

2011 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. 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, Youth, Families, 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 goals of ANR are carried out through its planned programs designed by ANR faculty to address issues faced by the community as well as other individual/community educational and informational needs. The 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, Childhood Obesity, Community Development, and 4-H and Communities.

In 2011, UOG-CES Community Development program stepped-up its efforts on building capacity in leadership and strategic planning. These efforts also included establishing and managing teams and collaborations from government, non-government, and private individuals aimed at data and information needs for planning programs and services. This planned program conducted workshops, facilitated focus groups, provided one-to-one client sessions and collaborated with government and non-government entities to help families and individuals understand and adopt ways to obtain and use resources of time, money, and human capital to develop their potential as participating members of society.

Our 4-H and Communities program conducted workshops using, among other locally adapted curricula, the Experiential Learning Model to promote life skills. UOG-CES planned, organized and facilitated and conducted activities that reached 31,709 youth through camps, school enrichment youth activities, after school programs, project and curricula. Youth were exposed to topics in consumer family sciences, biological sciences, technology and engineering, physical science, environmental education/earth science, and agriculture in the classroom. Youth increased their understanding, skills and

knowledge in essential elements in the sense of belonging and sense of safety, self confidence and self esteem, literacy, communication, problem solving, volunteerism and community service for youth, interaction and relationships with caring adults and peer groups, leadership development and civic engagement.

The Food Safety program provided workshops in safe/proper food handling and processing, and demonstrated food safety practices and processing value-added food products at community fairs as well as disseminated research-based information on food safety and food processing. The program also determined biological properties of tropical plants, fruits and vegetables for human health benefits, and provided one-to-one consultation to residents of these health benefits so as to enhance their processing and marketing of safe and wholesome value-added food products.

This reporting period, the Child Obesity/Nutrition Education Program for Guam provided basic nutrition education classes on topics that related to nutrition and food. The program developed culturally relevant curriculum for promoting physical activity and education to prevent obesity. We localized general nutrition education materials (via brochures/pamphlets) and developed recipe/meal plan book that incorporates healthful modifications of local recipes. This planned program has received a substantial financial boost through the Children's Healthy Living Program for Remote and Underserved Minorities in the Pacific Region through a multi-institution grant awarded by USDA - NIFA integrated programs. In 2011, the program conducted meetings with community partners and collaborations to target nutrition and physical activity behaviors as one way to inform the development of interventions to be implemented in 2012. These activities will be reported in the 2012 Annual Report.

Support for home and community grown food as alternatives to store bought food through backyard and community gardening programs continues to be high. In the current program year, the Global Food Security and Hunger - The New Farmer: Agriculture for the Next Generations unit engaged the support of the Micronesian Chefs Association to promote local produce through many public venues as viable import substitutes. Tenant Farmers with the Chamorro Land Trust agricultural land lease program that are not utilizing the land for agricultural or underutilizing the land were targeted for recruitment into the education and demonstration activities and surveyed on barriers to their agriculture implementation.

To increase the skills of the islands agricultural professionals the program conducted train the trainer workshops on the New Farmer curriculum with a significant focus on organic agriculture curriculum. Three planning meetings were held between cooperating agencies to identify priorities in outreach program deliver. As one result, these meetings prioritized areas to jointly apply for grant funding to address these priorities particularly in the areas of soil and water conservation, organic agriculture and community gardens. Best management conservation and sustainable agricultural practices are being demonstrated on multi-agency demonstration farms, new enterprises (tropical fruits) and production methods (sheet mulching), and other organic practices are being demonstrated.

The program held workshops on government incentive programs and funding opportunities for farmers interested in applying for Western Region Sustainable Agriculture Research and Education Program grants, in particular the farmer rancher grants and the professional producer grants. Workshops on soil and water conservation regularly included segments on the NRCS EQIP program and on the Farm Service Agency loan programs.

