted in a mean increase of 4.7 lbs tomatoes per plant-- an average increase of nearly 3,000 lbs per greenhouse. In an evaluation in the 11 counties involved in the Cornell Vegetable Program, 98% of participants reported that training related to high-tunnel production allowed for an improved ability to respond to market variations through alternative production strategies and 48% indicated that they adopted high tunnels to improve efficiency, quality and resource conservation.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
204	Plant Product Quality and Utility (Preharvest)
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
215	Biological Control of Pests Affecting Plants
216	Integrated Pest Management Systems

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

Agricultural/horticultural/natural resources enterprises operate in a complex and volatile context involving susceptibility to weather extremes, changing governmental policies and regulations, competitive land uses and shifting development patterns, evolving consumer demands, and globally influenced markets. During the last couple of years highly damaging flood and frost events damaged crop and forest resources in highly productive areas of New York. Recovery is slow for many areas.

Fundamental change is occurring in the state and regional economies within which agricultural/horticultural/natural resources enterprises operate. The specific implications of these external factors vary greatly by locale and across commodities and business forms in some cases creating new market opportunities and in others erosion of traditional markets. Population and land use changes in farming communities has led in some places to producer/neighbor issues that influence choice of production practices. Economic stress exacerbates issues of food insecurity and hunger and many community organizations are over- burdened and unable to meet demands.

There is a growing interest by consumers, communities and producers to market local foods. This interest continues to influence programs, research and funding availability.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

In general, the evaluation approach included in our plan can more accurately be described as an evaluation "system" rather than as bounded "studies" or investigations. Because each of the plans addresses a broad combination of applied research and extension initiatives spanning multiple audiences, methods, and intended outcomes, a combination of routine program monitoring and documentation, near-term outcome assessment, and targeted follow-up activities is required to provide comprehensive assessment. Program documentation results are aggregated in a statewide accountability system which includes both qualitative and quantitative data for reporting and helping us to better understand our impacts.

Cornell Cooperative Extension works with the Cornell Office of Research and Evaluation (CORE) to strengthen evaluation practice and build evaluation capacity in CCE. CORE has

developed a protocol for evaluation that takes a systems approach, recognizing that individual programs and their evaluations are part of larger program portfolios and are shaped by needs and context at multiple levels of the Extension system. CORE has tested and refined this Protocol in partnership with CCE programs since 2006. A key step in the Protocol is to develop program models, in both familiar columnar form as logic models and in a visual form called pathway models. These models form the basis for focusing evaluation efforts in Extension programs.

Beginning in 2013, CORE and CCE partnered to initiate program modeling and evaluation planning at the level of the statewide Plans of Work. This effort, which is ongoing, will contribute to a framework for programming and evaluation at multiple levels. The Protocol is also being integrated into professional development in CCE, in collaboration with CCE leadership, to promote consistent approaches to evaluation of county-based, regional, and state-wide programs. CCE organizational development efforts are also being devoted to organizing common high-quality measures that can be used by a wide range of programs where applicable.

Several programs from CCE's Regional Vegetable Teams participated in CORE's Evaluation Partnerships and continued with their evaluations in 2013. The "Season Extension" program, a 3-year project addressing pest management problems in high tunnel season extension efforts, has been collecting data on management practices, pest incidence, and economic impact on growers. A final report on the project is due in mid-2014. The "Early Detection and Mitigation of Emerging Pests" program conducted an extensive survey of growers to gather data on cole crop growers' knowledge and management practices for the swede midge pest, which poses a substantial threat to NYS agriculture. Data from this survey are being analyzed now.

Key Items of Evaluation

See cross-cutting outcomes in state defined outcomes.

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Climate Change

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
104	Protect Soil from Harmful Effects of Natural Elements	7%		1%	
111	Conservation and Efficient Use of Water	15%		4%	
112	Watershed Protection and Management	17%		19%	
125	Agroforestry	5%		2%	
132	Weather and Climate	14%		14%	
133	Pollution Prevention and Mitigation	10%		14%	
135	Aquatic and Terrestrial Wildlife	8%		15%	
136	Conservation of Biological Diversity	15%		14%	
141	Air Resource Protection and Management	2%		5%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	2%		0%	
304	Animal Genome	0%		2%	
315	Animal Welfare/Well-Being and Protection	0%		8%	
405	Drainage and Irrigation Systems and Facilities	5%		0%	
902	Administration of Projects and Programs	0%		2%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	142.6	0.0	9.0	0.0
Actual Paid Professional	79.9	0.0	6.0	0.0
Actual Volunteer	3975.0	0.0	0.0	0.0

2. Institution Name: Cornell University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
664715	0	791567	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
664715	0	1232008	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

2. Institution Name: NY State Agricultural Experiment Station

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	0	15331	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	25454	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

This is a comprehensive effort entailing a wide range of applied research activities and multiple education methods depending on local context and need. Campus-based faculty and extension associates, regional specialists and county-based educators all are involved in designing, implementing, and evaluating tailored applied research and educational efforts depending on the focus and scope of their role. Example targeted activities include a comprehensive "Northeast Climate Impacts Assessment" that details potential impacts on crops, dairy, forests, and invasive pest species for the region and the Cornell Computational Agricultural Project that is compiling daily weather data and using complex computing tools to create a user friendly website and database for farmers to help them make critical decisions as they adapt to the changing environment. Climate change is tied intimately to sustainable energy concerns. Therefore, climate change is an important element of energy literacy initiatives across all audiences including youth.

2. Brief description of the target audience

Key audiences served, directly and indirectly include: agricultural, horticultural and natural resource producers; consultants and service providers, resource managers, governmental agencies, and local/state/federal governmental leaders and policy makers, individual consumers, and youth.

3. How was eXtension used?

eXtension public site and the professional development offered through eXtension.org. Staff across the state are encouraged to be involved in appropriate COPs, and the link to eXtension is promoted on the front page of the Cornell Cooperative Extension public staff site. Currently 347 staff are registered users of eXtension. Staff have cited the usefulness of COPs - particularly where there are identified national projects - such as with Financial Security for All COP. Examples of participation in COPs in this plan of work area include:

- Climate Change
- Climate, Woodlands, and Forests
- Agricultural Disaster Preparedness
- Floods
- Invasive Species
- Urban Integrated Pest Management

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	138797	3122714	45108	1037588

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

Patent Applications Submitted

Year: 2013
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	4	172	176

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- (2.1a) # of agricultural/natural resources producers, and/or organization and business representatives completing educational programs on the causes and implications of climate change and adaptive or mitigating strategies.
Not reporting on this Output for this Annual Report

Output #2

Output Measure

- (2.4a) # of agricultural/natural resources producers, and/or organization and business representatives completing educational programs on managing water resources and/or environmental planning.
Not reporting on this Output for this Annual Report

Output #3

Output Measure

- (2.7a) # of agricultural/ natural resources producers, and/or organization and business representatives completing educational programs on managing natural resources, invasive species, and/or biodiversity.
Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	(2.1b) # of consumers, residents, agricultural/ natural resources producers, organization and business representatives, and/or local government and community leaders who demonstrate knowledge gains about on the causes and implications of climate change and adaptive or mitigating strategies.
2	(2.1c) # agricultural/ natural resources producers, organization and business representatives documented to have adopted recommended adaptation strategies for production agriculture and natural resources management, including invasive species, pest management, pollutant loads, wetlands, etc.
3	(2.1d) # of agencies/ organizations/ communities documented to have adopted recommended climate mitigation practices and policies.
4	(2.1e) # of agricultural/natural resources producers, and/or organizations and businesses successfully adapting to climate change effects enhancing economic viability.
5	(2.2f) # of communities adapting successfully to climate change effects.
6	(2.4b) # of consumers, residents, agricultural/ natural resources producers, organization and business representatives, and/or local government and community leaders who demonstrate knowledge gains about managing water resources.
7	(2.4c) # consumers, residents, agricultural/ natural resources producers, organization and business representatives, and/or local government and community leaders documented to have modified existing practices or technologies and/or adopted new practices to protect/enhance water resources.
8	(2.4d) # documented instances when consumers, residents, agricultural/ natural resources producers, organization and business representatives, and/or local government and community leaders have improved and/or protected water resources.
9	(2.7b) # of consumers, residents, agricultural/ natural resources producers, organization and business representatives, and/or local government and community leaders who demonstrate knowledge gains about managing natural resources, invasive species, and/or biodiversity.
10	(2.7c) # of consumers, residents, agricultural/ natural resources producers, organization and business representatives, and/or local government and community leaders documented to have modified existing practices or technologies and/or adopted new practices to protect/enhance natural resources and/or enhance biodiversity.
11	(2.7d) # of documented instances in which implementation of natural resources management practices by consumers, residents, agricultural/ natural resources producers, organization and business representatives, and/or local government and community leaders lead to increased open space preservation, enhanced/ protected natural resources, biodiversity, land use.
12	Climate Change and Agriculture: Building Tools for Adaptation to Change

Outcome #1

1. Outcome Measures

(2.1b) # of consumers, residents, agricultural/ natural resources producers, organization and business representatives, and/or local government and community leaders who demonstrate knowledge gains about on the causes and implications of climate change and adaptive or mitigating strategies.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	3544

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
104	Protect Soil from Harmful Effects of Natural Elements
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
125	Agroforestry
132	Weather and Climate
133	Pollution Prevention and Mitigation
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity
141	Air Resource Protection and Management
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants

Outcome #2

1. Outcome Measures

(2.1c) # agricultural/ natural resources producers, organization and business representatives documented to have adopted recommended adaptation strategies for production agriculture and natural resources management, including invasive species, pest management, pollutant loads, wetlands, etc.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	577

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
132	Weather and Climate
133	Pollution Prevention and Mitigation
405	Drainage and Irrigation Systems and Facilities

Outcome #3

1. Outcome Measures

(2.1d) # of agencies/ organizations/ communities documented to have adopted recommended climate mitigation practices and policies.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	115

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
132	Weather and Climate

Outcome #4

1. Outcome Measures

(2.1e) # of agricultural/natural resources producers, and/or organizations and businesses successfully adapting to climate change effects enhancing economic viability.

Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

(2.2f) # of communities adapting successfully to climate change effects.

Not Reporting on this Outcome Measure

Outcome #6

1. Outcome Measures

(2.4b) # of consumers, residents, agricultural/ natural resources producers, organization and business representatives, and/or local government and community leaders who demonstrate knowledge gains about managing water resources.

Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

(2.4c) # consumers, residents, agricultural/ natural resources producers, organization and business representatives, and/or local government and community leaders documented to have modified existing practices or technologies and/or adopted new practices to protect/enhance water resources.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	3217

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
132	Weather and Climate
133	Pollution Prevention and Mitigation
136	Conservation of Biological Diversity
141	Air Resource Protection and Management

Outcome #8

1. Outcome Measures

(2.4d) # documented instances when consumers, residents, agricultural/ natural resources producers, organization and business representatives, and/or local government and community leaders have improved and/or protected water resources.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1131

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
132	Weather and Climate

Outcome #9

1. Outcome Measures

(2.7b) # of consumers, residents, agricultural/ natural resources producers, organization and business representatives, and/or local government and community leaders who demonstrate knowledge gains about managing natural resources, invasive species, and/or biodiversity.

Not Reporting on this Outcome Measure

Outcome #10

1. Outcome Measures

(2.7c) # of consumers, residents, agricultural/ natural resources producers, organization and business representatives, and/or local government and community leaders documented to have modified existing practices or technologies and/or adopted new practices to protect/enhance natural resources and/or enhance biodiversity.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	6844

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
132	Weather and Climate

133 Pollution Prevention and Mitigation
135 Aquatic and Terrestrial Wildlife

Outcome #11

1. Outcome Measures

(2.7d) # of documented instances in which implementation of natural resources management practices by consumers, residents, agricultural/ natural resources producers, organization and business representatives, and/or local government and community leaders lead to increased open space preservation, enhanced/ protected natural resources, biodiversity, land use.

Not Reporting on this Outcome Measure

Outcome #12

1. Outcome Measures

Climate Change and Agriculture: Building Tools for Adaptation to Change

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Technical knowledge of climate change issues and mitigation strategies is evolving rapidly. The primary on-farm opportunities to increase profit margins while reducing carbon footprints lie in energy conservation; improved carbon storage, or sequestration, in the soils through increasing soil organic matter; and efficient use of nitrogen fertilizer. For farmers to seize these opportunities, they need tools tailored to New York's diverse soils and cropping systems that will help them navigate their options, whether their crop is field corn, vegetables, fruits or dairy.

What has been done

Management practices were developed to improve farm energy efficiency and reduce carbon

dioxide, nitrogen fertilizer, and dairy operation methane emissions. Hatch funded project: Providing New York Vegetable, Fruit and Dairy Farmers with Greenhouse Gas and Carbon Management Tools (Wolfe and van Es; 2010-2013), Providing New York Vegetable, Fruit and Dairy Farmers with Greenhouse Gas and Carbon Management Tools- Fruit Crops (Lakso, Wolfe, and van Es; 2010-2013), and Climate Change Mitigation and Adaption with New Tools for Soil Carbon and Nitrogen Management (van Es, Melkonian, Wolfe, and Abawi; 2011-2014) each aimed to improve existing tools for calculating greenhouse gas and carbon management to better serve the needs of New York farmers. Low cost soil tests for strategic soil sampling and soil carbon assessment as part of the Cornell Soil Test were improved to better capture carbon and nitrogen cycling. called The Adapt-N tool, A tool for calculating the precise nitrogen needs of a crop at a particular time point, was widely tested to validate its effectiveness at estimating nitrogen needs. Results and approaches have been extended through Cornell Cooperative Extension into 24 counties and farmers through workshops and conferences.

