

2010 University of Guam Extension Annual Report of Accomplishments and Results

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I. Report Overview

1. Executive Summary

The University of Guam Cooperative Extension (UOG-CES) serves the people of Guam by providing research-based knowledge through innovative community programs to foster positive change. Consistent with the concept of the engaged institution, University of Guam Cooperative Extension is committed to becoming of greater value to the Island and the Western Pacific Region. As the University of Guam's primary public service-oriented unit, Extension actively collaborates with other University colleges, schools, regional campuses, and distributed (distance) educational delivery systems to meet the changing lifelong educational needs of our diverse population. UOG-CES has the unique capability of bringing the University's depth and breadth of knowledge to bear in identifying and solving problems. Our research and programs link different departments and facilitate mutually beneficial collaborations between the University and external organizations, individuals, and businesses. In so doing, UOG-CES makes a vital contribution to the public and to the educational experiences of the University. Our Extension programs educate a wide variety of citizens, including individuals who make (or have the power to influence) decisions with public consequences. Extension programs seek to promote an understanding of the consequences of various alternatives and to encourage well-informed policy decisions to better serve the public interest.

Our planned programs are concentrated in two unit areas: Agriculture and Natural Resources(ANR), and Communities, Families, Youth, Food and Nutrition(CYFFN). The primary mission of the ANR Unit is to work with its clientele and partners to advance research-based knowledge through extension and higher education in the food and agricultural sciences and related environmental and human sciences to benefit people and communities in Guam and the Pacific Islands. The program thrusts of ANR are carried out through Plans of Work designed by ANR faculty to address issues faced by the community as well as other individual/community educational and informational needs. CYFFN planned programs are focused on ensuring a safe and abundant food supply, helping families, youth and individuals to become mentally, physically and emotionally healthy and assisting communities in becoming sustainable and resilient to the uncertainties of economics, health and security. The unit achieves these goals through planned programs in food safety, nutrition education, community development, chronic disease prevention, and youth, communities and families.

This year our Global Food and Hunger programs in community development and agriculture, has made much progress. The community development program provided capacity building, technical assistance, and strategic planning services to government and community organizations. Extension applied expertise in developing youth entrepreneurial skills, workforce development, non-profit management, health and aging policy and program development. Our partnership the Guam Cancer Coalition resulted in a Cancer Facts and Figures Brochure and numerous cancer articles and a conference to understand the cancer rates on Guam.

The Pacific Sustainable Teen Entrepreneurship program, delivered entrepreneurial training to Superior Court of Guam's juvenile probation clients. The program provided an educational opportunity to youth probationers/participants while, at the same time, allowing participants to earn credit for court-ordered community service. The teen venture, "Pacific Jams" developed a value added product using calamansi (local sweet lemon) and mangoes to produce a tropical flavored jam. A popular local restaurant

tested the jam as a marinade in their protein entrees, salads and appetizers and found that the combination of calamansi and mangoes reflected their fusion theme and purchased several cases. The extraordinary support from local entrepreneurs and other organizations serving at-risk youth continues to strengthen the program. Pacific STEPs has established a presence as a legitimate entrepreneurial program for youth at-risk; our partnership with the Superior Court of Guam's Juvenile Probation Office has led to establishing new ties with Sanctuary Guam, Inc. (a shelter for at-risk youth) and Guam Department of Youth Affairs with programming scheduled to begin in early 2011.

There are over 1,090 farmers and potential farmers with agricultural land leases under the Chamorro Land Trust Commission (CLTC). Yet, many (the exact number unknown) are improperly or underutilizing these lands, or in some cases, not utilizing the land for any agricultural purpose. A key effort of the New Farmer program assessed agricultural land usage and surveyed producers and potential producers on barriers they face in engaging in agricultural production. Farm site inspections were conducted, and found non-compliance of agricultural lease production rules, and pervasive violations of Guam building code and sanitation laws; the impact to the environment from unsafe sanitation could potentially be enormous. Other findings include the need for outreach programs on best management, production and conservation practices, farmer educational needs and perceived issues limiting their ability to engage agricultural production. Curriculum was developed for targeted needs and workshops were conducted. By working together on the workshop curriculum and delivery, local agencies were able to enhance local outreach efforts through collaborative planning, training and presentation of needs.

Community gardens are one way to provide continuous nutritious produce for both the economically disadvantaged and the homeless. A multi-agency team of UOG-CES, Guam Department of Agriculture, Farm Services Agency, Department of Public Works, Guam Housing and Urban Renewal Authority, Light House Recovery Center of Salvation Army, Treescape Agrisource and the Mayors' offices of Agana and Dededo villages piloted community gardens in identified areas. Four pilot project sites established organic community gardens. UOG-CES assisted in planning, provided training and technical support and managed the supporting needs of the community gardening at each site. This endeavor was supported by the gardening and yard care knowledge developed by UOG-CES under earlier programs such as the Guam Yard program. Hot peppers, eggplant, tomatoes, green onions, patchay (Chinese cabbage), papayas, and soursop were planted at the various sites. Clients/participants were taught how to transplant vegetables and fruit trees and instructed in plant aftercare. One goal of the project is to allow participants to learn a set of skills they can use to provide food for personal consumption and/or to sell. As of this date, individuals at the four sites have continued cultivating select fruits and vegetables.

In a similar effort, UOG-CES assisted Guma' Bethesda Latte Center (a center for physically and cognitively disadvantaged individuals) in establishing a container production community garden. Clients from the facility grew cucumbers, tomatoes, eggplant, hot peppers, and bedding plants in containers and continued to maintain their garden. Extension personnel made frequent visits to ensure that clients and staff understood the basics of cultivating plants and provided regular monitoring and advice to insure success. One of the most important aspects of the pilot project was to let gardeners see the "fruits of their labor". The clients' self-esteem and confidence increased when the crops flourished. The activities also provided recreation and exercise for the clients. To engender and sustain this project key partners and individuals will be identified to develop group rules and practices.

Our Childhood Obesity - Nutrition Education Program for Guam, provided basic nutrition education classes on topics that relate to nutrition and food. Staff taught low-income families, pregnant and parenting teens, the elderly and children to eat healthfully, stretch food dollars and practice food safety. In 2010, the 55 Plus Healthy Aging project addressed access to health care and lack of services by providing timely and practical information on the value of good nutritional health and fitness to older adults. Three six-week physical fitness and nutrition workshops were conducted at three Senior Citizen Centers geographically located to serve the island's major population areas (Northern, Central, and

Southern). Asset and skills mapping was conducted to increase interaction, leadership development, and integrate physical activity opportunity among the senior citizen users. A resource booklet was compiled and is now used at participating centers.

4-H Youth Development, through diverse programs of hands-on learning, empowers young people to take an active role in decisions affecting their lives, families and communities. Programs delivered include 4-H clubs, science, energy and technology workshops, after-school programs, camps and short-term special-interest groups, and individual study/ mentoring activities. Research has identified a successful positive youth development program as one in which young people feel a sense of belonging, develop a mastery of skills, including life skills that lead to independence and generosity. Participants learned, practiced and mastered the targeting life skills in teamwork, managing feelings, healthy lifestyles choices, goal setting, resiliency, cooperation/collaboration, communication, social skills, leadership, wise use of resources, decision making critical thinking, self-esteem/motivation, marketable skills, responsible citizenship, and learning to learn.

The Coconut Rhinoceros Beetle continues to pose a serious threat to Guam's coconut trees; extension faculty and community partners continues their work on the eradication and control of the Coconut Rhinoceros Beetle. The beetle is symbolic of many invasive species on small islands; their impact is often severe because there are no natural enemies such as predators, parasites, or diseases to control their population growth. A virus (bio-control agent) successfully used in Samoa, Fiji, Tonga, Palau, and other Pacific islands was brought to Guam this year. The program conducted courses for professionals and the public in identifying and reporting the Coconut Rhinoceros beetle and other invasive species. Residents who pass a course in identifying and reporting invasive species earn a certificate and are licensed as "First Detectors." The Plant Health and Pest Management program continues research and outreach education on Guam's dying Ironwood trees. The decline of Guam's Ironwood trees were first noticed on farms around Guam when the trees were used as windbreaks for farmer's crops and the needles from the trees used for mulch around plants. Statistical analysis of data collected shows that a complex of biotic and abiotic factors are responsible for the decline and the biotic component is not virulent; introduction of new cultivars could reduce decline. Posters, brochures, and interactive displays are used at workshops to inform the public about the decline and to teach proper tree care techniques.

Understanding and assessing soil nutrients levels are important aspects of plant health and disease suppression. UOG Extension faculty from the Plant Health and Pest Management Program teamed up with University of Florida to sponsor a three-day train-the-trainer workshop for professionals from the Guam Department of Agriculture, Guam Natural Resource Conservation Service and UOG's Agriculture Experiment Station to foster understanding and assessment of soil nutrient levels. Participants learned how to identify nutrient deficiencies in both the classroom environment and field environment where plots of tomato, eggplant, pepper, and cucumber were grown under low and normal fertilizer level. Participants were instructed on field test equipment for analyzing soil nutrients and plant tissue. The trainees then held a half day workshop for the islands farmers and the general public at the field plot site where they gave interactive instruction on soil and plant nutrients and plant disease suppression.

Utilizing the resources of the University of Guam and USDA's National Institute of Food and Agriculture national network of Extension programs, UOG-CES advances its organizational goals by engaging university faculty and outside partners in the identification of critical issues and priorities for research and education. We conduct integrated research and education programs as sustained efforts to address critical issues, resulting in tangible outcomes and disseminate research-based knowledge, ideas, information and techniques. This annual report reflects our continual commitment to improving the quality of life and enhancing the environment of Guam. Both the plan of work and our strategic plan provide focused approaches to measuring our progress toward our overall goals.

Total Actual Amount of professional FTEs/SYs for this State

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	22.0	0.0	0.0	0.0
Actual	24.9	0.0	0.0	0.0

II. Merit Review Process

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

- Internal University Panel
- External Non-University Panel

2. Brief Explanation

As outlined in the Plan of Work, stakeholders provide essential and critical guidance to the priorities of the University of Guam Cooperative Extension during the five year plans of work. The internal panel review includes a two-phase process. The first phase involves extension professionals working with stakeholders to identify critical needs and the level of problem solving. Faculty across campus will be invited as a resource professional. The second phase will include the program leaders and extension professionals working closely with other partners who can collaborate to find solutions. The partners will assess what resources and expertise can be provided.

The external partners who will be invited are government and non-government entities who can provide support and critical resources to the plans of work. The external and internal panel will serve as the coalition engaging in the critical and emerging identified issues. Assessment and relevance will be key to prioritizing extension resources to the plans of work. We anticipate our next merit review process will be conducted in December 2011 for next reporting cycle.

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

Brief explanation.

To ensure that UOG-CES is responsive to the needs of the community and to meeting our mission of delivering science-based knowledge to communities, each program unit overseeing the planned programs conduct regular informal and formal stakeholder input activities.

Over the past decade, there has been a dramatic increase in number of new farms on Guam through the Chamorro Land Trust agricultural lease program. Unfortunately, a majority of these lease-holders have no farming experience and do not have the knowledge of how to farm under the limited resource constraints they face. Agriculture support agencies on Guam are small and lack the breadth of expertise in analogous agencies on the mainland. Island-wide, the expertise pool is adequate to meet the island's needs but is fragmented among several agencies. Consequently, farmers have difficulty accessing the information they need or finding the expertise to explain key concepts to them when they seek advice.