The Plant Health and Pest Management planned program continued its research and outreach education on Guam's declining Ironwood (*Casuarina equisetifolia*) trees. Research has led to a possible new species of the *Ganoderma* fungus that may be a factor in Ironwood Tree Decline (ITD). DNA sequencing of the fungus show no species match in genetic databases. Also, *Casuarina equisetifolia* seeds from 24 different locations around the world were planted and are being maintained in a green house. These trees will be planted in areas of ITD and monitored for signs of 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 program has made promising and important progress on the eradication and control of the Coconut Rhinoceros Beetle (CRB). The Coconut Rhinoceros Beetle feed on coconut and ornamental palms and can sometimes cause these trees to die. In the last reporting year, a bio-control agent, a virus, was brought into Guam to be used against the beetle. In 2011, a second attempt to establish biological control for the CRB using a strain of green muscardine fungus (GMF) was conducted. The Guam CRB Eradication Project crew incorporated GMF wherever they find CRB breeding sites. Revisits to these sites, after a few weeks, have revealed that many of the beetles are dead or are dying from fungal infection. This is significant as Guam was under threat of a serious decline of coconut and ornamental palms due to the CRB. Subsequently, outreach education activities on the CRB were conducted during the University of Guam Charter day and Guam Environmental Protection Agency's Earth Day. Over 1,000 students, teachers, farmers, and the general public were educated on CRB identification, including recognizing damage symptoms on coconut trees caused by the CRB using interactive displays. Live adult beetles as well as live larva feeding on dead coconut tree organic matter could be observed in secure aquariums, and small coconut trees with CRB damage were also on display.

Availability and cost of livestock feeds are still one of main problems in farm sustainability on Guam. Imported feed costs are regularly increasing to the point where it is not affordable to the farmers anymore, making farms less productive and profitable. Eventually, this situation would discourage farmers from continually operating their farms. To help farmers find alternative ways to sustain their small-scale farms, the Global Food Security and Hunger - Small Scale Farms conducted high quality forage feeding trials in goats. Forages such as locally grown pigeon pea, mulberry, *Leucaena* sp., *Moringa* sp. and sweet potato vines were tested. Field plots were used to demonstrate these forages at the agriculture station and UOG campus. Goats were given these forages and observations were made as to palatability and acceptance of the forages and growth and performance of the animals. Seedlings and cuttings of different forages (pigeon pea, *Leucaena* sp. mulberry) were made available to goats farmers. Ten producers were given these forage plant materials for their farm. Results of nutrient analysis of these forages were also received from a feed laboratory. One goat producer realized saving at least 50% from utilizing processed local feeds.

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 disseminated 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: 2011	Extension		Research	
	1862	1890	1862	1890
Plan	21.0	0.0	0.0	0.0
Actual	0.0	0.0	0.0	0.0

II. Merit Review Process

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

- Internal University Panel
- External Non-University Panel

2. Brief Explanation

The stakeholders input provide the 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.

III. Stakeholder Input

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

- Targeted invitation to traditional stakeholder groups
- Targeted invitation to non-traditional stakeholder groups
- 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

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.

Several stakeholder meetings, and focus groups were conducting during the 2011 reporting period. The Global Hunger and Food Security - New Farmer: Agriculture for the Next Generation conducted listening sessions across and among the areas of farmer/chef import substitution effort, the organic agriculture program development for Guam, and the New Farmer Curriculum and soil and water conservation issues. Listening sessions were 45 minute to 1.5 hours held during subject area group meetings to solicit ideas and needs for UOG-CES to focus on in the upcoming years. The Micronesian Chefs Association held meetings in May and September 2011 to guide their programs efforts over the latter half of the period and the upcoming planning year. Several meetings of the Northern and Southern Soil and Water Conservation Districts were also used to

focus on topics to be addressed in the New Farmer curriculum and Chamorro Land Trust Program Lessees' training.