Results

The projects improved the methodology for and awareness of climate change mitigation strategies. The outcomes include a new protocol for measuring soil proteins and the adoption of a soil respiration assay for the Cornell Soil Health test, which are indicators for soil carbon and nitrogen which will be important for management. They are now included in the Adapt-N tool. Pilot farm tests demonstrated that use of Adapt-N can increase profits while reducing excess nitrogen. The small sample of farms using it showed profit gains of \$27/acre and average nitrogen reductions of #27 /acre. Lessons learned in applied research have been shared across the state by regional and local Cooperative Extension staff. Information about the Adapt-N tool and Farm energy analysis have been the focus of workshops, webinars and trainings offered to producers and residents of 24 counties in 2013. In the five counties involved in the Lake Ontario Fruit Program, 371 individuals participated in trainings focused on responsiveness to climate change, with 200 persons reporting knowledge gains about adaptive/mitigation strategies and 75 participants documenting adoption of adaptation strategies related to climate change.

4. Associated Knowledge Areas

KA Code	Knowledge Area
104	Protect Soil from Harmful Effects of Natural Elements
112	Watershed Protection and Management
132	Weather and Climate
133	Pollution Prevention and Mitigation

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
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

Climate change issues play out in a complex and volatile context involving weather extremes, changing governmental policies and regulations, competitive land uses and shifting development patterns, evolving consumer demands, and globally influenced markets. The specific implications of these external factors vary greatly by locale and across commodities and business forms. Technical knowledge of climate change issues and mitigation strategies is evolving rapidly. Flooding and frost events during recent years have elevated consumer and community interest in planning/disaster preparedness for families, communities and farms. The shift in interest, program offerings and campus and research support is evident.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

In general, the evaluation approach included in our plan can more accurately be described as an evaluation "system" rather than as bounded "studies" or investigations. Because each of the plans addresses a broad combination of applied research and extension initiatives spanning multiple audiences, methods, and intended outcomes, a combination of routine program monitoring and documentation, near-term outcome assessment, and targeted follow-up activities is required to provide comprehensive assessment. Program documentation results are aggregated in a statewide accountability system which includes both qualitative and quantitative data for reporting and helping us to better understand our impacts.

Cornell Cooperative Extension works with the Cornell Office of Research and Evaluation (CORE) to strengthen evaluation practice and build evaluation capacity in CCE. CORE has developed a Protocol for evaluation that takes a systems approach, recognizing that individual programs and their evaluations are part of larger program portfolios and are shaped by needs and context at multiple levels of the Extension system. CORE has tested and refined this Protocol in partnership with CCE programs since 2006. A key step in the Protocol is to develop program models, in both familiar columnar form as logic models and in a visual form called pathway models. These models form the basis for focusing evaluation efforts in Extension programs.

Beginning in 2013, CORE and CCE partnered to initiate program modeling and evaluation planning at the level of the statewide Plans of Work. This effort, which is ongoing, will contribute to a framework for programming and evaluation at multiple levels. The Protocol is also being integrated into professional development in CCE, in collaboration with CCE leadership, to promote consistent approaches to evaluation of county-based, regional, and state-wide programs. CCE organizational development efforts are also being devoted to organizing common high-quality measures that can be used by a wide range of programs where applicable.

Key Items of Evaluation

See cross-cutting outcomes in state defined outcomes.

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Sustainable Energy

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
123	Management and Sustainability of Forest Resources	18%		1%	
124	Urban Forestry	10%		0%	
205	Plant Management Systems	0%		37%	
401	Structures, Facilities, and General Purpose Farm Supplies	14%		0%	
402	Engineering Systems and Equipment	8%		4%	
403	Waste Disposal, Recycling, and Reuse	25%		16%	
404	Instrumentation and Control Systems	5%		0%	
511	New and Improved Non-Food Products and Processes	0%		20%	
601	Economics of Agricultural Production and Farm Management	0%		8%	
605	Natural Resource and Environmental Economics	20%		12%	
606	International Trade and Development	0%		1%	
609	Economic Theory and Methods	0%		1%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	83.7	0.0	2.0	0.0
Actual Paid Professional	51.3	0.0	4.0	0.0
Actual Volunteer	892.0	0.0	0.0	0.0

2. Institution Name: Cornell University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
426730	0	598054	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
426730	0	1056867	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

2. Institution Name: NY State Agricultural Experiment Station

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	0	92955	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	134741	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

This is a program entailing a wide range of applied research activities and multiple education methods depending on local context and need. Campus-based faculty and extension associates, regional specialists and county-based educators all are involved in designing, implementing, and evaluating tailored applied research and educational efforts depending on the focus and scope of their role. In spring 2010 we launched a major statewide educational initiative based on a team of four specialists located regionally, four campus faculty in leadership roles, and several program work teams. The team continues to be focussed on biofuels and agricultural energy, household energy, community energy planning, and youth involvement in energy.

2. Brief description of the target audience

Agricultural/horticulture/natural resource and supporting businesses are targeted both regarding bioenergy production opportunities and information regarding alternative energy sources and conservation. Policy education efforts relate to development of agriculture and natural resources based alternative energy sources.

Consumers, property managers, and community leaders are targeted for information regarding energy supply alternatives and energy conservation options for residential, facilities, and transportation

needs. Citizens, community agencies and organizations are targeted for energy-related policy education efforts particularly as related to development of alternative energy sources and the interaction between land use and energy conservation.

Residents and property owners are targeted with stewardship and waste reduction and management in their homes and on their properties. Businesses, organizations, and producers are targeted with information about reducing impacts of their operations. Environmental planners and managers and technical assistance providers are targeted with in-depth information related to their audiences/constituents. Workforce development professionals receive information on energy and green economy career pathways. Teachers and youth professionals and volunteers are provided with curriculum and training. Youth are targeted with age appropriate education.

Agricultural/horticulture/natural resource and supporting businesses are targeted both regarding bioenergy production opportunities and information regarding alternative energy sources and conservation. Policy education efforts relate to development of agriculture and natural resources based alternative energy sources. Consumers, property managers, and community leaders are targeted for information regarding energy supply alternatives and energy conservation options for residential, facilities, and transportation needs. Citizens, community agencies and organizations are targeted for energy-related policy education efforts particularly as related to development of alternative energy sources and the interaction between land use and energy conservation.

Residents and property owners are targeted with stewardship and waste reduction and management in their homes and on their properties. Businesses, organizations, and producers are targeted with information about reducing impacts of their operations.

Local government and community leaders are targeted with information related to governmental management of waste, such as relationship between waste management and land use, effective recycling programs, and roadkill management. Environmental planners and managers and technical assistance providers are targeted with in-depth information related to their audiences/constituents. Teachers and youth professionals and volunteers are provided with curriculum and training. Youth are targeted with age appropriate education.

3. How was eXtension used?

Cornell Cooperative Extension supports and promotes eXtension communities of practice, the eXtension public site and the professional development offered through eXtension.org. Staff across the state are encouraged to be involved in appropriate COPs, and the link to eXtension is promoted on the front page of the Cornell Cooperative Extension public staff site. Currently 347 staff are registered users of eXtension. Staff have cited the usefulness of COPs - particularly where there are identified national projects - such as with the Financial Security for All community.

Examples of participation in COPs in this plan of work area include:

- Sustainable Ag Energy
- Farm Energy
- Home Energy
- NEWBio-Northeast Woody/Warm-season Biomass

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	56121	1168258	19417	410469

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

Year: 2013
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	1	89	90

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- (3.1a) # of agricultural producers and agribusiness representatives completing educational programs on the potential for development of biologically-based fuels.
 Not reporting on this Output for this Annual Report

Output #2

Output Measure

- (3.1b) # of local and state leaders completing educational programs on the potential for development of biologically-based fuels such as biodiesel, ethanol, methane, recycled vegetable oils, space heating fuels etc.
 Not reporting on this Output for this Annual Report

Output #3

Output Measure

- (3.1c) # of agricultural producers and agribusiness, and natural resource business representatives completing educational programs about cropping for bio-energy production.

Year Actual

2013

0

Output #4

Output Measure

- (3.2a) # of agricultural/horticulture/ natural resource and supporting business representatives completing educational programs about the availability and pros and cons of alternative energy sources and/or about potential energy savings in operations.
Not reporting on this Output for this Annual Report

Output #5

Output Measure

- (3.3a) # of consumers and community leaders completing educational programs about the availability and pros and cons of alternative energy.
Not reporting on this Output for this Annual Report

Output #6

Output Measure

- (3.4a) # of consumers, property managers, and/or housing officials completing educational programs about potential energy cost savings, including selecting energy providers, and energy conservation strategies and measures especially related to housing and transportation.
Not reporting on this Output for this Annual Report

Output #7

Output Measure

- (3.5a) # of community members, leaders and officials completing education programs about the relationships between development patterns and energy use/costs.
Not reporting on this Output for this Annual Report

Output #8

Output Measure

- (3.5b) # of workforce professionals, economic developers and/or entrepreneurs participating in educational programs on energy workforce and business opportunities.
Not reporting on this Output for this Annual Report

Output #9

Output Measure

- (3.5k) # municipalities involved in energy literacy trainings.
Not reporting on this Output for this Annual Report

Output #10

Output Measure

- (3.6a) # of agricultural/ natural resources producers, organization and business representatives, community leaders, and/or residents completing educational programs on managing and reducing waste.
Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	(3.1d) # of agricultural producers, agribusiness, or local and state leaders who demonstrate knowledge gains about the potential for development of biologically based fuels.
2	(3.1e) # of forest owners and purchasers of forest products who demonstrate knowledge or skills gains about current markets for firewood and chips/pellets and associated cropping practices.
3	(3.1f) # of producers, economic development organizations and other groups who collaborate to establish bioenergy as a viable alternative crop.
4	(3.1g) # of existing or new producers documented to have modified existing practices or technologies and/or adopted best management practices for bio-energy production, harvesting, and/or storage systems.
5	(3.1h) # of producers, horticulture businesses and/or natural resource managers reporting that cropping for and/or use of bio-energy leads to increased economic returns to their enterprises.
6	(3.2b) # of agricultural/horticulture/ natural resource and supporting businesses who demonstrate knowledge or skills gains about the availability and pros and cons of alternative energy sources and/or potential energy savings in operations.
7	(3.2c) # of agricultural/horticultural/ natural resource businesses documented to have adopted appropriate alternative energy sources and/or energy conservation practices.
8	(3.2d) # of producers/horticulture businesses/natural resource managers documented to have improved economic returns to agricultural/ horticultural business profitability and vitality resulting from adopting alternative energy sources and/or energy conservation.
9	(3.3b) # of consumers and/or community leaders who demonstrate knowledge or skills gains about the availability and pros and cons of alternative energy sources especially related to housing and transportation.
10	(3.3c) # of consumers documented to have adopted appropriate alternative energy sources.
11	(3.3d) # of consumers who report savings on energy costs attributable to adopting alternative energy sources.
12	(3.4b) # of consumers, property managers, and/or housing officials who demonstrate knowledge or skills gains and/or can articulate specific actions they will take related to energy cost controls and conservation measures especially related to housing and transportation.
13	(3.4c) # of consumers reporting to have adopted appropriate energy cost control and/or conservation practices.
14	(3.4d) # of property managers, and/or housing officials documented to have taken measures to improve energy cost control or efficiency of existing and new buildings.
15	(3.4e) # of consumers who report savings on energy costs attributable to adopting energy conservation measures.
16	(3.5c) # of community members, leaders, and officials who demonstrate knowledge gains about the relationships between development patterns and energy use/costs.

17	(3.5d) # of workforce professionals, economic developers and/or entrepreneurs demonstrating knowledge gains related to energy workforce and business opportunities.
18	(3.5e) # of communities documented to have assessed local energy development proposals and/or the relationships between current policies and regulations and energy conservation.
19	(3.5f) # of community agencies/ organizations documented to have adopted appropriate alternative energy sources.
20	(3.5g) # of new workers trained and energy-related businesses established at least in part due to participation in the program.
21	(3.5h) # of communities documented to have established or modified land use and development policies to promote energy conservation.
22	(3.5i) # of community agencies/organizations reporting savings on energy costs attributable to adopting alternative energy sources.
23	(3.5j) # of communities that report increased diversification of their local economies attributable at least in part to participation in the program.
24	(3.5l) # of municipalities that demonstrate knowledge gains about systems approaches to energy transitions.
25	(3.5m) # of communities that adapt or revise policies in response to large scale energy development (e.g., Marcellus shale development) and/or include energy as a component of their comprehensive plans.
26	(3.6b) # of agricultural/natural resources producers, organization and business representatives, community leaders, and/or residents who demonstrate knowledge gains about waste management and reduction.
27	(3.6c) agricultural/natural resources producers, organization and business representatives, community leaders, and/or residents documented to have modified existing practices or technologies and/or adopted new practices to manage and reduce waste. (150)
28	(3.6d) # of agricultural/natural resources producers, organization and business representatives, community leaders, and/or residents documented to have reduced costs through improved waste management practices.
29	Energy and Climate Change Statewide Program Team Build Capacity for Cooperative Extension

Outcome #1

1. Outcome Measures

(3.1d) # of agricultural producers, agribusiness, or local and state leaders who demonstrate knowledge gains about the potential for development of biologically based fuels.