A key effort of the New Farmer program assessed agricultural land usage and surveyed producers and potential producers on barriers they face in engaging in agricultural production. Farm site inspections were conducted and found non-compliance of agricultural lease production rules, and pervasive violations of Guam building code and sanitation laws. Other findings include the need for outreach programs on best management, production and conservation practices, farmer educational needs and perceived issues limiting their ability to engage agricultural production.

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.

Stakeholder identification is generally a step-wise process. Initially, we seek to identify emerging needs within communities. This is often initiated through searches of the literature and review of demographic (census) data followed by in depth discussions with local decision-makers and others with unique knowledge about emerging needs. Once groups are broadly defined, care is taken to understand most effective mechanisms of engagement. Selection methods varied from issue to issue. Individuals were identified based on their current or past involvement to the related issue, based on a sample size of the target group, or their prior work or life experiences. Individuals were selected and invited via written correspondence to participate in stakeholder input sessions.

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

Brief explanation.

Formal and informal processes are employed to gather stakeholder input. Formal processes include the local advisory committees that are created and maintained specifically for the purpose of garnering stakeholder input. These formal advisory structures include the 4-H Youth Council, Soil and Water Conservation Districts, Workforce Investment Board, Serve Guam Commission, and advisory committees for extension units. In addition, each Extension faculty and administrator is encouraged to develop and maintain informal networks that permit them to garner input from key officials, industry representatives, and advocacy groups. Our faculty and staff are members of many key organizations at local and national levels. These connections are extremely valuable in understanding initiatives, opportunities for partnerships, and potential need. Surveys are frequently used to garner input about the effectiveness of individual programs. Focus groups are also used to test new approaches, methods and materials.

3. A statement of how the input will be considered

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

Brief explanation.

Stakeholder input is routinely used to identify emerging issues, to redirect Extension programs and also in the hiring process. Where stakeholder input and needs assessments show the need for different staffing, it has been used to make changes in qualifications of those hired. Additionally, it is used in setting program priorities an allocation of resources. Information gathered through the stakeholder input process is used to determine program needs and direction. In some cases, teams made up of extension agents, specialists, clientele and researchers are formed to develop and implement programs. At times, agents are able and equipped to address the issue with resources from his/her office. At other times and when issues are determined to be island-wide specialists will become more involved with program development and direction than if they are responding to a single request for information.

Brief Explanation of what you learned from your Stakeholders

From our work with the Chamorro Land Trust Commission and our farm inspections we have determined that many of lease-holder have limited farm experience. The educational needs could be overwhelming for any single agency's staff, but in a coordinated partnership several agencies may effectively address these needs. As in previous years planning meetings were held between the cooperating agencies this year to organize collaborative trainings around two themes New Farmer trainings for the CLTC clients and Introduction to Organic Agriculture. These workshops were developed to support the needs of Guam limited resource farmers. By working together on the workshop curriculum and delivery, local agencies were able to enhance local outreach efforts through training, collaborative planning and presentation of needs. At the same time, agricultural professional competence in Organic Agriculture was enhanced, hopefully leading in future years to a local group of qualified organic inspectors on Guam.

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
992314	0	0	0

2. Totaled Actual dollars from Planned Programs Inputs				
Extension			Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	992314	0	0	0
Actual Matching	403048	0	0	0
Actual All Other	305063	0	0	0
Total Actual Expended	1700425	0	0	0

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous				
Carryover				
	252633	0	0	0

V. Planned Program Table of Content

S. No.	PROGRAM NAME
1	Global Food Security and Hunger - Community Development
2	Food Safety - Tropical Food Processing and Safety
3	Guam Families, 4-H Youth Development and Communities
4	Childhood Obesity - Nutrition Education for Guam
5	Global Food Security and Hunger - The New Farmer: Agriculture for the Next Generation
6	Plant Health and Pest Management
7	Global Food Security and Hunger - Sustainability of Small Scale Swine and Poultry Farms on
8	Global Food Security and Hunger - Our Environment and Home & Urban Landscapes
9	Climate Change - Not applicable
10	Sustainable Energy - Not Applicable

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Global Food Security and Hunger - Community Development

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
608	Community Resource Planning and Development	30%			
801	Individual and Family Resource Management	25%			
802	Human Development and Family Well-Being	25%			
805	Community Institutions, Health, and Social Services	10%			
902	Administration of Projects and Programs	10%			
	Total	100%			

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	5.0	0.0	0.0	0.0
Actual	3.6	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
168045	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
72335	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
53374	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

CES provided capacity building and technical assistance services to government and community organizations. Extension expertise was sought in developing youth entrepreneurial skills, workforce development, non-profit management, health and aging policy and program development. CES was a critical player in engaging key stakeholders in regional community food security. CES conducted an asset map of local food producers and suppliers and conducted a skills inventory of consumers at select senior citizen centers. CES conducted trainings in CSPro to the Guam Homeless Coalition. In addition, technical assistance was provided to agencies in data collections, data management, data dissemination and data analysis. CES collaborated with the Guam Department of Labor, Guam Public Health, and the Salvation Army to increase their knowledge and understanding of data set models and its methodology.

CES facilitated a series of strategic planning sessions among key stakeholders involved in community food security, healthy aging and the comprehensive cancer coalition cancer survivorship action group. In addition, CES helped one non-profit organization identify its vision and mission statements. Training was provided to individuals from government and civic organizations on methods for collecting, maintaining and analyzing health and economic data sets. Additional trainings were provided to individuals on obtaining BRFSS data with cell phone and landline methodologies. Members of the Salvation Army were trained on data processing and collection. Extension personnel provided expertise in the data collection and analysis of the 2010 PIT Homeless Count. Guam Saves provided financial information, savings and debt reduction tips to consumers. Money management, goal setting and budgeting workshops were conducted. Pacific Sustainable Teen Entrepreneurial Programs provided youth with the knowledge and skills to become entrepreneurial thinkers and contributors to their local economy through a series of after school workshops. Each youth cohort produced food and fashion merchandising products that were sold to local and regional businesses.

The Guam EDEN collaborated with government and community agencies to provide informational materials and tips on disaster preparedness. Extension educators provided expertise and participated in community planning groups both nationally and locally helping to set the agenda on disaster strategic and exigency plans. EDEN participated in the annual National Disaster Preparedness Month expo. EDEN has participated in three trade shows and has provided over 100 youth and adults with personalized In Case of Emergency Cards, disaster preparedness tips and information on assembling a home emergency tool kit.

2. Brief description of the target audience

CES targeted government and civic leaders, government and non-profit board officers, youth, families, senior citizens, senior citizens living with chronic disease, educators, financially vulnerable populations, program and project planners, first responders, health professionals and business leaders. The target audience ranged in ages from elementary school children, adolescents to seniors in their 80s. Targeted populations represented diverse ethnic backgrounds (Chamorros, Filipinos, other Asian & Pacific Islanders and Caucasians) of varying socio-economic statuses.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	75	150	15	40
Actual	248	930	90	40

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

Patent Applications Submitted

Year: 2010
 Plan: 0
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	0	0	
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- number of extension articles

Year	Target	Actual
2010	1	1

Output #2

Output Measure

- number of workshops

Year	Target	Actual
2010	4	20

Output #3

Output Measure

- number of brochures

Year	Target	Actual
2010	1	1

Output #4

Output Measure

- number of disseminated research results, new technology and information

Year	Target	Actual
2010	1	1

Output #5

Output Measure

- number of surveys

Year	Target	Actual
2010	1	1

Output #6

Output Measure

- number of focus groups conducted

Year	Target	Actual
2010	4	4

Output #7

Output Measure

- number of popular articles in newsletters, magazines and newspapers

Year	Target	Actual
2010	2	1

Output #8

Output Measure

- number of one to one intervention

Year	Target	Actual
2010	3	4

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	number of participants gaining increased knowledge and understanding in community development practices
2	number of participants increasing knowledge, understanding and awareness of data set models
3	number of data supported legislation enacted
4	number of entities adopting of data models for decision-making
5	number of entities developing strategic plans
6	number of entities increasing knowledge, understanding and awareness of data set models
7	number of participants increasing knowledge and skills in personal finance practices
8	Number of participants increasing knowledge in disaster preparedness programs and adopting emergency plans

Outcome #1

1. Outcome Measures

number of participants gaining increased knowledge and understanding in community development practices

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	15	50

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Targeted populations included: government & civic leaders, planners, college students and extension professionals. CES recognizes that increasing skills in community development practices ultimately empowers individuals and communities to affect change and realize their potential capacities.

What has been done

CES provided capacity building and technical assistance services to government and community organizations. Extension expertise was sought in developing youth entrepreneurial skills, workforce development, non-profit management, health and aging policy and program development. CES was a critical player in engaging key stakeholders in regional community food security. CES conducted an asset map of local food producers and suppliers and conducted a skills inventory of consumers at select senior citizen centers.

Results

Government and civic leaders increased their knowledge and understanding in community development practices. These agencies have adopted decision making tools such as logic model, needs assessments, asset mapping, strategic planning and stakeholder input processes to empower communities to affect change. Senior citizens have been identified as potential health and wellness leaders at their respective centers, allowing the health department to utilize them as untapped resources. Efforts in community food security have led to greater public awareness of local and regional food systems and the lack of a comprehensive policy in addressing unsustainable practices and food insufficiency.

4. Associated Knowledge Areas

KA Code	Knowledge Area
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- 608 Community Resource Planning and Development
- 802 Human Development and Family Well-Being
- 805 Community Institutions, Health, and Social Services
- 902 Administration of Projects and Programs

Outcome #2

1. Outcome Measures

number of participants increasing knowledge, understanding and awareness of data set models

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	10	98

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Government and civic leaders, administrators, program planners, extension professionals and boards need social, economic and health data to develop programs and shape policy. Knowledge of data set models and how to interpret data can help individuals make proper decisions that will lead our island toward positive growth.

What has been done

Training was provided to individuals from government and civic organizations on methods for collecting, maintaining and analyzing health and economic data sets. Additional trainings were provided to individuals on obtaining BRFSS data with cell phone and landline methodologies. Members of the Salvation Army were trained on data processing and collection. Extension personnel provided expertise in the data collection and analysis of the 2010 PIT Homeless Count.

Results

Individuals have increased their knowledge, understanding and awareness of data set models. These individuals have obtained skills in data collection, management, interpretation and analysis. As a result, participants are able to incorporate data set models in making sound decisions to develop health and social programs. They have used their understanding of data set models to advocate and shape policies.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services

Outcome #3

1. Outcome Measures

number of data supported legislation enacted

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

number of entities adopting of data models for decision-making

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	4	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Government and NGO leaders, agency directors, administrators, local/regional leaders, boards and public admin/policy students require data models to make informed decisions and to plan for renewal and growth.

What has been done

CES conducted a needs assessment of produce outlets in the northern region of Guam to better understand the island's food systems. CES continued to partner with the Guam Department of Public Health to collect and analyze local health prevalence data through the Behavioral Risk Factor Surveillance System (BRFSS). Extension personnel were instrumental in compiling health survey results into a single dataset.

Results

Data models have been adopted for decision making in community food security. Select agencies have prevalence health dataset to address the community's health needs. Participating agencies have increased their knowledge of the importance of data models in program planning and implementation.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services
902	Administration of Projects and Programs

Outcome #5

1. Outcome Measures

number of entities developing strategic plans

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	3	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Government and civic leaders, agency directors, administrators, and boards utilize strategic planning to formalize goals and actions to achieve their organizational mission in efficient and effective ways. Strategic planning provides organizations with a tool to help them understand problems, identify opportunities and plan for renewal and/or growth.