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

(3.1e) # of forest owners and purchasers of forest products who demonstrate knowledge or skills gains about current markets for firewood and chips/pellets and associated cropping practices.

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

(3.1f) # of producers, economic development organizations and other groups who collaborate to establish bioenergy as a viable alternative crop.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	6

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse
404	Instrumentation and Control Systems
605	Natural Resource and Environmental Economics

Outcome #4

1. Outcome Measures

(3.1g) # of existing or new producers documented to have modified existing practices or technologies and/or adopted best management practices for bio-energy production, harvesting, and/or storage systems.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	16

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse
404	Instrumentation and Control Systems
605	Natural Resource and Environmental Economics

Outcome #5

1. Outcome Measures

(3.1h) # of producers, horticulture businesses and/or natural resource managers reporting that cropping for and/or use of bio-energy leads to increased economic returns to their enterprises.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	13

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse
404	Instrumentation and Control Systems
605	Natural Resource and Environmental Economics

Outcome #6

1. Outcome Measures

(3.2b) # of agricultural/horticulture/ natural resource and supporting businesses who demonstrate knowledge or skills gains about the availability and pros and cons of alternative energy sources and/or potential energy savings in operations.

Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

(3.2c) # of agricultural/horticultural/ natural resource businesses documented to have adopted appropriate alternative energy sources and/or energy conservation practices.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	65

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse
404	Instrumentation and Control Systems
605	Natural Resource and Environmental Economics

Outcome #8

1. Outcome Measures

(3.2d) # of producers/horticulture businesses/natural resource managers documented to have improved economic returns to agricultural/ horticultural business profitability and vitality resulting from adopting alternative energy sources and/or energy conservation.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	48

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse
404	Instrumentation and Control Systems
605	Natural Resource and Environmental Economics

Outcome #9

1. Outcome Measures

(3.3b) # of consumers and/or community leaders who demonstrate knowledge or skills gains about the availability and pros and cons of alternative energy sources especially related to housing and transportation.

Not Reporting on this Outcome Measure

Outcome #10

1. Outcome Measures

(3.3c) # of consumers documented to have adopted appropriate alternative energy sources.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	566

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
605	Natural Resource and Environmental Economics

Outcome #11

1. Outcome Measures

(3.3d) # of consumers who report savings on energy costs attributable to adopting alternative energy sources.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	550

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
605	Natural Resource and Environmental Economics

Outcome #12

1. Outcome Measures

(3.4b) # of consumers, property managers, and/or housing officials who demonstrate knowledge or skills gains and/or can articulate specific actions they will take related to energy cost controls and conservation measures especially related to housing and transportation.

Not Reporting on this Outcome Measure

Outcome #13

1. Outcome Measures

(3.4c) # of consumers reporting to have adopted appropriate energy cost control and/or conservation practices.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	2100

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
124	Urban Forestry
403	Waste Disposal, Recycling, and Reuse
605	Natural Resource and Environmental Economics

Outcome #14

1. Outcome Measures

(3.4d) # of property managers, and/or housing officials documented to have taken measures to improve energy cost control or efficiency of existing and new buildings.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	43

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
403	Waste Disposal, Recycling, and Reuse
404	Instrumentation and Control Systems
605	Natural Resource and Environmental Economics

Outcome #15

1. Outcome Measures

(3.4e) # of consumers who report savings on energy costs attributable to adopting energy conservation measures.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1258

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
124	Urban Forestry
403	Waste Disposal, Recycling, and Reuse
605	Natural Resource and Environmental Economics

Outcome #16

1. Outcome Measures

(3.5c) # of community members, leaders, and officials who demonstrate knowledge gains about the relationships between development patterns and energy use/costs.

Not Reporting on this Outcome Measure

Outcome #17

1. Outcome Measures

(3.5d) # of workforce professionals, economic developers and/or entrepreneurs demonstrating knowledge gains related to energy workforce and business opportunities.

Not Reporting on this Outcome Measure

Outcome #18

1. Outcome Measures

(3.5e) # of communities documented to have assessed local energy development proposals and/or the relationships between current policies and regulations and energy conservation.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	16

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
124	Urban Forestry
403	Waste Disposal, Recycling, and Reuse

Outcome #19

1. Outcome Measures

(3.5f) # of community agencies/ organizations documented to have adopted appropriate alternative energy sources.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	11

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
605	Natural Resource and Environmental Economics

Outcome #20

1. Outcome Measures

(3.5g) # of new workers trained and energy-related businesses established at least in part due to participation in the program.

Not Reporting on this Outcome Measure

Outcome #21

1. Outcome Measures

(3.5h) # of communities documented to have established or modified land use and development policies to promote energy conservation.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	11

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
124	Urban Forestry

Outcome #22

1. Outcome Measures

(3.5i) # of community agencies/organizations reporting savings on energy costs attributable to adopting alternative energy sources.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	16

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
401	Structures, Facilities, and General Purpose Farm Supplies
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse

Outcome #23

1. Outcome Measures

(3.5j) # of communities that report increased diversification of their local economies attributable at least in part to participation in the program.

Not Reporting on this Outcome Measure

Outcome #24

1. Outcome Measures

(3.5l) # of municipalities that demonstrate knowledge gains about systems approaches to energy transitions.

Not Reporting on this Outcome Measure

Outcome #25

1. Outcome Measures

(3.5m) # of communities that adapt or revise policies in response to large scale energy development (e.g., Marcellus shale development) and/or include energy as a component of their comprehensive plans.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	17

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
605	Natural Resource and Environmental Economics

Outcome #26

1. Outcome Measures

(3.6b) # of agricultural/natural resources producers, organization and business representatives, community leaders, and/or residents who demonstrate knowledge gains about waste management and reduction.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	9052

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
401	Structures, Facilities, and General Purpose Farm Supplies
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse
404	Instrumentation and Control Systems

Outcome #27

1. Outcome Measures

(3.6c) agricultural/natural resources producers, organization and business representatives, community leaders, and/or residents documented to have modified existing practices or technologies and/or adopted new practices to manage and reduce waste. (150)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	283

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
401	Structures, Facilities, and General Purpose Farm Supplies
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse
404	Instrumentation and Control Systems

Outcome #28

1. Outcome Measures

(3.6d) # of agricultural/natural resources producers, organization and business representatives, community leaders, and/or residents documented to have reduced costs through improved waste management practices.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1971

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
401	Structures, Facilities, and General Purpose Farm Supplies
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse
404	Instrumentation and Control Systems

Outcome #29

1. Outcome Measures

Energy and Climate Change Statewide Program Team Build Capacity for Cooperative Extension

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is a growing interest in farms and families learning to keep energy costs down, and in communities being agile in response to energy needs including building sustainable networks for alternative energy. To have statewide impact on these key issues, new programming, enhanced relationships to Cornell faculty and appropriate research, and education of extension associates was required.

What has been done

Sustainable Energy became part of our Plan of Work in 2011. Five regional specialists were hired to train educators to do energy audits and educate audiences. Relationships with faculty and Cornell staff were strengthened to extend research findings related to consumer energy practices, biofuels, a systems view of energy use. The team worked closely with current/previous Federally Funded PIs: Professor Joe Laquatra (Department of Design and Environmental

Analysis; residential energy efficiency), Professor Jerry Cherney (Department of Crop and Soil Sciences; warm season grasses for biomass), and Professor Larry Smart (Department of Horticulture; willow breeding). Funding for educational programs came in part from New York State Energy Research and Development Authority. The team improved energy efficiency in Cornell Cooperative Extension (CCE) facilities through energy audits, follow-up improvements, and staff trainings, coordinated training events for staff and 4-H camps (Biodiesels & Biofuels, 4-H Energy CSI, Solar Power & Solar Smoothie?s); and developed materials including the Biofuels Education Outreach Tool. Workshops and community trainings (Energy Conference, Small Farms Energy Tour, Save Energy, Save Dollars workshops) by staff across the state extended these efforts farther.

Results

Impacts include increasing the staff knowledge and capacity for delivering educational programs on energy and climate change issues throughout the CCE system; expanding and improving the quality of energy and climate change programming; and giving CCE a recognized role in energy and climate change education with local, state, and federal partners. Between FY10 and FY12, there was a 41% increase in the number of New York State residents reached by the programming on energy. In FY12, 39 Associations reported programming in energy conservation, providing 4,399 non-credit instructional activities to 832,211 NYS residents. Energy and climate change programming at 4-H summer camps reached over 1,000 youths. As of 2013 ? programs related to energy education were made available throughout the state. Programmatic efforts increased from: 1,972 educational activities offered in 2011 to 2,313 offered in 2013. In 2013 2,100 program participants reported that they adopted appropriate energy cost controls and/or conservation practices with 60% indicated a significant cost savings. Impacts are beginning to be reported at the community/policy making level.

4. Associated Knowledge Areas

KA Code	Knowledge Area
404	Instrumentation and Control Systems
605	Natural Resource and Environmental Economics

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
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

The interaction between natural disasters, the economy, and energy costs is well documented. Weather in particular has interrupted supplies and dramatically influences heating and cooling costs. Appropriations, public policy, and regulations directly affect the ability to pursue energy source alternatives, including bioenergy development, and to

implement energy conservation alternatives, particularly for low-income households. Dramatic cuts in state funding for consumer energy education is a significant barrier. Public and private funders and CCE may have fewer fiscal resources and other resources to devote to energy matters.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

In general, the evaluation approach included in our plan can more accurately be described as an evaluation "system" rather than as bounded "studies" or investigations. Because each of the plans addresses a broad combination of applied research and extension initiatives spanning multiple audiences, methods, and intended outcomes, a combination of routine program monitoring and documentation, near-term outcome assessment, and targeted follow-up activities is required to provide comprehensive assessment. Program documentation results are aggregated in a statewide accountability system which includes both qualitative and quantitative data for reporting and helping us to better understand our impacts.

Cornell Cooperative Extension works with the Cornell Office of Research and Evaluation (CORE) to strengthen evaluation practice and build evaluation capacity in CCE. CORE has developed a Protocol for evaluation that takes a systems approach, recognizing that individual programs and their evaluations are part of larger program portfolios and are shaped by needs and context at multiple levels of the Extension system. CORE has tested and refined this Protocol in partnership with CCE programs since 2006. A key step in the Protocol is to develop program models, in both familiar columnar form as logic models and in a visual form called pathway models. These models form the basis for focusing evaluation efforts in Extension programs.

Beginning in 2013, CORE and CCE partnered to initiate program modeling and evaluation planning at the level of the statewide Plans of Work. This effort, which is ongoing, will contribute to a framework for programming and evaluation at multiple levels. The Protocol is also being integrated into professional development in CCE, in collaboration with CCE leadership, to promote consistent approaches to evaluation of county-based, regional, and state-wide programs. CCE organizational development efforts are also being devoted to organizing common high-quality measures that can be used by a wide range of programs where applicable.

In 2013 the CORE cohort around statewide Plans of Work convened a Working Group of educators, faculty, and state Extension staff to develop an integrated program model for CCE's work in climate change, energy conservation, and natural resources. The broad program model developed by this group will serve as a foundation for identifying evaluation priorities going forward.

Key Items of Evaluation

See cross-cutting outcomes in state defined outcomes.

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Childhood Obesity -- Nutrition and Childhood Obesity

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
502	New and Improved Food Products	5%		0%	
603	Market Economics	0%		13%	
607	Consumer Economics	0%		3%	
701	Nutrient Composition of Food	15%		5%	
702	Requirements and Function of Nutrients and Other Food Components	15%		22%	
703	Nutrition Education and Behavior	40%		34%	
724	Healthy Lifestyle	25%		23%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	293.0	0.0	2.0	0.0
Actual Paid Professional	159.9	0.0	1.0	0.0
Actual Volunteer	33028.0	0.0	0.0	0.0

2. Institution Name: Cornell University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	0	208825	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	261821	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

2. Institution Name: NY State Agricultural Experiment Station

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
1329429	0	4158	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
1329429	0	1816	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

This is a statewide multi-disciplinary extension program with emphases cutting across many content areas and audiences. Campus-based faculty and extension associates provide leadership and participate in work teams with CCE educators. Programs draw upon Cornell and other academic research. All are

involved in designing, implementing and evaluating tailored outreach. Trained Extension nutritionists and parenting and 4-H educators lead local program activities. Researchers in horticulture and agricultural economics and marketing investigate options for improving local production and direct marketing of fresh

produce into areas where they are currently lacking. Programs for children and youth are delivered through a variety of settings: 4-H camps, clubs, fairs and afterschool as well as through child-parent/grandparent involvement projects and in-school student education. Family-focused programs promote a positive parent/care-giver-child feeding relationship and planning for good nutrition and physical activity. Extension staff collaborate with community leaders to improve the local environment for healthy eating and active living. Activities include sequential learning events, "community workshops" and engagement with community and civic leaders to improve the environment for nutrition and wellness and support of the local food system.

2. Brief description of the target audience

Audiences reached include: moderate and low income families; 4-H youth; children in and out of school; nutrition, health, and family professionals; front-line family workers; school food service staff; community leaders; and government and agency leaders at the local, state, and federal level.