What has been done

CES facilitated a series of strategic planning sessions among key stakeholders involved in community food security, healthy aging and the comprehensive cancer coalition cancer survivorship action group. In addition, CES helped one non-profit organization identify its vision and mission statements.

Results

Participating agencies have strategic plans and have identified and adopted project priorities. Participants have increased their knowledge and skills in strategic planning and understand the basics of the strategic planning process.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services
902	Administration of Projects and Programs

Outcome #6

1. Outcome Measures

number of entities increasing knowledge, understanding and awareness of data set models

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	2	4

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Government and civic leaders, administrators, program planners, extension professionals and boards need social, economic and health data to develop programs and shape policy. Knowledge of data set models and how to interpret data can help organizations, businesses, investors and policy makers make proper decisions that will lead our island toward positive growth.

What has been done

CES collaborated with the Guam Department of Labor, Guam Public Health, and the Salvation Army to increase their knowledge and understanding of data set models and its methodology. CES conducted trainings in CSPro to the Guam Homeless Coalition. In addition, technical assistance was provided to agencies in data collections, data management, data dissemination and data analysis.

Results

As a result all agencies are now practicing skills associated with the management of datasets and one agency is now in the development of establishing a government wide data plan.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services
902	Administration of Projects and Programs

Outcome #7

1. Outcome Measures

number of participants increasing knowledge and skills in personal finance practices

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	25	100

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Targeted populations and stakeholders included: youth, adults, senior citizens, financially vulnerable populations, high school & college students, extension personnel, bankers and money management specialists. The rising cost of food and other commodities have made knowledge and skills in personal finance practices crucial. Skills in entrepreneurship and personal finance can help communities build wealth and establish and maintain self sufficiency, reducing risk to poverty and enhancing quality of life.

What has been done

GuamSaves and the Pacific Sustainable Teen Entrepreneurship Program (STEPS) were key projects focused on developing skills in personal finance & entrepreneurship. Guam Saves provided financial information, savings and debt reduction tips to consumers. Money management, goal setting and budgeting workshops were conducted. STEPs provided youth with the knowledge and skills to become entrepreneurial thinkers and contributors to their local economy through a series of after school workshops. Each youth cohort produced food and fashion merchandising products that were sold to local and regional businesses.

Results

Parents participating in Guam Saves have increased their skills in household budgeting and increased their knowledge about savings and debt reduction. Youth participating in Pacific Sustainable Teen Entrepreneur Program increased their knowledge and skills and have applied what they learned in identifying entrepreneurial interests, financial management, marketing, product development and budget projections. One STEPs youth won the Shell LiveWire Teen Entrepreneurial Competition securing \$3,000 to start a business in fashion merchandising, while another group produced and sold lemon-mango marmalade to local restaurants.

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #8

1. Outcome Measures

Number of participants increasing knowledge in disaster preparedness programs and adopting emergency plans

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	20	100

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Targeted populations included: families, senior citizens, youth, vulnerable communities (people with disabilities), first responders, community leaders, government planners, extension personnel. The Extension Disaster Education Network (EDEN) is a collaborative multi-state effort that links extension educators from across the US and various disciplines, enabling them to use and share resources to reduce the impact of disasters. Disaster preparedness can save and preserve lives in times of emergency and help reduce the impact of disasters among populations.

What has been done

The GUAM EDEN collaborated with government and community agencies to provide informational materials and tips on disaster preparedness. Extension educators provided expertise and participated in community planning groups both nationally and locally helping to set the agenda on disaster strategic and exigency plans. EDEN participated in the annual National

Disaster Preparedness Month expo. EDEN has participated in three trade shows and has provided over 100 youth and adults with personalized In Case of Emergency Cards, disaster preparedness tips and information on assembling a home emergency tool kit.

Results

Approximately 100 adults and youth have increased their knowledge of creating a home emergency toolkit. In addition, individuals have personalized In Case of Emergency Cards and understand the importance of these cards in life threatening situations.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
801	Individual and Family Resource Management

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Case Study

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Food Safety - Tropical Food Processing and Safety

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
501	New and Improved Food Processing Technologies	20%			
502	New and Improved Food Products	15%			
503	Quality Maintenance in Storing and Marketing Food Products	5%			
604	Marketing and Distribution Practices	5%			
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	50%			
806	Youth Development	5%			
	Total	100%			

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	0.8	0.0	0.5	0.0
Actual	1.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
94324	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
32190	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
27735	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

To reduce the risk of foodborne illness in the community on Guam, we provided food safety message in workshops for youth, presented food safety information and research results in the community food and food safety fairs, and disseminated food safety message, brochures, and videos in various community fairs and displays. Children, youth, and general consumers received the food safety messages and educational materials.

To increase safe and wholesome value-added products using the locally-grown fruits, vegetables, and plants in the community on Guam, we develop a pasteurized and vacuum-packaged soursop puree, which had shelf-life of 3 months in refrigeration. We determined the optimum conditions of pasteurization and conducted a storage study on quality of the soursop puree. The pasteurized soursop puree can be used as a food ingredient by chefs and consumers to prepare ice cream, drink, yogurt, and desert. We also developed recipes of soursop and citric calamansi drinks; with the recipes residents can easily use fresh fruits to make the drinks.

In addition, we studied a new technology "freeze & juice" to make noni (*Morinda citrifolia* L.) juice, a tropical dietary supplement, and compared the difference of noni juice, which were made with the "freeze & juice" method and traditional method, in quality and antioxidant characteristics. Furthermore, we continued to provide workshops "Home Food Processing: Jams and Jellies", teaching residents in the community how use local mango and calamansi fruits to process jams and jellies. We also taught school children to prepare jams and jellies which participants from the Pacific Sustainable Teen Entrepreneurial Program used to make calamansi (sweet lemon) and mango marmalade. Students earned over \$300.00 selling their product to local restaurants

2. Brief description of the target audience

Target audiences included entrepreneurs, farmers, general consumers, youth, and school children.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	150	500	50	500
Actual	331	500	65	500

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

Patent Applications Submitted

Year: 2010
 Plan: 0
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	1	1	
Actual	0	1	1

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # of Research Paper

Year	Target	Actual
2010	1	1

Output #2

Output Measure

- # of Research Citations

Year	Target	Actual
2010	4	10

Output #3

Output Measure

- # of extension fact sheets or articles

Year	Target	Actual
2010	1	1

Output #4

Output Measure

- # of workshops

Year	Target	Actual
2010	6	6

Output #5

Output Measure

- # of brochures
Not reporting on this Output for this Annual Report

Output #6

Output Measure

- # of dissemination of information

Year	Target	Actual
2010	400	500

Output #7

Output Measure

- # of one to one intervention

Year	Target	Actual
2010	2	1

Output #8

Output Measure

- # of work with media

Year	Target	Actual
2010	1	1

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Changes (%) of participants in action of food processing in the community
2	Changes (%) of participants in action of food safety in the community
3	Changes of condition in food processing: number of value-added products in the community markets
4	Changes of condition of food safety: reduction (%) of frequency of foodborne illness in the community
5	Changes (%) of participants in knowledge of food safety and processing in workshops

Outcome #1

1. Outcome Measures

Changes (%) of participants in action of food processing in the community

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Changes (%) of participants in action of food safety in the community

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

Changes of condition in food processing: number of value-added products in the community markets

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

Changes of condition of food safety: reduction (%) of frequency of foodborne illness in the community

Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

Changes (%) of participants in knowledge of food safety and processing in workshops

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	60	90

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Using locally-grown crops to make value-added products

What has been done

Provide home food processing workshops

Results

The results from pre- and post-tests indicated that 90% of participants improved their knowledge after training in workshops.

4. Associated Knowledge Areas

KA Code	Knowledge Area
501	New and Improved Food Processing Technologies
502	New and Improved Food Products
503	Quality Maintenance in Storing and Marketing Food Products

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

While limited funds may have affected the greater potential outcomes of this program the accomplishments made to date are quite significant considering limited available resources.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants

Evaluation Results

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Guam Families, 4-H Youth Development and Communities

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
801	Individual and Family Resource Management	15%			
802	Human Development and Family Well-Being	15%			
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	5%			
806	Youth Development	65%			
	Total	100%			

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	4.0	0.0	0.0	0.0
Actual	2.6	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
138555	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
52263	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
32620	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

4-H Program planned, organized and conducted curriculum based life skills activities that included: 16 newly chartered community 4H Clubs, 20 4H School enrichment programs that later had requested to be chartered, 17 special interest/short-term programs and Day camps and 5 overnight camps were conducted. 4H trained and conducted training for 12 School-Aged Child Care Education Programs on stages and ages of youth development, and conducted 5 science, energy and technology related workshops. Five 4H individual study/mentoring activities were implemented. Participants learned, practiced and mastered the targeting life skills in all the activities including: teamwork, managing feelings, healthy lifestyles choices, goal setting, resiliency, cooperation/collaboration, communication, social skills, leadership, wise use of resources, decision making critical thinking, self-esteem/motivation, marketable skills, responsible citizenship, and learning to learn.

A Monsanto sponsored " Salute to Excellence: The Pacific Volunteerism" conference had over 126 4H Club members and Volunteer Leaders participating in a volunteerism training which also featured the launching of the SET H2O was our feature presentation.

2. Brief description of the target audience

Primary target audience included: children, youth, and families in the community, and schools including military installations on base and off base. Military families including teachers, educators, and organizations requested our services in a collaborative manner. Continued efforts to reach our military families have been successful as indicated by the increased in requests for collaboration. Concerted efforts have been made to reach targeted population who are underserved.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	200	500	6000	10000
Actual	200	500	6000	10000

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

Patent Applications Submitted

Year: 2010
 Plan: 0
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	0	0	

Actual	0	0	0
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V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- (1) # of club members

Year	Target	Actual
2010	350	5413

Output #2

Output Measure

- (2) # of volunteer leaders

Year	Target	Actual
2010	20	100

Output #3

Output Measure

- (3) # of workshops

Year	Target	Actual
2010	30	240

Output #4

Output Measure

- (4) # of brochures

Year	Target	Actual
2010	3	10

Output #5

Output Measure

- (5) # of surveys

Year	Target	Actual
2010	1	1

Output #6

Output Measure

- (6) # of media articles and promotions

Year	Target	Actual
2010	5	12

Output #7

Output Measure

- (7) # of focus group

Year	Target	Actual
2010	1	1

Output #8

Output Measure

- (8) # of volunteers trained

Year	Target	Actual
2010	12	35

Output #9

Output Measure

- (9) # of extension staff trained

Year	Target	Actual
2010	20	11

Output #10

Output Measure

- (10)# of collaboration established

Year	Target	Actual
2010	10	56

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	(1) Number of youth through communication and expressive arts programming demonstrate increased self efficacy in public speaking, presentations, visual arts and performing arts
2	(2) Number of youth participants in 4H natural resources and environmental education programs demonstrate environmentally responsible behavior
3	(3) Number of youth participants who study plant, soil and entomology learn the interconnectedness of organisms and their environment
4	(4) Number of youth reporting positive attitude change and/or aspirations about learning and careers in a 4-H project area
5	(5) Number of youth increasing participation in science and technology educational programming/clubs
6	(6) Number of volunteers completing a training program and successfully leading a program, activity, event or club
7	(7) Number of youth indicating increased knowledge/skills related to economic education and/or entrepreneurship
8	(8) Number of youth indicating knowledge and/or skills related to leadership
9	(9) Number of youth reporting positive attitude change and/or aspiration related to volunteering and community service

Outcome #1

1. Outcome Measures

(1) Number of youth through communication and expressive arts programming demonstrate increased self efficacy in public speaking, presentations, visual arts and performing arts

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	300	518

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Communication and expressive arts programs promotes effective communication, public speaking. Without these programs to help youth express themselves in positive ways youth can suffer isolation, loneliness and challenges with identity and self-esteem. These feelings can become habitual and lead to challenging or extremely difficult adult relationships in later life. Engaging in creative activities can help youth to "think outside the box," thus providing them with an opportunity to experience the world in new and different ways. Creative approaches can open channels to our youth, allowing them to reflect on and convey insights and understandings in ways that other approaches may not.

What has been done

A number of workshops were conducted to aid the youth in increasing their knowledge and skills in communication and expressive arts programming.

Results

Five hundred eighteen youth have changed attitudes and increased knowledge in communication and expressive arts programming demonstrating increased self-efficacy in public speaking, presentations, visual and performing arts.

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 #2

1. Outcome Measures

(2) Number of youth participants in 4H natural resources and environmental education programs demonstrate environmentally responsible behavior

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	300	2257

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

It is important to inspire and train youth leaders to impact environmental issues through community action projects and campaigns; skills training in leadership, environmental education, civic engagement, and community organizing; and, green jobs that sustain our communities and future. By involving youth in ecological projects to create green parks and a healthier living environment, youth develop environmental awareness and feel a sense of community pride. Programs provide a positive setting for students to spend quality time together learning and reinforcing behaviors that will benefit them as they develop into adults and responsible citizens.

What has been done

A number of workshops were conducted to aid the youth in increasing their knowledge and skills in natural resources and environmental education programs.

Results

Two thousand two hundred fifty seven youth have changed attitudes and increased their knowledge natural resources and environmental education programs and have demonstrated environmentally responsible behavior.

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 #3

1. Outcome Measures

(3) Number of youth participants who study plant, soil and entomology learn the interconnectedness of organisms and their environment

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	20	1050

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Youth gardening enables the youth to gain better self esteem, better nutritional habits, develop leadership skills, positive relationships with elders, increase awareness and appreciation for nature and the environment, and enables them to gain a sense of community service. Youth gardening is also a fitness and health-enhancing activity. Many children have limited exposure to a wide range of healthy, locally available foods and most children have no idea where food comes from or how it is prepared. Youth gardening is a powerful tool for engaging the youth in healthy lifestyles.

What has been done

A number of workshops were conducted to aid the youth in increasing their knowledge and skills in plant, soil, and entomology learn the interconnected-ness of organisms and their environment.

Results

One thousand fifty youth have changed attitudes and increased knowledge in plant, soil, and entomology learning the interconnectedness of organisms and their environment.

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 #4

1. Outcome Measures

(4) Number of youth reporting positive attitude change and/or aspirations about learning and careers in a 4-H project area

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	3000	5413

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

It is important to inspire a positive attitude in our youth by challenging them with attainable goals and by exposing them to legitimate means of achieving those goals. CES provides opportunities for youth can increase their confidence. Research has shown that youth respond well in positive environments that allow them to solve progressive complex problems, feel a sense of joy in themselves and appreciation in being with others.

What has been done

A number of workshops were conducted to aid the youth in increasing their knowledge and skills to possess a positive attitude and/or demonstrate positive aspirations about learning and careers in a 4-H project area.

Results

Five thousand four hundred thirteen youth have changed attitudes and linked their aspirations to careers in a chosen area.

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 #5

1. Outcome Measures

(5) Number of youth increasing participation in science and technology educational programming/clubs

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	300	1162

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

One major issue that we are faced with is the lack of resources and materials needed to conduct such workshops. This is also due to the increase in the number of participants . The schools with which we conduct such workshops would usually let us know how many participants we can expect, typically between 25-35 students per session. Nevertheless, we tend to fall short in our materials.

What has been done

Seventy-five workshops were conducted in the Guam public school system, local 4-H clubs, community organizations, summer and Christmas breaks, and three military installations.

Results

Pre- and post-tests show that 1,162 participants showed an increase in engagement. By engaging in these workshops, participants are given additional information and projects that they could take into consideration when doing future research projects, such as science fairs, environmental programs, and civic engagement activities.

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 #6

1. Outcome Measures

(6) Number of volunteers completing a training program and successfully leading a program, activity, event or club

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	100	100

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Volunteers are a vital resource necessary for the success of our youth development programs. They play an important role by extending partnerships through community involvement, building collaborators, and delivering the programs to address client needs in the community. The volunteers must be supported with development opportunities, capable management and leadership, as well as adequate resources in order for them to increase their own skills and knowledge base so they can engage and work with the youth and community.

What has been done

Training in developing leadership skills are provided. In addition to the standard program delivery volunteers have expanded their involvement to program planning, internal consultation, serving on advisory boards, coaching and supervising.

Results

One hundred volunteers have received training and orientation in 4-H Youth Development Programs increasing their knowledge, skills and abilities to be active and a contributing member to youth communities.

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 #7

1. Outcome Measures

(7) Number of youth indicating increased knowledge/skills related to economic education and/or entrepreneurship

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	300	82

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The community is currently facing an economic challenge. Prices for gas, food, shelter and health care have increased. Youth finance and entrepreneurship programs help to promote skills, behavior, knowledge and attitude for participants to become proactive in their future financial challenges.

What has been done

Fourteen workshops were conducted within the Guam's public schools, local 4-H clubs, community organizations, summer and Christmas break, and three military installations. Participants were able to partake in the creation of their own business plan from the beginning, where they decide what business to start to their marketing scheme, to their budget analysis.

Results

Pre- and post-tests show that 75 participants increased their knowledge and skills in finances, starting a business plan, marketing and product development.

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 #8

1. Outcome Measures

(8) Number of youth indicating knowledge and/or skills related to leadership

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	300	2751

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Increasing awareness in the different leadership skills, as well as providing developmental opportunities and adequate resources, participants are able to increase their skills and knowledge based on what a good leader should be.

What has been done

The UOG-CES continues to partner with schools, local organizations, and the military to provide education and opportunities through life skills training workshops, experiential activities, and demonstrations.

Results

A total of 2,751 participants taking part in workshops, activities, and demonstrations showed mastery of life skills in targeted areas such as communication, teamwork, self discipline, self responsibility, decision making, critical thinking, problem solving, concern for others, goal setting, accepting differences, etc. By gaining an understanding of these life skills, participants will be well equipped and informed of the necessary skills needed in order to be a good leader.

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 #9

1. Outcome Measures

(9) Number of youth reporting positive attitude change and/or aspiration related to volunteering and community service

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	300	554

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Volunteers are essential to the development of the 4H programs. Given the limited resources, volunteers are able to extend and build partnerships within the community thus providing services to address client needs.

What has been done

The 4-H Youth Development Program continues to provide awareness, education, and opportunities through life skills training workshops and demonstration.

Results

Five hundred and fifty four (554) participants have shown positive attitudes and/or aspirations towards volunteerism, and have displayed a 98% increase in their knowledge of volunteering and community service.

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

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Before-After (before and after program)
- Other (Observations)

Evaluation Results

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Childhood Obesity - Nutrition Education for Guam

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
701	Nutrient Composition of Food	15%			
702	Requirements and Function of Nutrients and Other Food Components	10%			
703	Nutrition Education and Behavior	20%			
704	Nutrition and Hunger in the Population	10%			
724	Healthy Lifestyle	25%			
802	Human Development and Family Well-Being	15%			
805	Community Institutions, Health, and Social Services	5%			
	Total	100%			

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	1.4	0.0	0.0	0.0
Actual	2.9	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
82314	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
58284	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
23558	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Childhood Obesity - Nutrition Education Program for Guam provided basic nutrition education classes on topics that relate to nutrition and food which; include: Food Safety (Kitchen & Safe Food Handling); Importance of Exercise; Fruits & Vegetables (Vitamins); Shopping Tips; Budgeting; Meal Planning; Reading food labels and promoting the use of herbs and spices to help reduce the intake of salts, fats and sugars. In addition, the following activities were conducted: nutrition workshops for target populations, developed curriculum for promoting physical activity; education to prevent obesity; localized general nutrition education materials (hand-outs/pamphlets); conducted food demonstrations on local dishes that incorporate healthful modifications; and conducted workshops promoting locally grown fruits and vegetables with healthful recipes.

The Guam Project for Healthy Aging, conducted this year, addressed access to health care and lack of services by providing information on healthy aging through nutrition and fitness to older adults. As well, the project built organizational capacity to integrate physical activity opportunities into projects and services for adults to increase interaction and leadership development among the elderly. Physical fitness and nutrition workshops were conducted at three Senior Citizen Centers geographically located to serve the island's major population areas (Northern, Central, and Southern).

2. Brief description of the target audience

The target audiences in the program include: School age children (elementary through high school level), Families in public assistance programs, Families with young children, general consumers, Military Families, Elderly, Health educators, School teachers, Local farmers, and Other audiences. The target audience consisted of selected Senior Citizens Center patrons aged 55 or older with one or more chronic disease conditions as well as those who wanted to gain knowledge about healthy eating and physical fitness as it relates to healthy aging.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	160	625	2150	1000
Actual	105	1105	720	473

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

Patent Applications Submitted

Year: 2010
 Plan: 0

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	0	0	
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # of workshops

Year	Target	Actual
2010	50	32

Output #2

Output Measure

- # of brochures

Year	Target	Actual
2010	2	1

Output #3

Output Measure

- # of dissemination of research results and new technology and information

Year	Target	Actual
2010	200	159

Output #4

Output Measure

- # of one to one intervention

Year	Target	Actual
2010	50	105

Output #5

Output Measure

- # of focus group

Year	Target	Actual
2010	1	1

Output #6

Output Measure

- # of work with media

Year	Target	Actual
2010	1	3

Output #7

Output Measure

- # of articles in newsletter, magazines, and newspapers

Year	Target	Actual
2010	2	1

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	# of participants exposed to nutrition, exercise, and chronic disease prevention information
2	# of participants gaining an increase in nutrition knowledge and skills, especially for: MyPyramid, food labels, menu planning, smart shopping, healthy food preparation and food safety
3	# of participants gaining an increase in physical activity knowledge and skills, especially as it pertains to maintaining mental and physical well-being, prevention of chronic disease, and improving overall health
4	# of participants increasing knowledge and awareness of healthy aging through nutrition and exercise.

Outcome #1

1. Outcome Measures

of participants exposed to nutrition, exercise, and chronic disease prevention information

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1200	1239

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The data from the Guam Department of Public Health and Social Services, Office of Vital Statistics continue to indicate that high numbers of chronic and preventable diseases such as type 2 diabetes, cardiovascular disease and certain types of cancer are the primary causes of death on Guam. We continue to see the need for preventive nutrition educational programs and services as they relate to the promotion of healthy diets and lifestyle habits for the whole community of Guam. Also, a recent needs assessment identified the need to expand the delivery of nutrition and health information for more intervention attempts through our programs.