3. How was eXtension used?

Cornell Cooperative Extension supports and promotes eXtension communities of practice, the eXtension public site and the professional development offered through eXtension.org. Staff across the state are encouraged to be involved in appropriate COPs, and the link to eXtension is promoted on the front page of the Cornell Cooperative Extension public staff site. Currently 347 staff are registered users of eXtension. Staff have cited the usefulness of COPs - particularly where there are identified national projects - such as with Financial Security for All COP.

- Examples of participation in COPs in this plan of work area include:
- Healthy Food Choices in Schools
- Childhood Obesity and Nutrition
- Families, Food, and Fitness
- Creating Healthy communities

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	294094	1855201	371324	2361160

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

Patent Applications Submitted

Year: 2013
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	5	325	330

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- (4.1a) # children, youth, parents/caregivers and other adults reached via healthy eating and active living programs

Not reporting on this Output for this Annual Report

Output #2

Output Measure

- (4.1b) # of women and health providers completing education programs addressing healthy weight gain during pregnancy and breastfeeding

Not reporting on this Output for this Annual Report

Output #3

Output Measure

- (4.1c) #of extension educators and/or volunteers participating in training programs to enhance obesity prevention educational opportunities for children and youth, and adults who care for them

Not reporting on this Output for this Annual Report

Output #4

Output Measure

- (4.2a) # of program participants reached to improve their food resource management and food security

Not reporting on this Output for this Annual Report

Output #5

Output Measure

- (4.3a) # of community and/or government/ agency members completing educational programs on issues related to childhood obesity prevention programs and policy related to healthy living

Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	(4.1d1) of children and youth who demonstrate knowledge or skill gains related to healthy eating and active living
2	(4.1e) #of women and health providers demonstrating increased knowledge or skill gains related to healthy weight gain during pregnancy and breastfeeding
3	(4.1f) # of extension educators or volunteers demonstrating knowledge or skill gains related to healthy eating and active living programs for obesity prevention
4	(4.1g) # of youth program participants documented to have applied healthy eating and/or active living, recommendations
5	(4.1h) # of adult program participants documented to have applied healthy eating and/or active living, recommendations
6	(4.1i) #of extension educators and/or volunteers reporting increased delivery of healthy living-related programs.
7	(4.1j) # of vulnerable children and youth documented to have reduced incidence of overweight and obesity as a result of participating in relevant educational programs.
8	(4.1k) # of adult program participants documented to have reduced one or more chronic disease indicators associated with overweight.
9	(4.2b) #of program participants who demonstrate knowledge or skill gains related to food resource management and food security
10	(4.2c) # of program participants who adopt food resource management and/or food security practices
11	(4.2d) # of program participants documented to have improved food resource management and/or food security
12	(4.3b) # of program participants who demonstrate increased knowledge or skill gains related to childhood obesity prevention programs and policies
13	(4.3c) # of program participants documented to have increased involvement in public/community childhood obesity prevention actions
14	(4.3d) # of participating schools and/or communities documented to have made practice and/or policy changes to promote healthy eating and active living
15	(4.3e) # of participating schools and/or communities reporting decline in incidence of childhood overweight and/or indicators of chronic diseases associated with obesity.
16	(4.1d2) # parents/caregivers and other adults who demonstrate knowledge or skill gains related to healthy eating and active living
17	Encouraging Youth to Make Healthier Food Choices

Outcome #1

1. Outcome Measures

(4.1d1) of children and youth who demonstrate knowledge or skill gains related to healthy eating and active living

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	25303

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

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
724	Healthy Lifestyle

Outcome #2

1. Outcome Measures

(4.1e) #of women and health providers demonstrating increased knowledge or skill gains related to healthy weight gain during pregnancy and breastfeeding

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

(4.1f) # of extension educators or volunteers demonstrating knowledge or skill gains related to healthy eating and active living programs for obesity prevention

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

(4.1g) # of youth program participants documented to have applied healthy eating and/or active living, recommendations

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	27506

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food
703	Nutrition Education and Behavior
724	Healthy Lifestyle

Outcome #5

1. Outcome Measures

(4.1h) # of adult program participants documented to have applied healthy eating and/or active living, recommendations

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	21627

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food
703	Nutrition Education and Behavior
724	Healthy Lifestyle

Outcome #6

1. Outcome Measures

(4.1i) #of extension educators and/or volunteers reporting increased delivery of healthy living-related programs.

Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

(4.1j) # of vulnerable children and youth documented to have reduced incidence of overweight and obesity as a result of participating in relevant educational programs.

Not Reporting on this Outcome Measure

Outcome #8

1. Outcome Measures

(4.1k) # of adult program participants documented to have reduced one or more chronic disease indicators associated with overweight.

Not Reporting on this Outcome Measure

Outcome #9

1. Outcome Measures

(4.2b) #of program participants who demonstrate knowledge or skill gains related to food resource management and food security

Not Reporting on this Outcome Measure

Outcome #10

1. Outcome Measures

(4.2c) # of program participants who adopt food resource management and/or food security practices

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	59224

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food
703	Nutrition Education and Behavior

Outcome #11

1. Outcome Measures

(4.2d) # of program participants documented to have improved food resource management and/or food security

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	15621

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food
703	Nutrition Education and Behavior

Outcome #12

1. Outcome Measures

(4.3b) # of program participants who demonstrate increased knowledge or skill gains related to childhood obesity prevention programs and policies

Not Reporting on this Outcome Measure

Outcome #13

1. Outcome Measures

(4.3c) # of program participants documented to have increased involvement in public/community childhood obesity prevention actions

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	310

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
724	Healthy Lifestyle

Outcome #14

1. Outcome Measures

(4.3d) # of participating schools and/or communities documented to have made practice and/or policy changes to promote healthy eating and active living

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	129

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food
703	Nutrition Education and Behavior
724	Healthy Lifestyle

Outcome #15

1. Outcome Measures

(4.3e) # of participating schools and/or communities reporting decline in incidence of childhood overweight and/or indicators of chronic diseases associated with obesity.

Not Reporting on this Outcome Measure

Outcome #16

1. Outcome Measures

(4.1d2) # parents/caregivers and other adults who demonstrate knowledge or skill gains related to healthy eating and active living

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	26408

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

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
724	Healthy Lifestyle

Outcome #17

1. Outcome Measures

Encouraging Youth to Make Healthier Food Choices

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Since 1980, obesity among children and adolescents has almost tripled, and currently about 17% of children and adolescents aged 2 to 19 years are obese. Childhood obesity is a risk factor for many chronic diseases that reduce quality of life and increase health care costs, estimated to total \$14 billion in direct health expenses annually. Some critics say part of the problem is the content of school lunches. School lunches are eaten by 75% of students, provide approximately a third of weekday calories and typically have 40 to 120 calories more than bagged lunches. Interventions to reduce obesity during childhood are particularly important, because obese adolescents are more likely to become obese adults.

What has been done

Developing Strategies to encourage Healthier Food Choice in New York School Cafeterias (Wansink, Just, and Payne: ended in 2012) analyzed how the school lunchroom environment influences food choices among middle and high school students. Lunchroom makeovers were undertaken and consisted of moving fruits, vegetables and white milk to more visible positions on the lunch line; using color, decoration, and placement to draw attention to targeted items; and using suggestive selling through verbal prompts and signs. Pilot tests of lunchroom interventions were conducted in four school districts, followed by a larger project of 50 New York City Schools and six New York State school districts.

Results

Results from studies showed that environmental interventions do impact students' food choices in the lunchroom. As a result of the intervention, students took between 13% and 47% more fruits and vegetables. And they ate more of the fruits and vegetables that they put on their trays, resulting in decrease in food waste of between 10% and 22%. This knowledge, bundled into the Smarter Lunchroom Movement, has been disseminated to over 3,000 child nutrition professionals, including school foodservice directors and managers; health, academic, and extension professionals; registered dietitians and extension educators through live presentations and webinars.

This and other research around childhood obesity prevention and the effectiveness of related educational programs have influenced the quality and types of educational programs provided through Cornell Cooperative Extension. In 2013 698,446 individuals participated in programs focused on food and nutrition offered by Cornell Cooperative Extension, representing a 56% increase since 2011. During that same time there has been a 25% increase in the number of

youth who demonstrate knowledge and skill gains about food and nutrition and a 16% increase in those reporting that they have applied healthy lifestyle recommendations such as increased activity and making healthier food and beverage choices as a result of training participation.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
724	Healthy Lifestyle

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

Local governments, an important funder for local extension staff, face diminished revenues and increased mandated costs outside of the non-mandated extension programs. Thus having professionals available to implement new research-based programming is not always possible. A very slow recovery from the recession and pockets of high unemployment in the state affect how public and private funds are allocated to educational activities. In some instances, family subsistence is a higher priority than improved nutrition and opportunities for physical activity. There has been more support and research interest in ecological approaches to childhood obesity prevention, including support for policy changes such as eliminating non-nutritious snacks from after school activities, interest in school and community gardens and active community approaches such as walking school buses. At the same time changes to publicly funded food and nutrition program funding structures has impacted the ability to fully engage program management and hands-on staff in working in communities. Some program staff have been furloughed and services ceased while funding decisions were made.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

In general, the evaluation approach included in our plan can more accurately be described as an evaluation "system" rather than as bounded "studies" or investigations. Because each of the plans addresses a broad combination of applied research and extension initiatives spanning multiple audiences, methods, and intended outcomes, a combination of routine program monitoring and documentation, near-term outcome assessment, and targeted follow-up activities is required to provide comprehensive assessment. Program documentation results are aggregated in a statewide accountability system which includes

both qualitative and quantitative data for reporting and helping us to better understand our impacts.

Cornell Cooperative Extension works with the Cornell Office of Research and Evaluation (CORE) to strengthen evaluation practice and build evaluation capacity in CCE. CORE has developed a Protocol for evaluation that takes a systems approach, recognizing that individual programs and their evaluations are part of larger program portfolios and are shaped by needs and context at multiple levels of the Extension system. CORE has tested and refined this Protocol in partnership with CCE programs since 2006. A key step in the Protocol is to develop program models, in both familiar columnar form as logic models and in a visual form called pathway models. These models form the basis for focusing evaluation efforts in Extension programs.

Beginning in 2013, CORE and CCE partnered to initiate program modeling and evaluation planning at the level of the statewide Plans of Work. This effort, which is ongoing, will contribute to a framework for programming and evaluation at multiple levels. The Protocol is also being integrated into professional development in CCE, in collaboration with CCE leadership, to promote consistent approaches to evaluation of county-based, regional, and state-wide programs. CCE organizational development efforts are also being devoted to organizing common high-quality measures that can be used by a wide range of programs where applicable.

Some of the food and nutrition programs implemented through Cornell Cooperative Extension are the result of larger grant/contract supported projects that require specific evaluation strategies. Programs like EFNEP, Eat Smart New York, Choose Health Action Teens, Choose Health at Camp are evaluated with consistent measures and strategies across the state. This information now feeds into our State Defined Outcomes related to Nutrition and Childhood Obesity.

- The Expanded Food and Nutrition Education Program (EFNEP) and Supplemental Nutrition Assistance Program - Education (SNAP-Ed) are nutrition education programs designed to enhance the quality of life for a low-income ($\leq 185\%$ of poverty) participants and their families. EFNEP is provided to participants who are parenting, pregnant, or influencing the nutritional well-being of children under the age of 19 years, and who meet the income guidelines. SNAP-Ed is provided to any person who meets the income guidelines.
- Participants complete an assessment form at entry into the program and at exit. The question sets used are based on the content of classes delivered. Enrollment in the program is usually limited to 4 - 12 lessons, but may occasionally be longer, depending upon the needs and desires of the individual participant. The assessment form collects demographic information, a maximum of 25 behavior checklist items and a 24-hour dietary recall. These collected data are entered into a web-based electronic database, specifically designed by the USDA to capture these evaluation data.
- The web-based system provides multiple levels of assessment on participant and program outputs. The web-based system provides individual assessment: providing output reports which summarize participant reported behaviors to use with program participants to facilitate awareness of current practices and improved practices, at the conclusion of the sessions. The web-based system provides aggregated reports of program participant data which summarizes output and outcome (reported behavior and diet changes) at the local county level. The web-based system then enables to aggregation of data at the state and

federal levels, to facilitate program reporting and evaluation assessment at each of these levels.

- Participants reached through one-time education complete a form which captures demographic characteristics and an assessment of topic-specific intent to change behavior, e.g. intent to choose water and low-fat milk instead of sweetened beverages. Data will not be linked to participant's name or address. Data on enrolled participants are used to 1) assist staff in establishing goals and objectives with the participants for program delivery and 2) assess outcomes of the program. Aggregated data are shared with the Federal and State funding agencies at the end of each Federal Fiscal Year as required for Cornell University and Cornell Cooperative Extension to receive the Federal funding.

In 2013 the CORE cohort around statewide Plans of Work related to Nutrition, Food Safety and Security and Obesity Prevention identified the Choose Health Food Fun and Fitness program as a major initiative that will be the focus of a more systematic evaluation. The cohort is currently developing an evaluation plan for this specific new program, as it is expected to be disseminated widely to audiences across NYS once the pilot development stage is concluded. In addition, the Nutrition and Obesity Prevention Working Group developed an evaluation plan for exploring the nature of and extent to which the research-based ecological approach to obesity prevention is being incorporated into community outreach in CCE. This evaluation will be conducted in 2014.

Key Items of Evaluation

See cross-cutting outcomes in state defined outcomes.

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Food Safety

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
303	Genetic Improvement of Animals	0%		1%	
308	Improved Animal Products (Before Harvest)	5%		0%	
311	Animal Diseases	0%		15%	
312	External Parasites and Pests of Animals	0%		1%	
313	Internal Parasites in Animals	0%		3%	
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals	0%		5%	
405	Drainage and Irrigation Systems and Facilities	0%		5%	
501	New and Improved Food Processing Technologies	10%		0%	
502	New and Improved Food Products	0%		2%	
503	Quality Maintenance in Storing and Marketing Food Products	18%		0%	
504	Home and Commercial Food Service	30%		0%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	10%		20%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	15%		16%	
721	Insects and Other Pests Affecting Humans	2%		9%	
722	Zoonotic Diseases and Parasites Affecting Humans	0%		12%	
723	Hazards to Human Health and Safety	10%		7%	
903	Communication, Education, and Information Delivery	0%		4%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	48.1	0.0	3.0	0.0
Actual Paid Professional	5.9	0.0	3.0	0.0
Actual Volunteer	30.0	0.0	0.0	0.0

2. Institution Name: Cornell University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
49238	0	591340	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
49238	0	708826	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

2. Institution Name: NY State Agricultural Experiment Station

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	0	37892	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	58079	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

This is a comprehensive program entailing a wide range of applied research activities and multiple education methods depending on context and need. Campus-based faculty and extension associates, regional specialists and county-based educators all are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role. Examples of activities are: conveying general knowledge and understanding of food safety science to New York State residents and beyond via varied communication strategies; providing educational programs in

collaboration with regulatory agencies involved with assuring the safety and wholesomeness of food processed, prepared, sold and handled and consumed by the public in New York State; supporting transfer of new research-based information for appropriate applications in agricultural production via courses, presentations and materials, manufacturing, retailing and food service industries; communicating current food safety production, manufacturing and technical problems to researchers at Cornell; conducting specialized instruction in the effective application of laboratory methods to maintain and improve product safety and quality in the dairy and food industry.

2. Brief description of the target audience

Audiences reached include: processors, producers and consumers with targeted programs for moderate and low income families; 4-H youth; nutrition, health, and family professionals; front-line family workers; food service and food production staff and their managers and directors; and government and agency leaders at the local, state, and federal level.

3. How was eXtension used?

Cornell Cooperative Extension supports and promotes eXtension communities of practice, the eXtension public site and the professional development offered through eXtension.org. Staff across the state are encouraged to be involved in appropriate COPs, and the link to eXtension is promoted on the front page of the Cornell Cooperative Extension public staff site. Currently 347 staff are registered users of eXtension. Staff have cited the usefulness of COPs - particularly where there are identified national projects or COPs.

Examples of participation in COPs in this plan of work where staff are involved include:

- Food Safety

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	175917	1922615	61729	675514

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

Patent Applications Submitted

Year: 2013
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	0	7	7

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- (5.1a) # of consumers participating in programs on: reducing food safety and/or food borne risks and illnesses including recommended purchasing, handling, storage, and preparation practices. Not reporting on this Output for this Annual Report

Output #2

Output Measure

- (5.2a) # of producers/ processors/food service providers participating in programs on: reducing food safety and/or food borne risks and illnesses including recommended production, processing, storage, handling, marketing, and preparation practices (no target). Not reporting on this Output for this Annual Report

Output #3

Output Measure

- (5.3a) # food safety decision-makers, policy makers and other officials reached with science-based information to improve food safety practices and policies. Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	(5.1b) # of consumers who demonstrate knowledge or skill gains related to reducing food safety and/or foodborne risks and illnesses including recommended purchasing, handling, storage, and preparation practices.
2	(5.1c) # of consumers documented to have implemented new and/or increased application of ongoing safe food purchasing, handling, storage, and preparation practices.
3	(5.1d) Reduced incidence of foodborne illness among program participants. (no target).
4	(5.2b) # of producers/ processors/food service providers who demonstrate knowledge or skill gains related to reducing food safety and/or foodborne risks and illnesses including recommended production, processing, storage, handling, marketing, and preparation practices.
5	(5.2c) # of producers/ processors/food service providers documented to have implemented new and/or increased application of ongoing safe food production, processing, storage, handling, marketing, and preparation practices.
6	(5.2d) Improved safety of foods available through wholesale and retail outlets and institutional foods.
7	(5.3b) # of food safety decision-makers, policy makers and other officials who demonstrate knowledge gains relative to improved food safety practices and policies.
8	(5.3c) # of communities/ firms/or organizations documented to have assessed practices or food safety policies as a result of participating in relevant educational programs.
9	(5.3d) # of communities/ firms/or organizations documented to have implemented improved practices or food safety policies as a result of participating in relevant educational programs.
10	Good Agricultural Practices

Outcome #1

1. Outcome Measures

(5.1b) # of consumers who demonstrate knowledge or skill gains related to reducing food safety and/or foodborne risks and illnesses including recommended purchasing, handling, storage, and preparation practices.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	19315

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
501	New and Improved Food Processing Technologies
503	Quality Maintenance in Storing and Marketing Food Products
504	Home and Commercial Food Service
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
721	Insects and Other Pests Affecting Humans
723	Hazards to Human Health and Safety

Outcome #2

1. Outcome Measures

(5.1c) # of consumers documented to have implemented new and/or increased application of ongoing safe food purchasing, handling, storage, and preparation practices.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	10706

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
501	New and Improved Food Processing Technologies
503	Quality Maintenance in Storing and Marketing Food Products
504	Home and Commercial Food Service
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
721	Insects and Other Pests Affecting Humans
723	Hazards to Human Health and Safety

Outcome #3

1. Outcome Measures

(5.1d) Reduced incidence of foodborne illness among program participants. (no target).

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

(5.2b) # of producers/ processors/food service providers who demonstrate knowledge or skill gains related to reducing food safety and/or foodborne risks and illnesses including recommended production, processing, storage, handling, marketing, and preparation practices.

Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

(5.2c) # of producers/ processors/food service providers documented to have implemented new and/or increased application of ongoing safe food production, processing, storage, handling, marketing, and preparation practices.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	15

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
308	Improved Animal Products (Before Harvest)
501	New and Improved Food Processing Technologies
503	Quality Maintenance in Storing and Marketing Food Products
504	Home and Commercial Food Service
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
721	Insects and Other Pests Affecting Humans
723	Hazards to Human Health and Safety

Outcome #6

1. Outcome Measures

(5.2d) Improved safety of foods available through wholesale and retail outlets and institutional foods.

Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

(5.3b) # of food safety decision-makers, policy makers and other officials who demonstrate knowledge gains relative to improved food safety practices and policies.

Not Reporting on this Outcome Measure

Outcome #8

1. Outcome Measures

(5.3c) # of communities/ firms/or organizations documented to have assessed practices or food safety policies as a result of participating in relevant educational programs.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	43

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
504	Home and Commercial Food Service
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
721	Insects and Other Pests Affecting Humans
723	Hazards to Human Health and Safety

Outcome #9

1. Outcome Measures

(5.3d) # of communities/ firms/or organizations documented to have implemented improved practices or food safety policies as a result of participating in relevant educational programs.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	22

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
504	Home and Commercial Food Service
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
721	Insects and Other Pests Affecting Humans
723	Hazards to Human Health and Safety

Outcome #10

1. Outcome Measures

Good Agricultural Practices

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Foodborne illnesses are estimated to cost the U.S. economy \$77.7 billion a year, and several significant recent outbreaks have been traced to fresh produce as varied as spinach, cantaloupe, and cilantro. In response to these produce-associated foodborne illness outbreaks, many fresh produce buyers require farms to have third-party audits to verify food safety practices such as Good Agricultural Practices (GAPs) are in place. In addition, the FDA's Food Safety Modernization Act has proposed the first ever federal regulatory requirement for practices to minimize the risks of fresh produce contamination in the field, during harvest and during transport.

Keeping pace with industry demand and complying with these new rules can be a challenge for farmers to navigate.

What has been done

A multi-disciplinary team including Cornell Cooperative Extension, Produce Safety Alliance, National Good Agricultural Practices Program, and the New York State Department of Agriculture and Markets collaborated to develop and deliver workshops to extension educators and growers about Good Agricultural Practices (GAPs). Since 2009 this partnership has hosted 24 multi-day workshops throughout New York State, training over 600 people from at least 300 farms. Workshops, that incorporate science-based GAPs recommendations taken from peer-reviewed research conducted at Cornell, provide key produce safety knowledge to growers and one-on-one assistance in development of a farm food safety plans. In addition, there is an option to participate in a mock audit to prepare for passing a third party audit.

Results

This multi-day, nationally recognized GAPs training program prepares New York's fresh produce growers to implement practices to reduce food safety risks and meet the marketplace's increased demand for food safety practices. As a result of participation, growers have been able to complete farm food safety plans necessary for passing a third party audit. The audits allow growers to maintain and enter markets that require audits. Growers have identified this potential as being worth \$85,000 to \$1.5 million in business. Even when their buyers are not demanding it, such as consumers at farmers markets, growers have found that having GAPs training is economically valuable to their farm. The program's success comes from providing science-based information grounded in research, practical practices that reduce risks, and an effective extension opportunity for each participant to develop a plan unique to their farm so that effective risk assessment and risk reduction practices can be implemented. One hundred percent of all participants who completed the evaluation said they would recommend the training to others, indicating "this was a great idea and helped get the plan underway" and it was "very valuable to ask questions actually pertaining to my farm's situation to auditors".

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
903	Communication, Education, and Information Delivery

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

Media attention to food-borne illnesses and FDA's Food Safety Modernization Act have elevated the interest in food safety programs and projects. Slow recovery from the recession, pockets of high unemployment in the state, and a renewed interest in locally grown and home gardening have also increased the interest in home canning and interests in doing so safely with food preservation programming.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

In general, the evaluation approach included in our plan can more accurately be described as an evaluation "system" rather than as bounded "studies" or investigations. Because each of the plans addresses a broad combination of applied research and extension initiatives spanning multiple audiences, methods, and intended outcomes, a combination of routine program monitoring and documentation, near-term outcome assessment, and targeted follow-up activities is required to provide comprehensive assessment. Program documentation results are aggregated in a statewide accountability system which includes both qualitative and quantitative data for reporting and helping us to better understand our impacts.

Cornell Cooperative Extension works with the Cornell Office of Research and Evaluation (CORE) to strengthen evaluation practice and build evaluation capacity in CCE. CORE has developed a Protocol for evaluation that takes a systems approach, recognizing that individual programs and their evaluations are part of larger program portfolios and are shaped by needs and context at multiple levels of the Extension system. CORE has tested and refined this Protocol in partnership with CCE programs since 2006. A key step in the Protocol is to develop program models, in both familiar columnar form as logic models and in a visual form called pathway models. These models form the basis for focusing evaluation efforts in Extension programs.

Beginning in 2013, CORE and CCE partnered to initiate program modeling and evaluation planning at the level of the statewide Plans of Work. This effort, which is ongoing, will contribute to a framework for programming and evaluation at multiple levels. The Protocol is also being integrated into professional development in CCE, in collaboration with CCE leadership, to promote consistent approaches to evaluation of county-based, regional, and state-wide programs. CCE organizational development efforts are also being devoted to organizing common high-quality measures that can be used by a wide range of programs where applicable.

Key Items of Evaluation

See cross-cutting outcomes in state defined outcomes.

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Youth, Family, and Community

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	0%		2%	
131	Alternative Uses of Land	3%		4%	
134	Outdoor Recreation	1%		7%	
511	New and Improved Non-Food Products and Processes	3%		0%	
602	Business Management, Finance, and Taxation	0%		5%	
607	Consumer Economics	7%		0%	
608	Community Resource Planning and Development	15%		7%	
610	Domestic Policy Analysis	4%		7%	
611	Foreign Policy and Programs	0%		1%	
801	Individual and Family Resource Management	8%		1%	
802	Human Development and Family Well-Being	12%		28%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	7%		5%	
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	4%		7%	
805	Community Institutions, Health, and Social Services	6%		14%	
806	Youth Development	30%		12%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890

2013 NY State Agricultural Experiment Station Research and Cornell University Research and Extension Combined Annual Report of Accomplishments and Results

Plan	554.9	0.0	3.0	0.0
Actual Paid Professional	386.9	0.0	5.0	0.0
Actual Volunteer	41344.0	0.0	0.0	0.0

2. Institution Name: Cornell University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
3216891	0	1063621	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
3216891	0	1341508	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

2. Institution Name: NY State Agricultural Experiment Station

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	0	3870	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	11086	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

This is a comprehensive, statewide educational program entailing a wide variety of applied research and multiple education methods depending on local context and need. Campus-based faculty and extension associates, program work teams, the state 4-H professional development committee and county based educators all are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

A variety of educational strategies are used to help county educators and volunteers gain the skills and knowledge necessary to fully understand and differentiate between the range of possibilities that exist within initiatives. Trained 4-H Staff, teachers, community agency staff, volunteers, and teens lead youth in 4-H projects, which are a planned series of learning experiences through which youth develop knowledge,

practical skills woodworking, gardening, cooking, etc.) and life skills (decision-making, self-discipline, leadership, etc.) in a variety of settings including after school programming, clubs, camps, events and school enrichment activities.

Family

This is a comprehensive, statewide educational program entailing multiple education methods depending on local context and need. Campus-based faculty and extension associates and county-based educators are involved in designing, implementing, and evaluating tailored educational efforts depending on the focus and scope of their role.