What has been done

Nutrition education workshops for: 1) families with young children who are in public assistance programs; 2) families who may not receive public assistance but fall into the 'low income' category; 3) youths in Guam schools, including after-school programs and other youth related programs; 4) Nutrition, Fitness, and Fun Summer Camp; and 5) Nutrition education workshops for the elderly in our community. Additional educational efforts include: 1) static nutrition and health displays during island health fairs; 2) monthly (in-store) food demonstrations; and 3) distribution of nutrition education materials which provide information on how to stay healthy and prevent chronic diseases.

Results

A total of 1239 had an increase in nutrition and health knowledge.

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
704	Nutrition and Hunger in the Population
724	Healthy Lifestyle
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services

Outcome #2

1. Outcome Measures

of participants gaining an increase in nutrition knowledge and skills, especially for: MyPyramid, food labels, menu planning, smart shopping, healthy food preparation and food safety

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	105

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The continuous rise in obesity prevalence and associated complications on Guam is linked to the lack of nutrition and health education. Obviously, there is a need for increased nutrition and health knowledge skills. through nutrition education, the people of Guam would be better informed of the many health benefits of proper nutritional intake of foods and the importance of regular exercise as it too links to good health. Another issue would be the increasing number of people with type 2 diabetes on Guam and the surrounding Pacific islands due to the increasing prevalence of obesity, poor diet, and sedentary lifestyle.

What has been done

Nutrition education workshops for: 1) families with young children who are in public assistance programs; 2) families who may not receive public assistance but fall into the 'low income' category; and 3) youths in Guam schools, including after-school programs and other youth related programs. Additional educational efforts include: 1) static nutrition and health displays during island health fairs; 2) monthly (in-store) food demonstrations; and 3) distribution of nutrition education materials which aid in increasing the percentages of nutrition skills gained through provided educational activities/workshops.

Results

Pre and post tests showed that 85% of participants increased in nutrition skills in one or more lessons.

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
704	Nutrition and Hunger in the Population
724	Healthy Lifestyle
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services

Outcome #3

1. Outcome Measures

of participants gaining an increase in physical activity knowledge and skills, especially as it pertains to maintaining mental and physical well-being, prevention of chronic disease, and improving overall health

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	132

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

A sedentary lifestyle and poor food choices are linked to the increased number of Guam residents who suffer from chronic and preventable diseases such as diabetes, cardiovascular diseases, cancer prevention and obesity. Obviously, there is a need for increased physical activity, nutrition and health knowledge and skills. By providing proper health and nutrition education that not only increases knowledge and awareness, but also improves skills associated with increased physical activity and improved lifestyle habits, the number of Guam residents affected by these preventable conditions may be decreased.

What has been done

Nutrition education workshops for: 1) families with young children who are in public assistance programs; 2) families who may not receive public assistance but fall into the 'low income' category; 3) youths in Guam schools, including after-school programs and other youth related programs; 4) Nutrition, Fitness, and Fun Summer Camp; and 5) Nutrition education workshops for the elderly in our community. Additional educational efforts include: 1) static nutrition and health displays during island health fairs; 2) monthly (in-store) food demonstrations; and 3) distribution of nutrition education materials which provide information on how to stay healthy and prevent chronic diseases.

Results

Pre- and post test and follow-up surveys indicate that about 85% of participants in one or more education session have adopted skills and knowledge and are leading healthier lives.

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
704	Nutrition and Hunger in the Population
724	Healthy Lifestyle
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services

Outcome #4

1. Outcome Measures

of participants increasing knowledge and awareness of healthy aging through nutrition and exercise.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	37

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The leading causes of death of Guam's elderly are heart disease (34%), cancer (16.2%), stroke (5.9%) and diabetes (3.9%)². Six out of ten leading causes of death on Guam are preventable by maintaining healthy lifestyle habits especially through diet and exercise (Guam Department of Public Health and Social Services). Despite these facts, the elderly on Guam have challenges adopting healthy lifestyle behaviors due to systemic barriers, lack of culturally appropriate health information, high levels of poverty, and increasing economic and social hardships.

What has been done

Physical fitness and nutrition workshops were conducted at three Senior Citizen Centers geographically located to serve the island's major population areas (Northern, Central, and Southern). Workshops were interspersed throughout a one year period. The target audience consisted of selected Senior Citizens Center patrons aged 55 or older with one or more chronic disease conditions as well as those who wanted to gain knowledge about healthy eating and physical fitness as it relates to healthy aging.

Results

The organizational capacity building component entailed the comprehensive inventorying of talents and skills from participants experiences and training from work, home, church, and community activities. A asset mapping component was conducted to assess center skills to increase engagement among members. A capacity inventory checklist was developed and completed via a combination of surveys and one-on-one interviews between participants and project staff. The information obtained through the mapping process was organized to establish an inventory bank of gifts, skills, and talents for each community center. The inventory bank is intended to create possibilities within the centers for personal connection by end users; as well as create a pool of talent to address issues, identify key leaders within the center and exploit opportunities that address the lack of service offerings at the senior centers, providing opportunities for educational growth.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
724	Healthy Lifestyle
802	Human Development and Family Well-Being

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

- Public Policy changes

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

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Comparisons between program participants (individuals, group, organizations) and non-participants
- null

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Global Food Security and Hunger - The New Farmer: Agriculture for the Next Generation

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	15%			
104	Protect Soil from Harmful Effects of Natural Elements	10%			
125	Agroforestry	15%			
205	Plant Management Systems	10%			
307	Animal Management Systems	10%			
403	Waste Disposal, Recycling, and Reuse	10%			
601	Economics of Agricultural Production and Farm Management	15%			
608	Community Resource Planning and Development	10%			
806	Youth Development	5%			
	Total	100%			

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	1.0	0.0	0.0	0.0
Actual	3.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
136314	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
60292	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
39596	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

There are over 1,090 farmers and potential farmers with agricultural land leases under the Chamorro Land Trust Commission (CLTC). However, many (the exact number unknown) are not utilizing the land for agricultural purposes and/or are underutilizing or improperly utilizing the land. A key multi-agency effort this year with UOG CES, Guam Department of Agriculture and the CLTC, assessed the CLTC Agricultural land usage, and surveyed the producers and potential producers on barriers they face in engaging in agricultural production.

A key accomplishment this year was the farm site inspections and a report based on the initial site inspections, on issues surrounding land use under the CLTC agricultural lease program. The report identified many areas of non-compliance with the agriculture lease program's production rules and pervasive violations of Guam building code and sanitation laws. The report also identified farmer education needs and perceived issues limiting their ability to engage in agricultural production. This effort will continue over several years. The findings of this effort have highlighted the need for outreach programs on best management production and conservation practices in a New Farmer program format. Over the past decade and a half, there has been a dramatic increase in number of new farms on Guam through the Chamorro Land Trust agricultural lease program. Unfortunately, a majority of these leaseholders have no farming experience and do not have the knowledge of how to farm under the limited resource constraints they face.

Agriculture support agencies on Guam are small and lack the breadth of expertise that would be found in analogous agencies on the mainland. Island-wide, the expertise pool is adequate to meet the island's needs but is fragmented among several agencies. Consequently, farmers have difficulty accessing the information they need or finding the expertise to explain key concepts to them when they seek advice. Many of these farmers have limited farm experience. The educational needs could be overwhelming for any single agency's staff, but in a coordinated partnership, several agencies may effectively address these needs.

As in previous years, planning meetings between the cooperating agencies were held this year to organize collaborative trainings around New Farmer trainings for the CLTC clients and Introduction to Organic Agriculture. These workshops were developed to support the needs of Guam limited resource farmers. By working together on the workshop curriculum and delivery, local agencies were able to enhance local outreach efforts through training, collaborative planning and presentation of needs. At the same time, agricultural professional competence in organic agriculture was enhanced, which may lead to a local group of qualified organic inspectors on Guam.

2. Brief description of the target audience

The primary target audience is the one thousand plus agricultural leaseholders of the Chamorro Land Trust Commission (CLTC) agricultural lands programs, and the more than 100 existing full and part time commercial and subsistence agricultural producers on Guam. In addition, a secondary target population is the island youth interested in entrepreneurial agricultural activities. Additionally farmer groups interested in soil and water conservation, agroforestry, and community agricultural activities are targeted.

The secondary target audience is the agricultural professional community on Guam. This program is a collaborative effort to build the capacity and enhance the performance of the agricultural professionals in Guam Cooperative Extension, and partner agencies so these agricultural professionals can better identify issues and mobilize resources to assist the agriculture community on Guam.

Additional audiences include professionals from Extension, Guam Department of Education, Guam Department of Agriculture as participant educators who may utilize program curriculum made available through the Web. These participants also serve as key contacts in future needs assessments so that the Island's needs may be incorporated in our curriculum development efforts.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	90	1000	15	0
Actual	521	10000	0	0

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

Patent Applications Submitted

Year: 2010
 Plan: 0
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	1	0	
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- number of popular articles in newsletters, magazines and newspapers

Year	Target	Actual
2010	2	3

Output #2

Output Measure

- number of workshops

Year	Target	Actual
2010	4	9

Output #3

Output Measure

- number of extension fact sheets/brochures/pamphlets

Year	Target	Actual
2010	2	4

Output #4

Output Measure

- number of one to one intervention

Year	Target	Actual
2010	10	106

Output #5

Output Measure

- workshop curriculum developed and piloted with agricultural professionals

Year	Target	Actual
2010	4	8

Output #6

Output Measure

- number of multi-agency agriculture best management practiced demonstrations conducted

Year	Target	Actual
2010	2	6

Output #7

Output Measure

- Number of Distance Education Workshops conducted on curriculum materials.
Not reporting on this Output for this Annual Report

Output #8

Output Measure

- # of new Chamorro Land Trust Leasholders participating in workshop and field day activities

Year	Target	Actual
2010	20	120

Output #9

Output Measure

- # memorandums and understanding and cooperative agreements with partner agencies and organizations

Year	Target	Actual
2010	1	1

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	# of Chamorro Land Trust Commission lease holders increasing knowledge of sustainable agriculture production technologies, marketing practices and available government services
2	# of agricultural professionals gaining knowledge of sustainable agriculture production technologies, marketing practices, available government programs, and grant opportunities
3	Number of organizations that leveraged/or increased their outreach efforts by participating in the New Farmer Programs.
4	# of farmers adopting recommended demonstration practices
5	# of participants increasing knowledge of sustainable agriculture production technologies, marketing practices and available government services
6	# cooperating agency and organization personnel adopting and utilizing curriculum materials developed under this POW (both Guam and Distance Education).

Outcome #1

1. Outcome Measures

of Chamorro Land Trust Commission lease holders increasing knowledge of sustainable agriculture production technologies, marketing practices and available government services

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	20	60

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Over 1,090 agriculture leases have been issued by the CLTC over the past decade but prior to this reporting period no one has ever visited and done site inspections to assess needs and compliance with lease terms.

What has been done

Under this planned program a multiagency team was trained and then conducted assessment on roughly 10% of the agriculture leases. Findings indicate that over half of these lease holders are not meeting minimum agriculture production requirements. The educational/technical support needs of these lease holders were assessed.