Community

CCE, CUAES and NYSAES have a commitment to the people of New York to build self-capacity among citizens so they can solve problems, improve quality of life, and build strong and vibrant communities. Through integrated research and extension agendas, we can help develop effective and collaborative land use/natural resource management approaches and policies that enhance economic, environmental and social connections. Program staff work with a variety of state and local groups to tackle projects that vary in nature from applied research to pilot projects or case studies. These activities, which are demand driven (locally or regionally initiated usually with sponsored or self-financing), provide valuable insights, resources and materials for extension education.

2. Brief description of the target audience

Youth

- Young people
- Youth development educators and workers
- Youth development volunteers
- Parents and guardians
- Youth serving organizations
- Teachers and schools
- Community leaders

Family

- Parents, grandparents and other caregivers
- Child care providers
- Community stakeholders such as employers, leaders and policy makers at the local and state levels
- Low and moderate-income households who are especially vulnerable to financial setbacks and have less disposable income to commit to savings
 - Low-income households living in poor-quality housing

Community

- Elected officials, community leaders, business leaders, not-for-profit agencies, youth serving agencies, schools, environmental groups, agribusiness leaders, etc.
 - Retirees and other elders who have time to engage in community stewardship
 - Engaged community citizens
 - Communities as whole: youth and adults organizations, businesses, schools, and other institutions

- Agriculture/horticulture/natural resource enterprise managers, community residents and visitors, youth, local media, local officials, and local planning and economic development staff.
- Youth and youth serving organizations and adult volunteers who work with youth

3. How was eXtension used?

Cornell Cooperative Extension supports and promotes eXtension communities of practice, the eXtension public site and the professional development offered through eXtension.org. Staff across the state are encouraged to be involved in appropriate COPs, and the link to eXtension is promoted on the front page of the Cornell Cooperative Extension public staff site. Currently 323 staff are registered users of eXtension. Staff have cited the usefulness of COPs - particularly where there are identified national projects - such as with Financial Security for All COP.

Examples of participation in COPs in this plan of work area include:

- Youth, Family, Community
- Science for Youth *
- Extension Master Gardener Coordinators
- Enhancing Rural Capacity *
- Family Care Giving
- Military Families
- Well-Being of Vulnerable Populations
- Financial Security for All
- Gardens, Lawns & Landscapes
- Just in Time Parenting
- Entrepreneurs and Their Communities
- Creating Healthy Communities
- Diversity, Equity and Inclusion
- Pest Management in and Around Structures
- Land Use Planning
- Community Management Board
- Wildlife Damage Management *

* Cornell Faculty/Staff on Leadership Team

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	354807	3729121	363890	3881330

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

Patent Applications Submitted

Year: 2013
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	93	230	323

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- (6.1a) number of youth program educators and adult volunteers participating in programs on positive youth development.
Not reporting on this Output for this Annual Report

Output #2

Output Measure

- (6.1b) number of youth participating in projects related to vocational skills and/or citizenship.
Not reporting on this Output for this Annual Report

Output #3

Output Measure

- (6.2a) number of 4-H members enrolled in STEM project areas.
Not reporting on this Output for this Annual Report

Output #4

Output Measure

- (6.2b) number of youth reached through school enrichment and special interest programs, 4-H camp, and after school programs coded as STEM related (as reported on ES-237).
Not reporting on this Output for this Annual Report

Output #5

Output Measure

- (6.2c) number of 4-H and other youth program educators and adult volunteers participating in programs on STEM for youth.
Not reporting on this Output for this Annual Report

Output #6

Output Measure

- (6.3a) number of infant and child care-givers completing non-formal education programs about quality dependent care giving.

Not reporting on this Output for this Annual Report

Output #7

Output Measure

- (6.3b) number of persons with care-requiring dependents completing non-formal education programs on selection of care-giving individuals and facilities.

Not reporting on this Output for this Annual Report

Output #8

Output Measure

- (6.4a) number of organizations, agencies, and institutions participating in non-formal educational programs about social and public policy issues to enhance opportunities for safe, economical, and developmentally appropriate care-giving programs for infants, children and youth.

Not reporting on this Output for this Annual Report

Output #9

Output Measure

- (6.5a) number of persons completing complete non-formal education programs about parenting.

Not reporting on this Output for this Annual Report

Output #10

Output Measure

- (6.6a) number of persons completing education programs on age-appropriate topics like spending and saving concepts, appropriate use of money, financial goals, tracking expenses, budgeting, credit management, financial planning, and/or wealth generation strategies.

Not reporting on this Output for this Annual Report

Output #11

Output Measure

- (6.7a) number of consumers and property managers completing programs on indoor air quality issues.

Not reporting on this Output for this Annual Report

Output #12

Output Measure

- (6.8a) number of residents, community leaders, entrepreneurs, economic development professionals participating in programs re: workforce, entrepreneurial climate, diversification, economic impact analysis, e-commerce, market development, business planning, partnerships.

Not reporting on this Output for this Annual Report

Output #13

Output Measure

- (6.9a) number of community members participating in educational programs related to community decision-making, public participation, planning and monitoring processes, and collaborative approaches.

Not reporting on this Output for this Annual Report

Output #14

Output Measure

- (6.10a) number of neighborhoods and communities, economic developers and/or entrepreneurs participating in educational programs on "green" business opportunities.
Not reporting on this Output for this Annual Report

Output #15

Output Measure

- (6.11a) number of residents and community leaders participating in programs on community sustainability, community assets, citizen involvement, property rights, land use, conservation, interaction between environmental, economic, and quality of life issues.
Not reporting on this Output for this Annual Report

Output #16

Output Measure

- (6.12a) number of agriculture/ horticulture/ natural resource business persons participating in education programs on potential environmental, health, social, and cultural impacts of their operations from the perspective of the community.
Not reporting on this Output for this Annual Report

Output #17

Output Measure

- (6.13a) number of community members and/or local leaders participating in education programs on the roles of agriculture/horticulture/ natural resource enterprises in the local community, tax base, and environment.
Not reporting on this Output for this Annual Report

Output #18

Output Measure

- (6.13b) number of local community members and/or leaders participating in programs on the potential benefits of community-based agriculture and opportunities for promoting same.
Not reporting on this Output for this Annual Report

Output #19

Output Measure

- (6.15a) number of youth participating in education programs leading to civic engagement initiatives.
Not reporting on this Output for this Annual Report

Output #20

Output Measure

- (6.15b) number of youth participating in train-the-trainer programs related to civic engagement.
Not reporting on this Output for this Annual Report

Output #21

Output Measure

- (6.15c) number of adults participating train-the-trainer programs related civic engagement.

Not reporting on this Output for this Annual Report

Output #22

Output Measure

- (6.15d) number of communities participating in 4-H civic engagement initiatives.

Not reporting on this Output for this Annual Report

Output #23

Output Measure

- (6.14a) number of hours of instruction by Master Gardener volunteers in educational programs for youth and adult audiences.

Not reporting on this Output for this Annual Report

Output #24

Output Measure

- (6.14b) number of hours by Master Gardener volunteers in general program support.

Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	(6.1c) number of youth participants who demonstrate gains in vocational/citizenship skills, knowledge, attitudes, and/or behaviors.
2	(6.1d) number of youth participants who learn to set goals, make plans and identify resources to achieve goals and demonstrate decision making abilities.
3	(6.1e) number of youth program educators and adult volunteers who demonstrate knowledge and/or skill gains in meeting the needs of youth at various stages of development.
4	(6.1f) number of youth participants who demonstrate ability to express their ideas confidently and competently.
5	(6.1g) number of adult volunteers documented to mentor and advise youth and other adult volunteers in an effective and positive manner.
6	(6.1h) number of youth participants documented as serving in age-appropriate leadership roles.
7	(6.1i) number of youth organizations/programs documented as reflecting youth needs, interests, and excitement for learning.
8	(6.2d) number of participants demonstrating increased awareness of STEM, improved STEM skills including scientific methods, knowledge of specific sciences, and/or increased awareness of opportunities to contribute to society using STEM skills.
9	(6.2e) number of participants that report improved success in school science and/or increased interest in STEM.
10	(6.2f) number of youth applying STEM learning to contexts outside 4-H programs, e.g., school classes, science fairs, invention contests, etc.
11	(6.2g) number of youth expressing interest/demonstrating aspirations towards STEM careers, e.g., career fairs, job shadowing, volunteer work or internships.
12	(6.2h) number of youth adopting and using new scientific methods or improved technology.
13	(6.2i) number of youth and adult volunteers documented to become contributing participants in STEM related issues in their communities and/or choose STEM related professions and who attribute same at least in part to involvement with the program.
14	(6.2j) Increased number and more diverse pool of youth pursuing education and careers in STEM related fields.
15	(6.2k) Increased and more diverse pool of trained teachers, educators, scientists.
16	(6.3c) number of participating infant and child caregivers who demonstrate knowledge or skill gains related care-giving practices.
17	(6.3d) number of participating persons with care-requiring dependents who demonstrate ability to evaluate the quality of care programs.

18	(6.3e) number of participating infant and child caregivers reporting to have applied positive care-giving practices.
19	(6.3f) number of participating persons with care-requiring dependents reporting to have used child care quality characteristics in their care selection.
20	(6.3g) number of participating persons with care-requiring dependents reporting positive change in child care as a result of participating in educational programs.
21	(6.4b) number of program participants who demonstrate knowledge or skills gains regarding community approaches to family care.
22	(6.4c) number of program participants reporting to have been involved in community level assessments of family care needs.
23	(6.4d) number of communities documented to have taken action to address family needs that can be related to educational programs and/or critical community collaborations provided.
24	(6.5b) number parents, grandparents and other adults providing parental care gaining who demonstrate knowledge or skills gains regarding developmentally appropriate and effective parenting methods.
25	(6.5c) number of parents and other adults providing parental care adopting development-ally appropriate and effective parenting methods.
26	(6.5d) number of parents/ relative caregivers reporting to have experienced positive change in parent-child relationships and child nurturance that they attribute to implementing new parenting behaviors learned in educational programs.
27	(6.6b) number of participants who demonstrate knowledge or skill gains and/or can articulate specific actions they will take related to spending and saving concepts, appropriate use of money, setting financial goals, tracking expenses, budgeting, credit management, financial planning, and/or wealth generation strategies.
28	(6.6c) number of program participants reporting they are practicing improved money management skills such as comparison shopping, paying bills on time, paying more than minimum payment, checking credit report, and reviewing and understanding bills/statements as a means to meeting financial goals.
29	(6.6d) number of program participants reporting to have met day-to-day financial obligations while also progressing on future goals for home ownership, savings, retirement accounts, etc.
30	(6.6e) number of program participants reporting to have reduced debts and/or increased savings.
31	(6.7b) number of consumers and property managers gaining awareness and knowledge of indoor air quality issues and remediation options.
32	(6.7c) number of program participants documented to have taken measures to prevent or remediate indoor air quality issues.
33	(6.7d) number of program participants documented to have reduced short-term health effects of indoor air pollutants (such as irritation of the eyes, nose, and throat, headaches, dizziness, and fatigue) as a result of participating in educational programs.
34	(6.7e) number of participants reducing risks of respiratory diseases, heart disease, and cancer by implement measures such as radon remediation, controlling indoor triggers of asthma: secondhand smoke, dust mites, pet dander, and pests.
35	(6.8b) number of residents, community leaders, entrepreneurs, economic development professionals demonstrating knowledge/ skill gains re: workforce, entrepreneurial climate, diversification, economic impact analysis, e-commerce, market development, business

	planning, partnerships.
36	(6.8c) number of residents and/or community leaders, demonstrating knowledge/skill gains about enhancing facilities and/or other community resources or services.
37	(6.8d) number of communities who plan for and implement initiatives on community based agricultural economic development, workforce development, business and entrepreneurial development and assistance, non-profit sector development and/or other elements of sustainable growth.
38	(6.8e) number of residents and/or community leaders, who plan for and initiate steps to enhance facilities, and/or other community resources or services.
39	(6.8f) number of communities establishing an infrastructure and climate to support entrepreneurs, local farms and agribusinesses attributable at least in part to initiatives of the program.
40	(6.8g) number of communities documenting improvements in facilities and/or other community resources or services.
41	(6.9b) number of community members demonstrating knowledge or skills gains related to community decision-making, public participation, planning and monitoring processes, collaborative approaches, and/or emergency preparedness.
42	(6.9c) number of communities instituting new or enhanced participatory processes related to economic development.
43	(6.9d) number of collaborative partnerships established within and across communities for issue resolution and collective action and/or to improve community services.
44	(6.9e) number of documented instances in which a community effectively resolves a need or strengthens community assets attributable at least in part to participation in the program.
45	(6.9f) number of communities reporting specific improvements in quality or scope of community services.
46	(6.10b) number of citizen groups, workforce professionals, economic developers and/or entrepreneurs demonstrating knowledge gains related to ?green? workforce, business opportunities, and community development.
47	(6.10c) number of new workers trained and ?green? businesses established at least in part due to participation in the program.
48	(6.10d) number of sustainability initiatives adopted.
49	(6.11b) number of residents and/or community leaders demonstrating knowledge or skill gains related to community sustainability, community assets, property rights, land use, environmental conservation, interaction between environmental, economic issues, quality of life indicators.
50	(6.11c) number of community leaders documented to apply community economic development and quality of life indicators to support decision-making.
51	(6.11d) number of communities implementing projects that enhance community sustainability and/or protect public health and community well being through sound environmental management.
52	(6.12b) number of agriculture/horticulture/natural resource business persons demonstrating knowledge or skill gains related to potential environmental, health, social, and cultural impacts of their operations from the perspective of the community.