Results

Sixty leaseholders increased knowledge of sustainable agriculture production technologies and marketing practices. A multi agency effort was made to pilot a New Farmer curriculum targeted to the needs of these lease holders. Four 8-10 hour workshops were piloted to address some of these needs. Client response was very positive with large attendance. New modules will be developed in future years.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
104	Protect Soil from Harmful Effects of Natural Elements
125	Agroforestry
205	Plant Management Systems
307	Animal Management Systems

- 403 Waste Disposal, Recycling, and Reuse
- 601 Economics of Agricultural Production and Farm Management

Outcome #2

1. Outcome Measures

of agricultural professionals gaining knowledge of sustainable agriculture production technologies, marketing practices, available government programs, and grant opportunities

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	6	11

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Agriculture professionals from the agriculture support agencies needed training in production monitoring, needs assessments, and rules of the CLTC agriculture lease in order to inspect sites for compliance and assess client needs. This years assessment indicated that a collaborative effort from several support and outreach agencies would be needed to have any hope of addressing the complex set of issues found within the Chamorro Land Trust Commission's programs.

What has been done

A multi-agency production and needs assessment team was formed and trained and is now in the field working on these issues with local farmers. An initial report was generated. A team of agriculture professionals from UOG CES, Department of Agriculture, NRCS, FSA and the Chamorro Land Trust Commission and local Agriculture consultants was formed to develop outreach education materials and programs. A cabinet level multi agency advisory committee was put in place by the Governor of Guam to meet twice monthly to develop policies for addressing many of the problems facing the CLTC.

Results

Eleven agriculture professionals increased knowledge of sustainable agriculture production technologies and marketing practices. Agriculture professionals are working with a common shared series of themes/practices for a new farmers curriculum. Content specialists from UOG, Public Works, Revenue and Tax, Guam EPA, Public Health, Land Management, Bureau of Planning and Statistics, Chamorro Land Trust Commission (CLTC) are meeting regularly to develop recommendations for the issues facing the CLTC.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
104	Protect Soil from Harmful Effects of Natural Elements
125	Agroforestry
205	Plant Management Systems
307	Animal Management Systems
403	Waste Disposal, Recycling, and Reuse
601	Economics of Agricultural Production and Farm Management
608	Community Resource Planning and Development
806	Youth Development

Outcome #3

1. Outcome Measures

Number of organizations that leveraged/or increased their outreach efforts by participating in the New Farmer Programs.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	3	7

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

UOG CES, Department of Agriculture, Natural Resource Conservation Service, Farm Service Agency are working together to develop education programs to address the farmers needs. Reports on the issues and problems in terms of the land usage were developed. The agencies have shared technical expertise and information resources to give each agency increased outreach impact.

What has been done

A multi agency outreach effort was made to reach these new farmers.

Results

Four 6-10 hour workshops were piloted, with 7 participants indicating knowledge change.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
104	Protect Soil from Harmful Effects of Natural Elements
125	Agroforestry
205	Plant Management Systems
307	Animal Management Systems
403	Waste Disposal, Recycling, and Reuse
601	Economics of Agricultural Production and Farm Management
608	Community Resource Planning and Development

Outcome #4

1. Outcome Measures

of farmers adopting recommended demonstration practices

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	8	12

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Farmers in the CLTC agriculture lease program are not meeting minimum production requirements of their lease. Often because they are not aware of soil and water conservation practices and agroforestry practices that will enable them to engage in production on their isolated off the grid farms.

What has been done

Workshops were piloted in a multi agency effort and these clients were targeted.

Results

Twelve farmers have use green waste as mulch (and shredded paper, phone books and cardboard) and as source of organic matter for our soils is the most commonly adopted and popular of the practices from the New Farmers curriculum. Demand for low cost mulch is very strong in the farming community farmers want this by the dump truck load. This represents a significant diversion of material from the land fill.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
104	Protect Soil from Harmful Effects of Natural Elements
125	Agroforestry
205	Plant Management Systems
307	Animal Management Systems
403	Waste Disposal, Recycling, and Reuse
601	Economics of Agricultural Production and Farm Management

Outcome #5

1. Outcome Measures

of participants increasing knowledge of sustainable agriculture production technologies, marketing practices and available government services

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	60	110

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is a huge local demand for workshops on these topics.

What has been done

Workshops were piloted on Weeknights and weekends.

Results

Clients want more workshops and more variety of time offerings. One hundred ten participants have demonstrated knowledge change in production technologies and marketing practices.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
104	Protect Soil from Harmful Effects of Natural Elements
125	Agroforestry
205	Plant Management Systems
307	Animal Management Systems
403	Waste Disposal, Recycling, and Reuse
601	Economics of Agricultural Production and Farm Management
608	Community Resource Planning and Development
806	Youth Development

Outcome #6

1. Outcome Measures

cooperating agency and organization personnel adopting and utilizing curriculum materials developed under this POW (both Guam and Distance Education).

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	4	6

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Agriculture professionals in UOG Cooperative Extension Service, Chamorro Land Trust Commission and Guam Department of Agriculture, Farm Service Agency and Natural Resource Conservation recognize the need for development of common curriculum on government programs, conservation practices, sustainable agriculture, soil and water conservation and organic production.

What has been done

Four 6-10 hour workshop modules were developed and delivered.

Results

Six agencies have adopted the curriculum in government programs, conservatin practices, sustainable agriculture, and soil and water conservation. Evaluations have been very positive indicating a need for more workshops in specified areas. Guam Department of Agriculture and UOG CES are both using these materials with other client groups.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
104	Protect Soil from Harmful Effects of Natural Elements
125	Agroforestry
205	Plant Management Systems
307	Animal Management Systems
403	Waste Disposal, Recycling, and Reuse
601	Economics of Agricultural Production and Farm Management
608	Community Resource Planning and Development
806	Youth Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Appropriations changes
- Public Policy changes
- Other ()

Brief Explanation

Election year change in administration so collaborations will need to be redeveloped with the new administration appointees among the agencies.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)

Evaluation Results

Evaluations were conducted after most workshops. In general they all indicated knowldege gain with many indicating planned changes in action in the coming year.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Plant Health and Pest Management

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	10%			
205	Plant Management Systems	10%			
211	Insects, Mites, and Other Arthropods Affecting Plants	10%			
212	Pathogens and Nematodes Affecting Plants	10%			
213	Weeds Affecting Plants	5%			
214	Vertebrates, Mollusks, and Other Pests Affecting Plants	5%			
215	Biological Control of Pests Affecting Plants	10%			
216	Integrated Pest Management Systems	40%			
	Total	100%			

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	3.0	0.0	0.0	0.0
Actual	3.3	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
200642	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
66313	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
61166	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The University of Guam Cooperative Extension Service's Plant Health and Pest Management group performed educational outreach to local farmers, homeowners, nurseries, landscapers and golf course superintendents and their crews, students, government agencies, and the general public by providing space, equipment, and expertise for publications, courses and workshops. The group gave advice and instruction in the areas of pesticide application, Integrated Pest Management (IPM) strategies, plant propagation, insect identification, weed identification, plant disease identification, soil nutrition and fertilizers, and grafting through trainings, workshops, brochures, fact sheets, television, radio, and one-on-one interventions. The group also provided plant disease diagnostics for the island through the Cooperative Extension Service's Plant Health Clinic.

The Plant Health and Pest Management group sponsored a three day training and workshop for Guam's Agriculture Professionals to build agriculture professionals' understanding and assessment of soil nutrient levels in relation to plant health and disease suppression. Instructors from the University of Guam and the University of Florida provided the training. Professionals were from the Guam Department of Agriculture, Guam Natural Resource Conservation Service, University of Guam Cooperative Extension Services, and the University of Guam Agriculture Experiment Station. Trainees were given instruction in identifying nutrient deficiencies in a classroom environment and in a field environment where plots of tomato, eggplant, pepper, and cucumber were grown under low and normal fertilizer levels. Also, trainees were given instruction in field test equipment for analyzing soil nutrients and plant tissue. A pretest was given to the trainees prior to instruction and a post test was given after instruction. Ninety-two percent of the trainees showed an increase in knowledge, with the average test score increasing by sixteen percent. The trainees then held a half day workshop for the islands farmers and the general public at the field plot site where they gave interactive instruction on soil and plant nutrients and plant disease suppression.

The Plant Health and Pest Management group continued its research and outreach education on Guam's dying Ironwood trees. The decline of Guam's Ironwood trees were first noticed on farms around Guam where the trees were used as windbreaks for farmer's crops and the needles from the trees used for mulch around plants. Statistical analysis of data collected show that a complex of biotic and abiotic factors are responsible for the decline. Posters, brochures, and interactive displays are being used at workshops to inform the public about the decline and to teach proper tree care techniques to keep the decline from spreading.

The Plant Health and Pest Management group also continued to work on the eradication and control

of the Coconut Rhinoceros Beetle, which feed on coconut trees and can sometimes cause the tree to die. This year a bio-control agent, a virus, was brought into Guam to be used against the beetle. This virus has been used successfully in Samoa, Fiji, Tonga, Palau, and other Pacific islands. The beetle is symbolic of many invasive species on small islands. Their impact is often severe because there are no natural enemies such as predators, parasites, or diseases to control their population growth. Educational outreach through workshops and training on the Coconut Rhinoceros Beetle and invasive species in general have been ongoing for the past few years. Local residents who pass a course in identifying and reporting invasive species are given a certificate and licensed as "First Detectors."

2. Brief description of the target audience

The target audience includes local farmers, homeowners, nurseries, landscapers, golf course superintendents and their crews, students, government agencies, and the general public

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	350	450	145	445
Actual	4500	11000	1475	600

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

Patent Applications Submitted

Year: 2010
 Plan: 0
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	0	0	
Actual	2	6	8

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # of research papers

Year	Target	Actual
2010	1	10

Output #2

Output Measure

- # of research citations

Year	Target	Actual
2010	5	55

Output #3

Output Measure

- # of extension fact sheets or articles

Year	Target	Actual
2010	3	6

Output #4

Output Measure

- # of workshops/trainings/classes

Year	Target	Actual
2010	10	28

Output #5

Output Measure

- # of brochures

Year	Target	Actual
2010	4	7

Output #6

Output Measure

- # of research or new technology reports

Year	Target	Actual
2010	3	31

Output #7

Output Measure

- # of one-on-one interventions

Year	Target	Actual
2010	185	3550

Output #8

Output Measure

- # of surveys

Year	Target	Actual
2010	2	7

Output #9

Output Measure

- # of focus groups

Year	Target	Actual
2010	1	1

Output #10

Output Measure

- # of news media activities (TV and radio)

Year	Target	Actual
2010	1	17

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	% of participants gaining skills in identification of insects and related pests
2	% of participants gaining skills in identification of plant diseases
3	% of participants gaining skills in identification of weeds
4	% of participants gaining knowledge about pesticides and their application
5	% of participants reducing indiscriminate use of chemical pesticides
6	% of participants adopting some established IPM practices

Outcome #1

1. Outcome Measures

% of participants gaining skills in identification of insects and related pests

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	85	76

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Local farmers, homeowners, nurseries, landscapers and golf course superintendents and their crews, students, teachers, government agencies and the general public. Identification is essential in determining the difference between beneficial insects and insect pests, and to insure that proper management practices for IPM and pesticide application are employed. These practices lead to improved plant health and crop yield, and reduce negative impacts on human and wildlife health and the environment.

What has been done

PSEP/PAT training workshops which included insect identification were held for: Basic Core; Turf and Ornamentals (Category 3); Industrial, Structural and Health related Pest Control (Category 7); and Commercial Agricultural Plant Pest Control (Category 1a).