53	(6.12c) number of instances in which producers/ horticulture businesses/ natural resource enterprises, residents and community leaders work together to address issues.
54	(6.12d) number of documented instances in which agriculture/community conflicts are resolved locally.
55	(6.13c) number of community members and/or local leaders demonstrating knowledge or skill gains related to the roles of agriculture/horticulture/ natural resource enterprises in the local community, tax base, and environment and how they are affected by local policy.
56	(6.13e) number of communities that assess how current policies and infrastructures sustain or impede agriculture/ horticulture/natural resource enterprises (such as farmland protection or including such enterprises in economic development planning) and how the enterprises are affected by public policy.
57	(6.13f) number of communities that initiate specific plans to address agriculture/ horticulture/ natural resource enterprise related issues or capitalize on new opportunities including community agriculture initiatives.
58	(6.13g) number of communities documented to adopt, maintain, or expand policies supportive of appropriate agriculture/horticulture/ natural resource enterprise development and/or community agriculture.
59	(6.15e) number of youth and adults demonstrating knowledge gains related to Youth/Adult Partnerships and civic engagement initiatives.
60	(6.15f) number of youth documented to have practiced life skills in authentic decision-making partnerships with adults as a result of participating in the program.
61	(6.15g) number of adults documented to have applied knowledge, skills and abilities and behaviors necessary as they assist youth developing into productive community members as a result of participating in the program.
62	(6.15h) number of documented instances in which youth and adults partner to improve quality of life within a community as a result of participating in the program.
63	(6.14c) number of community residents gaining knowledge and skill in weighing the environmental impacts and consequences of management actions taken in residential landscapes and homes.
64	(6.14d) number of community residents enhancing knowledge and skill in using research-based information to make plant and management choices among alternatives.
65	(6.14e) number of community residents gaining knowledge and skill in choosing and growing food crops for home, school and community gardens.
66	(6.14f) number of community residents practicing management tactics in residential landscapes and homes that work to sustain or enhance a healthy community and environment.
67	(6.14g) number of community residents with improved availability and access to fresh fruits and vegetables.
68	(6.14h) number of community education/demonstration food gardens established or maintained.
69	(6.13d) number of youth demonstrating knowledge or skill gains related to the agriculture and food system and/or natural resource enterprises.
70	(6.10e) number of communities that report increased diversification of their local economies attributable at least in part to participation in the program.

71	(6.10f) number of communities that report increased balance of environmental, social cohesion, and economic vibrancy.
72	(6.11g) number of municipalities adopting land use planning tools that incorporate environmental dimensions and/or develop new institutional arrangements to support land use planning and environmental management.
73	(6.11h) number of communities adopting or updating farmland preservation and/or agricultural economic development plans.
74	(6.11i) number of additional acres covered by open space preservation, environmental conservation and/or protection programs attributable at least in part to participation in the program.
75	(6.11j) Increase in percentage of food produced locally and regionally that is consumed locally or regionally.
76	(6.11k) number of residents and/or community leaders, demonstrating knowledge/ skill gains about sustainable communities and enhancing public spaces.
77	(6.11l) number of residents and/or community leaders, who plan for and initiate steps to enhance public spaces.
78	(6.11m) number of new or enhanced community organizations or networks linking diverse sub-groups and focused on enhancing community sustainability.
79	(6.11n) number of communities documenting improvements in public spaces.
80	(6.14i) Pounds of produce donated for distribution through local food organizations.
81	(6.14j) Increased and informed participation in local environmental issues.
82	(6.14k) Enhanced community-based support for environmental enhancement policies and initiatives.
83	(6.14l) Availability of high quality local foods increases at the community level.
84	(6.14m) Individuals experience improved nutrition and health status.
85	Community Development Process Grows Sustainable Community

Outcome #1

1. Outcome Measures

(6.1c) number of youth participants who demonstrate gains in vocational/citizenship skills, knowledge, attitudes, and/or behaviors.

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

(6.1d) number of youth participants who learn to set goals, make plans and identify resources to achieve goals and demonstrate decision making abilities.

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

(6.1e) number of youth program educators and adult volunteers who demonstrate knowledge and/or skill gains in meeting the needs of youth at various stages of development.

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

(6.1f) number of youth participants who demonstrate ability to express their ideas confidently and competently.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	20644

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code **Knowledge Area**
806 Youth Development

Outcome #5

1. Outcome Measures

(6.1g) number of adult volunteers documented to mentor and advise youth and other adult volunteers in an effective and positive manner.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	5020

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code **Knowledge Area**
806 Youth Development

Outcome #6

1. Outcome Measures

(6.1h) number of youth participants documented as serving in age-appropriate leadership roles.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	7014

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #7

1. Outcome Measures

(6.1i) number of youth organizations/programs documented as reflecting youth needs, interests, and excitement for learning.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	2851

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
805	Community Institutions, Health, and Social Services
806	Youth Development

Outcome #8

1. Outcome Measures

(6.2d) number of participants demonstrating increased awareness of STEM, improved STEM skills including scientific methods, knowledge of specific sciences, and/or increased awareness of opportunities to contribute to society using STEM skills.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	68213

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #9

1. Outcome Measures

(6.2e) number of participants that report improved success in school science and/or increased interest in STEM.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	13659

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #10

1. Outcome Measures

(6.2f) number of youth applying STEM learning to contexts outside 4-H programs, e.g., school classes, science fairs, invention contests, etc.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	18121

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #11

1. Outcome Measures

(6.2g) number of youth expressing interest/demonstrating aspirations towards STEM careers, e.g., career fairs, job shadowing, volunteer work or internships.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	4345

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #12

1. Outcome Measures

(6.2h) number of youth adopting and using new scientific methods or improved technology.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	11019

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #13

1. Outcome Measures

(6.2i) number of youth and adult volunteers documented to become contributing participants in STEM related issues in their communities and/or choose STEM related professions and who attribute same at least in part to involvement with the program.

Not Reporting on this Outcome Measure

Outcome #14

1. Outcome Measures

(6.2j) Increased number and more diverse pool of youth pursuing education and careers in STEM related fields.

Not Reporting on this Outcome Measure

Outcome #15

1. Outcome Measures

(6.2k) Increased and more diverse pool of trained teachers, educators, scientists.

Not Reporting on this Outcome Measure

Outcome #16

1. Outcome Measures

(6.3c) number of participating infant and child caregivers who demonstrate knowledge or skill gains related care-giving practices.

Not Reporting on this Outcome Measure

Outcome #17

1. Outcome Measures

(6.3d) number of participating persons with care-requiring dependents who demonstrate ability to evaluate the quality of care programs.

Not Reporting on this Outcome Measure

Outcome #18

1. Outcome Measures

(6.3e) number of participating infant and child caregivers reporting to have applied positive care-giving practices.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1354

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services
806	Youth Development

Outcome #19

1. Outcome Measures

(6.3f) number of participating persons with care-requiring dependents reporting to have used child care quality characteristics in their care selection.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1085

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services
806	Youth Development

Outcome #20

1. Outcome Measures

(6.3g) number of participating persons with care-requiring dependents reporting positive change in child care as a result of participating in educational programs.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
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3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services
806	Youth Development

Outcome #21

1. Outcome Measures

(6.4b) number of program participants who demonstrate knowledge or skills gains regarding community approaches to family care.

Not Reporting on this Outcome Measure

Outcome #22

1. Outcome Measures

(6.4c) number of program participants reporting to have been involved in community level assessments of family care needs.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	287

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services
806	Youth Development

Outcome #23

1. Outcome Measures

(6.4d) number of communities documented to have taken action to address family needs that can be related to educational programs and/or critical community collaborations provided.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	233

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

- 803 Sociological and Technological Change Affecting Individuals, Families, and Communities
- 805 Community Institutions, Health, and Social Services
- 806 Youth Development

Outcome #24

1. Outcome Measures

(6.5b) number parents, grandparents and other adults providing parental care gaining who demonstrate knowledge or skills gains regarding developmentally appropriate and effective parenting methods.

Not Reporting on this Outcome Measure

Outcome #25

1. Outcome Measures

(6.5c) number of parents and other adults providing parental care adopting development-ally appropriate and effective parenting methods.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	11252

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #26

1. Outcome Measures

(6.5d) number of parents/ relative caregivers reporting to have experienced positive change in parent-child relationships and child nurturance that they attribute to implementing new parenting behaviors learned in educational programs.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	9358

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #27

1. Outcome Measures

(6.6b) number of participants who demonstrate knowledge or skill gains and/or can articulate specific actions they will take related to spending and saving concepts, appropriate use of money, setting financial goals, tracking expenses, budgeting, credit management, financial planning, and/or wealth generation strategies.

Not Reporting on this Outcome Measure

Outcome #28

1. Outcome Measures

(6.6c) number of program participants reporting they are practicing improved money management skills such as comparison shopping, paying bills on time, paying more than minimum payment, checking credit report, and reviewing and understanding bills/statements as a means to meeting financial goals.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	10408

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
607	Consumer Economics
801	Individual and Family Resource Management

Outcome #29

1. Outcome Measures

(6.6d) number of program participants reporting to have met day-to-day financial obligations while also progressing on future goals for home ownership, savings, retirement accounts, etc.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1783

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
607	Consumer Economics
801	Individual and Family Resource Management

Outcome #30

1. Outcome Measures

(6.6e) number of program participants reporting to have reduced debts and/or increased savings.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1615

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
607	Consumer Economics
801	Individual and Family Resource Management

Outcome #31

1. Outcome Measures

(6.7b) number of consumers and property managers gaining awareness and knowledge of indoor air quality issues and remediation options.

Not Reporting on this Outcome Measure

Outcome #32

1. Outcome Measures

(6.7c) number of program participants documented to have taken measures to prevent or remediate indoor air quality issues.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1748

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
607	Consumer Economics
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

Outcome #33

1. Outcome Measures

(6.7d) number of program participants documented to have reduced short-term health effects of indoor air pollutants (such as irritation of the eyes, nose, and throat, headaches, dizziness, and fatigue) as a result of participating in educational programs.

Not Reporting on this Outcome Measure

Outcome #34

1. Outcome Measures

(6.7e) number of participants reducing risks of respiratory diseases, heart disease, and cancer by implement measures such as radon remediation, controlling indoor triggers of asthma: secondhand smoke, dust mites, pet dander, and pests.

Not Reporting on this Outcome Measure

Outcome #35

1. Outcome Measures

(6.8b) number of residents, community leaders, entrepreneurs, economic development professionals demonstrating knowledge/ skill gains re: workforce, entrepreneurial climate, diversification, economic impact analysis, e-commerce, market development, business planning, partnerships.

Not Reporting on this Outcome Measure

Outcome #36

1. Outcome Measures

(6.8c) number of residents and/or community leaders, demonstrating knowledge/skill gains about enhancing facilities and/or other community resources or services.

Not Reporting on this Outcome Measure

Outcome #37

1. Outcome Measures

(6.8d) number of communities who plan for and implement initiatives on community based agricultural economic development, workforce development, business and entrepreneurial development and assistance, non-profit sector development and/or other elements of sustainable growth.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	248

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services

Outcome #38

1. Outcome Measures

(6.8e) number of residents and/or community leaders, who plan for and initiate steps to enhance facilities, and/or other community resources or services.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	2572

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #39

1. Outcome Measures

(6.8f) number of communities establishing an infrastructure and climate to support entrepreneurs, local farms and agribusinesses attributable at least in part to initiatives of the program.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	103

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services

Outcome #40

1. Outcome Measures

(6.8g) number of communities documenting improvements in facilities and/or other community resources or services.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
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3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #41

1. Outcome Measures

(6.9b) number of community members demonstrating knowledge or skills gains related to community decision-making, public participation, planning and monitoring processes, collaborative approaches, and/or emergency preparedness.

Not Reporting on this Outcome Measure

Outcome #42

1. Outcome Measures

(6.9c) number of communities instituting new or enhanced participatory processes related to economic development.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	64

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #43

1. Outcome Measures

(6.9d) number of collaborative partnerships established within and across communities for issue resolution and collective action and/or to improve community services.

Not Reporting on this Outcome Measure

Outcome #44

1. Outcome Measures

(6.9e) number of documented instances in which a community effectively resolves a need or strengthens community assets attributable at least in part to participation in the program.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	203

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #45

1. Outcome Measures

(6.9f) number of communities reporting specific improvements in quality or scope of community services.

Not Reporting on this Outcome Measure

Outcome #46

1. Outcome Measures

(6.10b) number of citizen groups, workforce professionals, economic developers and/or entrepreneurs demonstrating knowledge gains related to ?green? workforce, business opportunities, and community development.

Not Reporting on this Outcome Measure

Outcome #47

1. Outcome Measures

(6.10c) number of new workers trained and ?green? businesses established at least in part due to participation in the program.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	47

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities

Outcome #48

1. Outcome Measures

(6.10d) number of sustainability initiatives adopted.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	24

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

803 Sociological and Technological Change Affecting Individuals, Families, and Communities

Outcome #49

1. Outcome Measures

(6.11b) number of residents and/or community leaders demonstrating knowledge or skill gains related to community sustainability, community assets, property rights, land use, environmental conservation, interaction between environmental, economic issues, quality of life indicators.