Results

Seventy-six percent of participants passed EPA licensing tests, which required the ability to identify insects and related pests, following PSEP/PAT training workshops for: Basic Core; Turf and Ornamentals (Category 3); Industrial, Structural and Health related Pest Control (Category 7); and Commercial Agricultural Plant Pest Control (Category 1a).

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
214	Vertebrates, Mollusks, and Other Pests Affecting Plants
216	Integrated Pest Management Systems

Outcome #2

1. Outcome Measures

% of participants gaining skills in identification of plant diseases

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	85	81

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Local farmers, homeowners, nurseries, landscapers and golf course superintendents and their crews, teachers, students, government agencies and the general public. Plant disease identification of biotic and abiotic caused plant diseases are essential to insure that proper management practices for IPM and pesticide application are employed. These practices lead to improved plant health and crop yield, and reduce negative impacts on human and wildlife health and the environment.

What has been done

PSEP/PAT training workshops which included identification of biotic and abiotic caused plant diseases were held for: Basic Core; Turf and Ornamentals (Category 3); and Commercial Agricultural Plant Pest Control (Category 1a). Also, Guam Agricultural professionals from NRCS, Department of Agriculture, CES, and AES were given training in soil and plant nutrition in regard to disease suppression.

Results

Eighty-one percent of participants passed EPA licensing tests, which required the ability to identify biotic and abiotic caused plant diseases, following PSEP/PAT training workshops for: Basic Core; Turf and Ornamentals (Category 3); and Commercial Agricultural Plant Pest Control (Category 1a). Also, ninety-two percent of Guam Agricultural professionals from NRCS, Department of Agriculture, CES, and AES passed testing on soil and plant nutrition and plant disease.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

- 212 Pathogens and Nematodes Affecting Plants
- 216 Integrated Pest Management Systems

Outcome #3

1. Outcome Measures

% of participants gaining skills in identification of weeds

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	85	74

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Local farmers, homeowners, nurseries, landscapers and golf course superintendents and their crews, teachers, students, government agencies and the general public. Identification of specific weeds is essential to insure that proper management practices for IPM and pesticide application are employed. These practices lead to improved plant health and crop yield, and reduce negative impacts on human and wildlife health and the environment.

What has been done

PSEP/PAT training workshops which included identification of specific weeds were held for: Basic Core; Turf and Ornamentals (Category 3); and Commercial Agricultural Plant Pest Control (Category 1a).

Results

Seventy-four of participants passed the EPA licensing tests, which required the ability to identify specific weeds, following PSEP/PAT training workshops for: Basic Core; Turf and Ornamentals (Category 3); and Commercial Agricultural Plant Pest Control (Category 1a).

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
205	Plant Management Systems
213	Weeds Affecting Plants

216 Integrated Pest Management Systems

Outcome #4

1. Outcome Measures

% of participants gaining knowledge about pesticides and their application

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	85	76

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Local farmers, homeowners, nurseries, landscapers and golf course superintendents and their crews, teachers, students, government agencies and the general public. Knowledge of pesticides and their application is crucial for the health and safety of the applicator, consumers of produce, the health of humans and wildlife, and the environment.

What has been done

The PSEP/PAT Basic Core training workshop was held which included specific training in pesticides and their application.

Results

Seventy-six percent of participants passed the Basic Core test following training in pesticide use and application.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
214	Vertebrates, Mollusks, and Other Pests Affecting Plants
216	Integrated Pest Management Systems

Outcome #5

1. Outcome Measures

% of participants reducing indiscriminate use of chemical pesticides

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	60	76

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Local farmers, homeowners, nurseries, landscapers and golf course superintendents and their crews, teachers, students, government agencies and the general public. Correct application in this area leads to improved plant health and crop yield, savings on pesticide purchases, and reduces negative impacts on human and wildlife health and the environment.

What has been done

PSEP/PAT Basic Core training workshop was conducted. Training in the indiscriminate use of chemical pesticides was included in the training workshop.

Results

Seventy-six percent of participants indicated use of knowledge by reducing indiscriminate use of chemical pesticides.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
214	Vertebrates, Mollusks, and Other Pests Affecting Plants
215	Biological Control of Pests Affecting Plants
216	Integrated Pest Management Systems

Outcome #6

1. Outcome Measures

% of participants adopting some established IPM practices

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	60	76

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Local farmers, homeowners, nurseries, landscapers and golf course superintendents and their crews, teachers, students, government agencies and the general public. Correct application of IPM practices leads to improved plant health and crop yield, and reduces negative impacts on human and wildlife health and the environment.

What has been done

The PSEP/PAT Basic Core training workshops was conducted. Training in IPM practices was included in the workshop.

Results

Seventy-six percent of participants indicated adopting established insect and pesticide management practices.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
214	Vertebrates, Mollusks, and Other Pests 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
- Competing Public priorities

Brief Explanation

Guam's horticulture and agricultural activities are constantly being reshaped by the availability of imports, frequency of damaging typhoons, number of tourists and proliferation of exotic pests and diseases. Guam's agricultural land is being replaced with housing, golf courses, hotels, parks, and landscaping. With each shift in land use new pests, diseases and weed problems arise. Typhoons have a major impact on the outcome of our program because of its impact on plants, pests, insect and insect-like pests, diseases, weeds, biological control agents, and cultural practices. Immediately after a typhoon, client concerns shift from garden and farm production to home and farm clean up and restoration. After a typhoon, several months often pass before home gardens and farms are back into productions. Extension services such as the operation of a diagnostic center depends heavily on personnel and support staff for daily operations. When cutbacks occur, adjustments must be made in program delivery to keep the center's doors open.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Before-After (before and after program)
- Comparisons between program participants (individuals, group, organizations) and non-participants

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Global Food Security and Hunger - Sustainability of Small Scale Swine and Poultry Farms on Guam

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
302	Nutrient Utilization in Animals	15%			
307	Animal Management Systems	35%			
601	Economics of Agricultural Production and Farm Management	10%			
703	Nutrition Education and Behavior	15%			
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	10%			
806	Youth Development	15%			
	Total	100%			

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	1.4	0.0	0.0	0.0
Actual	1.6	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
108061	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
32191	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
55714	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Demonstration on use of local feeds such as breadfruit, taro, coconut and Leucaena sp. for livestock continued at the Guam Department of Agriculture Breeding Station. Collection and processing such as drying, grinding and formulating local feeds were conducted. Several feeding trials on swine growers and poultry breeding stocks were also done at the station.

Livestock producers were invited to see the demonstration and trials during workshops. The station is open everyday, so walk-ins were also allowed.

Due to positive results from activities, use of local feeds for goats was started.

2. Brief description of the target audience

In general, livestock (hogs, poultry and ruminants) producers and ranchers were involved in the project. Exposure of livestock production to youth (schools at all levels and community at large) was possible through animal displays during University of Guam Charter Day and animal displays at school grounds during celebration of Chamorro month.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	100	200	240	600
Actual	120	250	400	700

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

Patent Applications Submitted

Year: 2010
 Plan: 0
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	0	0	
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # of workshops

Year	Target	Actual
2010	4	5

Output #2

Output Measure

- # of extension publications

Year	Target	Actual
2010	2	1

Output #3

Output Measure

- # of field trips

Year	Target	Actual
2010	4	5

Output #4

Output Measure

- # of applied research conducted in demonstration site

Year	Target	Actual
2010	2	2

Output #5

Output Measure

- # of visitors

Year	Target	Actual
2010	150	200

Output #6

Output Measure

- # of one to one contacts

Year	Target	Actual
2010	100	130

Output #7

Output Measure

- # of request for animal displays

Year	Target	Actual
2010	5	6

Output #8

Output Measure

- # of 4-H / Military Kids programs conducted at site
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	# of producers increasing in knowledge and husbandry skills on an integrated to approach to animal and plant farm operations (short term)
2	# of producers adopting demonstrated practices
3	# of producers practicing regular replacements of broodstocks (medium term)
4	# of producers decreasing in feeding imported commercial feeds (medium term)
5	% increase in sustainable small-scale farms (long term)

Outcome #1

1. Outcome Measures

of producers increasing in knowledge and husbandry skills on an integrated to approach to animal and plant farm operations (short term)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	25

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Imported commercial feed costs continue to increase in price while quality continue to decline. Local feed sources are available if properly processed and formulated to sustain the quality of broodstocks on Guam.

What has been done

Continue demonstration of local feeds to producers and ranchers. Encourage the producers to process available local feed sources and conduct their own feeding trials. Feed processing equipment was made available to producers.

Results

Twenty-five livestock producers increased awareness and knowledge of processed local feeds. Adaptability of practice was zero due to limited time and labor devoted to farm operations.

4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals
307	Animal Management Systems
601	Economics of Agricultural Production and Farm Management
703	Nutrition Education and Behavior
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
806	Youth Development

Outcome #2

1. Outcome Measures

of producers adopting demonstrated practices

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

of producers practicing regular replacements of broodstocks (medium term)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	40	30

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Poultry replacements are still available at the breeding station. Livestock genetic quality continue to decline in swine, goats and cattle as no new bloodline of these species have been introduced to Guam in the last 10 years or more.

What has been done

Frozen semen for cattle and swine were ordered for artificial insemination (AI).

Results

Thirty produces have regular replacement of broodstocks. Shipment for frozen semen for cattle and swine is on hold due to quarantine regulations and import requirements.

4. Associated Knowledge Areas

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

Outcome #4

1. Outcome Measures

of producers decreasing in feeding imported commercial feeds (medium term)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	45	20

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Decrease in purchase of imported feeds is due to continuing increase in retail feedstore prices and not due to practice of using local feeds.

What has been done

Feeding trials and feed processing demonstrations continue at the station. Different proportions of combining commercial feeds and local feeds were also conducted to lessen feed costs. Feed analysis of this feed proportions were submitted to feed laboratories for nutrient content.

Results

Nutrient analysis of combining commercial and local feeds showed that nutritional requirements for poultry and swine can be met with twenty livestock producers reducing reliance on imported feeds.

4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals
307	Animal Management Systems
601	Economics of Agricultural Production and Farm Management

Outcome #5

1. Outcome Measures

% increase in sustainable small-scale farms (long term)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	10	7

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Limited fresh pork and poultry meat market due to absence of a USDA approved slaughtering facility and increasingly stringent environmental laws being imposed on waste management livestock producers contributed to slow development of small-scale farms. Some farms have to be shut down due to non-compliance of waste containment and proper disposal.

What has been done

Hog producers are getting assistance from the Natural Resources and Conservation Services (NRCS) in their EQIP program. Interest in building a mobile slaughter are being looked into.

Results

Applications to NRCS are being reviewed and processed for possible funding (cost-share) to construct waste management system in farms. Although long-term goal is % increase this has yet to be measure, however, 7 livestock farmers have received assistance for their EQIP.