Not Reporting on this Outcome Measure

Outcome #50

1. Outcome Measures

(6.11c) number of community leaders documented to apply community economic development and quality of life indicators to support decision-making.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	270

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
134	Outdoor Recreation
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services

Outcome #51

1. Outcome Measures

(6.11d) number of communities implementing projects that enhance community sustainability and/or protect public health and community well being through sound environmental management.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	239

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities

Outcome #52

1. Outcome Measures

(6.12b) number of agriculture/horticulture/natural resource business persons demonstrating knowledge or skill gains related to potential environmental, health, social, and cultural impacts of their operations from the perspective of the community.

Not Reporting on this Outcome Measure

Outcome #53

1. Outcome Measures

(6.12c) number of instances in which producers/ horticulture businesses/ natural resource enterprises, residents and community leaders work together to address issues.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	615

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities

Outcome #54

1. Outcome Measures

(6.12d) number of documented instances in which agriculture/community conflicts are resolved locally.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1884

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services

Outcome #55

1. Outcome Measures

(6.13c) number of community members and/or local leaders demonstrating knowledge or skill gains related to the roles of agriculture/horticulture/ natural resource enterprises in the local community, tax base, and environment and how they are affected by local policy.

Not Reporting on this Outcome Measure

Outcome #56

1. Outcome Measures

(6.13e) number of communities that assess how current policies and infrastructures sustain or impede agriculture/ horticulture/natural resource enterprises (such as farmland protection or including such enterprises in economic development planning) and how the enterprises are affected by public policy.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	78

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services

Outcome #57

1. Outcome Measures

(6.13f) number of communities that initiate specific plans to address agriculture/ horticulture/ natural resource enterprise related issues or capitalize on new opportunities including community agriculture initiatives.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	49

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
511	New and Improved Non-Food Products and Processes
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services

Outcome #58

1. Outcome Measures

(6.13g) number of communities documented to adopt, maintain, or expand policies supportive of appropriate agriculture/horticulture/ natural resource enterprise development and/or community agriculture.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	50

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services

Outcome #59

1. Outcome Measures

(6.15e) number of youth and adults demonstrating knowledge gains related to Youth/Adult Partnerships and civic engagement initiatives.

Not Reporting on this Outcome Measure

Outcome #60

1. Outcome Measures

(6.15f) number of youth documented to have practiced life skills in authentic decision-making partnerships with adults as a result of participating in the program.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	13186

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
806	Youth Development

Outcome #61

1. Outcome Measures

(6.15g) number of adults documented to have applied knowledge, skills and abilities and behaviors necessary as they assist youth developing into productive community members as a result of participating in the program.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	3450

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
806	Youth Development

Outcome #62

1. Outcome Measures

(6.15h) number of documented instances in which youth and adults partner to improve quality of life within a community as a result of participating in the program.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	3518

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
806	Youth Development

Outcome #63

1. Outcome Measures

(6.14c) number of community residents gaining knowledge and skill in weighing the environmental impacts and consequences of management actions taken in residential landscapes and homes.

Not Reporting on this Outcome Measure

Outcome #64

1. Outcome Measures

(6.14d) number of community residents enhancing knowledge and skill in using research-based information to make plant and management choices among alternatives.

Not Reporting on this Outcome Measure

Outcome #65

1. Outcome Measures

(6.14e) number of community residents gaining knowledge and skill in choosing and growing food crops for home, school and community gardens.

Not Reporting on this Outcome Measure

Outcome #66

1. Outcome Measures

(6.14f) number of community residents practicing management tactics in residential landscapes and homes that work to sustain or enhance a healthy community and environment.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	37058

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
608	Community Resource Planning and Development
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services
806	Youth Development

Outcome #67

1. Outcome Measures

(6.14g) number of community residents with improved availability and access to fresh fruits and vegetables.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
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3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management
802	Human Development and Family Well-Being
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
806	Youth Development

Outcome #68

1. Outcome Measures

(6.14h) number of community education/demonstration food gardens established or maintained.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	850

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
608	Community Resource Planning and Development
802	Human Development and Family Well-Being
806	Youth Development

Outcome #69

1. Outcome Measures

(6.13d) number of youth demonstrating knowledge or skill gains related to the agriculture and food system and/or natural resource enterprises.

Not Reporting on this Outcome Measure

Outcome #70

1. Outcome Measures

(6.10e) number of communities that report increased diversification of their local economies attributable at least in part to participation in the program.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	5

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #71

1. Outcome Measures

(6.10f) number of communities that report increased balance of environmental, social cohesion, and economic vibrancy.

Not Reporting on this Outcome Measure

Outcome #72

1. Outcome Measures

(6.11g) number of municipalities adopting land use planning tools that incorporate environmental dimensions and/or develop new institutional arrangements to support land use planning and environmental management.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	51

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land

Outcome #73

1. Outcome Measures

(6.11h) number of communities adopting or updating farmland preservation and/or agricultural economic development plans.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	25

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #74

1. Outcome Measures

(6.11i) number of additional acres covered by open space preservation, environmental conservation and/or protection programs attributable at least in part to participation in the program.

Not Reporting on this Outcome Measure

Outcome #75

1. Outcome Measures

(6.11j) Increase in percentage of food produced locally and regionally that is consumed locally or regionally.

Not Reporting on this Outcome Measure

Outcome #76

1. Outcome Measures

(6.11k) number of residents and/or community leaders, demonstrating knowledge/ skill gains about sustainable communities and enhancing public spaces.

Not Reporting on this Outcome Measure

Outcome #77

1. Outcome Measures

(6.11l) number of residents and/or community leaders, who plan for and initiate steps to enhance public spaces.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	2435

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #78

1. Outcome Measures

(6.11m) number of new or enhanced community organizations or networks linking diverse sub-groups and focused on enhancing community sustainability.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	65

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #79

1. Outcome Measures

(6.11n) number of communities documenting improvements in public spaces.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	102

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #80

1. Outcome Measures

(6.14i) Pounds of produce donated for distribution through local food organizations.

Not Reporting on this Outcome Measure

Outcome #81

1. Outcome Measures

(6.14j) Increased and informed participation in local environmental issues.

Not Reporting on this Outcome Measure

Outcome #82

1. Outcome Measures

(6.14k) Enhanced community-based support for environmental enhancement policies and initiatives.

Not Reporting on this Outcome Measure

Outcome #83

1. Outcome Measures

(6.14l) Availability of high quality local foods increases at the community level.

Not Reporting on this Outcome Measure

Outcome #84

1. Outcome Measures

(6.14m) Individuals experience improved nutrition and health status.

Not Reporting on this Outcome Measure

Outcome #85

1. Outcome Measures

Community Development Process Grows Sustainable Community

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Nationally, the loss of an industrial job base has resulted in lower populations, higher poverty, and decaying infrastructure. A Brookings Institute report entitled "Restoring Prosperity: The State Role in Revitalizing America's Older industrial Cities" named Utica, NY as one of seven New York cities ripe for revival based on existing assets. Studies indicate that one key to realizing the potential to become a more livable community is the growth of green infrastructure (urban forestry, stormwater management, etc.), which can enhance food system resilience, improve green spaces, mitigate ecological problems and through participation and collaboration harness the social capital of citizens and organizations.

What has been done

From Rust to Green (R2G) Places and Networks: Mapping a Sustainable Future for Upstate NY (Hatch to Horrigan, P.; Vanucchi, J.; Broussard, S.; Peters, S.; 2009-2012) includes project design, planning, and implementation to foster green development in Utica, NY. Focus groups, community workshops, interviews, GIS mapping and other methods are used to identify targets for sustainable development. Planning identifies the social and physical networks for sustainable development and projects and policies that advance green development. Cornell Cooperative Extension (CCE) Oneida County partners with the Cornell Department of Landscape Architecture and the R2G project to assist with the community development process and include these concepts into program planning. College students are also very involved in this process, gaining skills and getting involved with stakeholders while participating in landscape design projects.

Results

At the micro scale, R2G initiated over 30 projects, which are increasing the quality and quantity of green space in Utica and are helping foster redevelopment of vacant and abandoned properties. These and other projects promoting a healthy environment and healthy citizenry, are helping to shape the way citizens think of Utica. Projects boosted social networks and coalition building (with an emphasis on building social equity), promotion of urban agriculture, greatly increased civic engagement, and promotion of a green economy. The project has also spawned a wide range of community engaged research and design projects either underway or completed in partnership with additional funders and community stakeholders, including the Utica-Oneida County Food Assessment Project, a project to develop local food security. The collaboration with Cornell Cooperative Extension has brought new resources (workshops, facilitation skills, and access to new audiences) and additional partners to bear on urban challenges. As a result of this project Cooperative Extension staff reported that residents indicated that they are now practicing management tactics in home landscapes that enhance a healthy community and environment and an improved availability and access to fresh fruits and vegetables. There is a renewed sense of the community and economic development opportunities and a commitment to build a sustainable and resilient community.

4. Associated Knowledge Areas

KA Code	Knowledge Area
134	Outdoor Recreation
608	Community Resource Planning and Development
801	Individual and Family Resource Management
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

Youth Fiscal pressures internal to Extension and among community organizations influence the scope and quality of programming available to youth. Increasing diversity of our populations creates need for a broader array of program materials, strategies and for a focus on multicultural competencies. Changing educational standards influence acceptability of existing curricula for school enrichment. Regional demographic differences and differences across communities influence both needs and program strategy. In the recent past, the 4-H Youth Development program was moved from Cornell Cooperative Extension central administration to the Bronfenbrenner Center for Translational Research in the Cornell College of Human Ecology. The proximity to translational research and opportunities to work closely with faculty and staff studying youth development has had positive and continued implications on the New York State 4-H Youth Development office.

Family The economic, political and governmental sectors affect the quality, availability and accessibility of infant and child care. The growth of aging and minority populations in the US means more diverse cultures and values related to parenting, child care, and family care giving. Natural disasters such as major flooding experienced in many areas of New York in recent years and the continued weak economy affected household financial status and impacted energy issues. Public and private funders and CCE had fewer fiscal resources and other resources to devote to the quality of life in financial, human development, energy and indoor air quality matters.

Community Communities operate in a complex and volatile context involving susceptibility to weather extremes, changing governmental policies and regulations, land use demands and shifting development patterns, evolving consumer demands and globalization related economic factors. Weather related disasters, flooding in particular, greatly impacted many communities in terms of infrastructure damage and direct costs. The global, statewide, and regional economies directly impacted local economies. Fundamental change is occurring in the state and regional economies. The specific implications of these external factors varied greatly by locale and across regions. The successes of programs that seek stakeholder involvement and embrace the community development approach are restoring an interest in community centric strategies.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

In general, the evaluation approach included in our plan can more accurately be described as an evaluation "system" rather than as bounded "studies" or investigations. Because each of the plans addresses a broad combination of applied research and extension initiatives spanning multiple audiences, methods, and intended outcomes, a combination of routine program monitoring and documentation, near-term outcome assessment, and targeted follow-up activities is required to provide comprehensive assessment. Program documentation results are aggregated in a statewide accountability system which includes both qualitative and quantitative data for reporting and helping us to better understand our impacts.

Cornell Cooperative Extension works with the Cornell Office of Research and Evaluation (CORE) to strengthen evaluation practice and build evaluation capacity in CCE. CORE has developed a Protocol for evaluation that takes a systems approach, recognizing that individual programs and their evaluations are part of larger program portfolios and are shaped by needs and context at multiple levels of the Extension system. CORE has tested and refined this Protocol in partnership with CCE programs since 2006. A key step in the Protocol is to develop program models, in both familiar columnar form as logic models and in a visual form called pathway models. These models form the basis for focusing evaluation efforts in Extension programs.

Beginning in 2013, CORE and CCE partnered to initiate program modeling and evaluation planning at the level of the statewide Plans of Work. This effort, which is ongoing, will contribute to a framework for programming and evaluation at multiple levels. The Protocol is also being integrated into professional development in CCE, in collaboration with CCE leadership, to promote consistent approaches to evaluation of county-based, regional, and state-wide programs. CCE organizational development efforts are also being devoted to organizing common high-quality measures that can be used by a wide range of programs where applicable.

The Parenting In Context CCE statewide program has implemented an online Data Collection System for program evaluation. A program work team of faculty, associates and extension professionals developed, piloted and revised a pre-and post- survey for statewide use. This information now feeds into our State Defined Outcomes related to parenting education. Another statewide team focused on family financial management has worked over the past three years to develop and employ common assessment tools yielding aggregated data for relevant State Defined Outcomes. And several teams have formed around 4-H STEM education to develop program and evaluation plans for specific 4-H projects. Their plans are nested within our annual plan and have informed evaluation questions and processes.

In 2013 the CORE cohort around statewide Plans of Work related to 4-H Youth Development identified Workforce Development and Teen Leadership as major initiatives that will benefit from more thorough systematic evaluation, and developed an evaluation plan to assess the extent and role of "youth voice" in 4-H programming, and how that is achieved. The 4-H Youth Development Working Group also developed an evaluation plan for overall 4-H youth development programming in NYS, to gather data on professional development activities, priorities, and needs. These evaluations will be conducted in 2014.

The Community Economic Vitality Working Group also identified Extension educator capacity as a priority for evaluation, and developed an evaluation plan for assessing Extension educator capacity to conduct research-based community development projects.

This evaluation will be conducted in 2014.

Key Items of Evaluation

See cross-cutting outcomes in state defined outcomes.