4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals
307	Animal Management Systems
601	Economics of Agricultural Production and Farm Management
703	Nutrition Education and Behavior
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
806	Youth Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Government Regulations
- Other ()

Brief Explanation

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Before-After (before and after program)
- During (during program)
- Comparisons between program participants (individuals, group, organizations) and non-participants

Evaluation Results

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 8

1. Name of the Planned Program

Global Food Security and Hunger - Our Environment and Home & Urban Landscapes

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	10%			
111	Conservation and Efficient Use of Water	10%			
112	Watershed Protection and Management	15%			
123	Management and Sustainability of Forest Resources	5%			
133	Pollution Prevention and Mitigation	10%			
135	Aquatic and Terrestrial Wildlife	15%			
216	Integrated Pest Management Systems	5%			
403	Waste Disposal, Recycling, and Reuse	5%			
605	Natural Resource and Environmental Economics	15%			
806	Youth Development	10%			
	Total	100%			

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	0.8	0.0	0.0	0.0
Actual	1.4	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
64059	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
29180	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
11300	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

A multi-agency team from UOG-CES, Guam Department of Agriculture, Farm Services Agency, Department of Public Works, Guam Housing and Urban Renewal Authority, Light House Recovery Center of Salvation Army, Karidat, Treescape Agrisource and the Mayors' offices of Agana and Dededo identified community gardens as one way to provide nutritious produce for the disadvantaged and homeless clients. An added benefit was that participants learned gardening skills that enables them to continue providing nutritious supplemental produce for their meals. Four pilot project sites were selected to start organic community gardens for the disadvantaged on Guam.

UOG CES assisted in the planning process, provided training and technical support and followed up on supporting needs of the community gardening effort at each site. This effort is supported by the gardening and yard care knowledge developed by UOG-CES under earlier programs like the Guam Yard program. Hot peppers, eggplant, tomatoes, green onions, patchay, papayas, and soursop were planted at the various sites. Clients/participants were taught how to transplant vegetables and fruit trees. They were also instructed on plant aftercare. Technical assistance is still being provided on an as needed basis.

The crops produced from the gardens are used to supplement meals for the clients/participants. One of the goals of the project is to allow participants to learn a set of skills they can use to provide food for personal consumption and/or to sell. As of this date, individuals at the four sites have continued cultivating select fruits and vegetables, proving once again the old saying, "give a man a fish and you feed him for a day, teach him to fish and you feed him for life."

In a similar effort, UOG-CES was asked by Guma' Bethesda Latte Center (GBLC) to assist in establishing a community garden. This effort utilized container production at their site for physically and cognitively disadvantaged individuals. Extension met with clients and staff one to two times a week for approximately four months. Clients from the facility grew cucumbers, tomatoes, eggplant, hot peppers, and bedding plants in containers and continued to maintain their garden. While the primary purpose was to provide a recreational activity that builds self-esteem a side benefit of the activities was that it helped clients to improve motor and socialization skills.

Extension personnel made frequent visits to ensure that clients and staff understood the basics of cultivating plants and provided regular monitoring and advice to insure success. One of the most important aspects of the pilot project was to let gardeners see the "fruits of their labor". The clients' self-esteem and confidence were increased when the crops flourished. The activities also provided recreation

and exercise for the clients.

These pilot projects revealed many of the benefits in establishing community gardens but they also identified issues that are important to account for in planning if the gardens are to be self-sustaining over the long run. Several beneficial aspects of the project were recognized and strong desire among the partner agencies for community gardens to "catch on" was engendered. For this to happen, key partners are needed to facilitate in the planning process. A core group of individuals/clients must be identified at each site, that are willing, to commit their time and efforts to "work together" on each garden. Once the logistics are finalized, all supplies and materials assembled, group rules or practices agreed on, training may be initiated. A "Train-the-Trainer" approach should be taken to enable individuals to grow fruits, vegetables, and other types of plants and teach others what they know.

Because there is no shipping involved the produce from community gardens is fresher and more nutritious. Gardeners know what inputs have been used on each crop. Another plus to community gardens is that residents get to know one another better and bonds are created while getting a little exercise, as well.

2. Brief description of the target audience

The primary audience focus for the new Community Gardening Effort was to target disadvantaged groups on our island. The Organic Agriculture effort's primary audience is the general public, especially the home gardeners, and island farmers.

The secondary target audiences are the agricultural professional community on Guam. This program is a collaborative effort to build the capacity and enhance the performance of the agricultural professionals in Guam Cooperative Extension, and partners so these agricultural professionals educational materials that commonly available for public outreach education.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	40	1000	30	150
Actual	264	2000	28	0

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

Patent Applications Submitted

Year: 2010
 Plan: 0
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	0	0	
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Extension articles

Year	Target	Actual
2010	2	1

Output #2

Output Measure

- Number of workshops

Year	Target	Actual
2010	4	6

Output #3

Output Measure

- Number of Extension Fact Sheets

Year	Target	Actual
2010	1	1

Output #4

Output Measure

- Number of requests for research results and new technology and information
Not reporting on this Output for this Annual Report

Output #5

Output Measure

- Number of one to one intervention

Year	Target	Actual
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2010	6	30
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Output #6

Output Measure

- Number of newspaper or popular articles

Year	Target	Actual
2010	2	1

Output #7

Output Measure

- Number of Distance Education Workshops for the Pacific Islands.
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	Number of participants gaining awareness of environmental issues
2	Number of Government professionals trained in environmental issues and possible solutions and practical applications.
3	Number of schools to introduce an environmental curriculum to their students either as class supplement or through after school 4-H activities or field trips.
4	Number of trainers trained in the use of new curriculum modules
5	Number of train the trainer participants utilizing curriculum in trainings (both on Guam and in the Pacific Islands).

Outcome #1

1. Outcome Measures

Number of participants gaining awareness of environmental issues

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	200	320

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is a large demand for workshops and demonstrations on the topics of home gardening, community gardening, soil and water conservation, organic agriculture, recycling and other topics with an emphasis on protecting our environment and building our natural resource base.

What has been done

New workshop and demonstration curriculum is developed each year and workshops using materials developed in both the current and previous year are held for the public on these topics. Evaluation regularly indicates a majority of participants increase their knowledge of the covered topics.

Results

In the past year over 320 workshop participants increased their knowledge of gardening and home and yard practices that are beneficial for the environment.

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
123	Management and Sustainability of Forest Resources
133	Pollution Prevention and Mitigation
216	Integrated Pest Management Systems
403	Waste Disposal, Recycling, and Reuse

605 Natural Resource and Environmental Economics

Outcome #2

1. Outcome Measures

Number of Government professionals trained in environmental issues and possible solutions and practical applications.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	5	14

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Organic Agriculture, soil and water conservation practices, sustainable agriculture, recycling and carbon sequestration are all topics that local agricultural support agencies want their employees trained in.

What has been done

In this period workshops were delivered and curriculum developed for community gardens, organic agriculture, recycling of green waste and shredded paper through carbon sequestration in the soil.

Results

Fourteen professionals have increased their knowledge of these topics and actively participated in the delivery of community workshops on these topics using curriculum jointly developed.

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
123	Management and Sustainability of Forest Resources
133	Pollution Prevention and Mitigation
403	Waste Disposal, Recycling, and Reuse
605	Natural Resource and Environmental Economics

Outcome #3

1. Outcome Measures

Number of schools to introduce an environmental curriculum to their students either as class supplement or through after school 4-H activities or field trips.

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

Number of trainers trained in the use of new curriculum modules

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	5	14

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Organic Agriculture, soil and water conservation practices, sustainable agriculture, recycling and carbon sequestration are all topics that local agricultural support agencies want their employees able to deliver educational programs in.

What has been done

In this period workshops were delivered and curriculum developed for community gardens, organic agriculture, recycling of green waste and shredded paper through carbon sequestration in the soil. By participating in these efforts as trainers 14 agriculture support agency personnel and consultants developed additional skills in the use of this common curriculum.

Results

Fourteen trainers are now able to utilize this curriculum on these topics (community gardens, organic agriculture, recycling of green waste and shredded paper through carbon sequestration in the soil) and/or actively participated in the delivery of community workshops on these topics using curriculum jointly developed. Workshops on these topics are now offered more frequently on Guam than in previous years.

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
123	Management and Sustainability of Forest Resources
133	Pollution Prevention and Mitigation
135	Aquatic and Terrestrial Wildlife
216	Integrated Pest Management Systems
403	Waste Disposal, Recycling, and Reuse
605	Natural Resource and Environmental Economics

Outcome #5

1. Outcome Measures

Number of train the trainer participants utilizing curriculum in trainings (both on Guam and in the Pacific Islands).

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	6	9

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

UOG CES partner agencies regularly get requests from individuals, groups and schools for training on gardening, organic agriculture, sustainable agriculture, soil and water conservation, and other topics related to the the home, yard and environment. All recognize that the availability of curriculum materials and demonstration sites leverages each organizations outreach.

What has been done

Curriculum on home and community gardening, sustainable and organic agriculture, soil and water conservation practices developed by the UOG CES over the past years. This development process was in cooperation with partner organizations. Through shared trainings agriculture professionals have become familiar with these materials and are using them in their community outreach programs.

Results

Nine agricultural professionals on island used materials developed under this program in previous years in one or more trainings for schools, community groups and gardeners.

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
123	Management and Sustainability of Forest Resources
133	Pollution Prevention and Mitigation
135	Aquatic and Terrestrial Wildlife
216	Integrated Pest Management Systems
403	Waste Disposal, Recycling, and Reuse
605	Natural Resource and Environmental Economics

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Public Policy changes
- Competing Public priorities
- Other (New Governor and so new directors are head of many of the partner agencies. This will affect the program moving into 2011.)

Brief Explanation

The wife of the former Governor of Guam was a big supporter of this program so with the new administration we will need to revisit several of the partnerships since many of the local agencies have new directors. It did not affect 2010 outcomes but it may have an impact on 2011 outcomes.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- During (during program)

Evaluation Results

Most evaluations indicated positive knowledge change. Often indicating a planned change in practice.

Many evaluations indicate that would like the workshops to be longer (more than just one evening or saturday morning).

Key Items of Evaluation

When workshops were held on the topic of Organic Agriculture for the general public the attendance was extremely high (50-60) participants. This seems to be a very hot topic in the home and gardening community right now.

V(A). Planned Program (Summary)

Program # 9

1. Name of the Planned Program

Climate Change - Not applicable

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Actual	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

Actual	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
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2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 Matching	1890 Matching	1862 Matching	1890 Matching
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 All Other	1890 All Other	1862 All Other	1890 All Other
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

V(D). Planned Program (Activity)

1. Brief description of the Activity

{No Data Entered}

2. Brief description of the target audience

{No Data Entered}

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	{NO DATA}	{NO DATA}	{NO DATA}	{NO DATA}
Actual	{NO DATA}	{NO DATA}	{NO DATA}	{NO DATA}

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

Patent Applications Submitted

Year: 2010

Plan:

Actual: {No Data}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Actual	{No Data Entered}	{No Data Entered}	{No Data Entered}

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- {No Data Entered}

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

Outcome #1

1. Outcome Measures

{No Data Entered}

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Public Policy changes
- Competing Public priorities
- null

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 10

1. Name of the Planned Program

Sustainable Energy - Not Applicable

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Actual	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

Actual	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
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2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 Matching	1890 Matching	1862 Matching	1890 Matching
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 All Other	1890 All Other	1862 All Other	1890 All Other
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

V(D). Planned Program (Activity)

1. Brief description of the Activity

Not applicable

2. Brief description of the target audience

Not applicable

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	{NO DATA}	{NO DATA}	{NO DATA}	{NO DATA}
Actual	{NO DATA}	{NO DATA}	{NO DATA}	{NO DATA}

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

Patent Applications Submitted

Year: 2010

Plan:

Actual: {No Data}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Actual	{No Data Entered}	{No Data Entered}	{No Data Entered}

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- {No Data Entered}

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

Outcome #1

1. Outcome Measures

{No Data Entered}

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Public Policy changes
- Competing Public priorities
- Other ()

Brief Explanation

Not applicable

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

Evaluation Results

Not applicable

Key Items of Evaluation