Three formal advisory meetings were held under New Farmer POW during this reporting period. For the Organic Inspection/Farming component of the plan of work a meeting was held early 2011 with volunteers, UOG CES agents, Guam Department of Agriculture Inspectors, NRCS, and local agricultural consultants to plan the years training sessions and to identify priorities for joint program planning. In March 2011, a sustainable agriculture advisory and planning session was held that included representatives of established farmer groups, local and federal agencies supporting agriculture on Guam, agricultural consultants and Experiment Station and Cooperative Extension Service faculty. The purpose of this meeting was to develop the training schedule (dates and topics) for the 50 hours of New Farmer training and to identify priorities for joint program development. In May 2011, a Farmer Chef advisory meeting was held with representative of the Micronesian Chefs Association, UOG Cooperative Extension and the Guam Farmers Cooperative Association to plan the farm/chef events for the upcoming year and identify preliminary topics and speakers and the date of the 2012 Farmer Chef regional conference.

The Community Development planned program conducted several stakeholder input activities this reporting year. UOG-CES partnered with the Guam Department of Public Health and Social Services' Medicare Assistance Program (MAP) and the Senior Medicare Patrol (SMP) program and conducted a focus group session to understand the perceptions of volunteerism, and to solicit ideas to improve service gaps. This program partnered with the Guam Cancer Control Coalition and the Guam Cancer Survivorship Focus Group to develop focus group questions, recruitment, and group facilitation. From this collaboration, three focus group sessions were conducted to better understand the needs and challenges of cancer survivors among key stakeholders.

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

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 issues, 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. As well, UOG-CES and their partners collectively conduct focus group sessions to identify emerging needs of stakeholders.

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 and 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 Guam Department of Public Health and Social Services (DPHSS) we generated qualitative data used to make decisions on evaluating and improving the agency's Medicare Assistance Program (MAP) and the Seniors Medicare Patrol (SMP) programs. Through this effort UOG-CES provided specific recommendations for DPHSS' MAP and SMP program to recruit new volunteers and identify volunteer training opportunities.

Results of our focus groups with Guam Comprehensive Cancer Coalitions and Guam Cancer Survivors are currently being analyzed to better understand the unmet needs of cancer survivors. Results of the focus group will be used to inform future program planning efforts to affect policy changes and enhance health practices.

Collaborating with our partners such as the Guam Soil and Water Conservation Districts, the Micronesia Chefs Association and the Chamorro Land Trust Commission, and the Guam Department of Agriculture, and NRCS has led to the development of work plans and issues identification for 2012. The collaboration yielded needed training sessions, new curriculum modules for New Farmer program, and identification of priorities for joint and integrated program planning.

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
985529	0	0	0

2. Totaled Actual dollars from Planned Programs Inputs				
Extension			Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	1101744	0	0	0
Actual Matching	500000	0	0	0
Actual All Other	504992	0	0	0
Total Actual Expended	2106736	0	0	0

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous				
Carryover	85054	0	0	0

V. Planned Program Table of Content

S. No.	PROGRAM NAME
1	Community Development
2	Food Safety
3	Guam Families, 4-H Youth Development and Communities
4	Childhood Obesity
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

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

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%			
704	Nutrition and Hunger in the Population	25%			
801	Individual and Family Resource Management	25%			
802	Human Development and Family Well-Being	10%			
805	Community Institutions, Health, and Social Services	10%			
	Total	100%			

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2011	Extension		Research	
	1862	1890	1862	1890
Plan	5.0	0.0	0.0	0.0
Actual Paid Professional	7.0	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
183968	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
71429	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
114309	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

In 2011, UOG-CES Community Development program increased its efforts on building capacity in leadership and strategic planning. These efforts also included establishing and managing teams and collaborations from government, non-government, and private individuals aimed at data and information needs for planning programs and services. Through our membership in the Micronesia Chief Executives and partnership with land-grant extension partners, we continue to address issues that affect our Western Pacific region.

Activities UOG-CES conducted this reporting include:

- Community development workshops that foster more inclusive decision-making and action (teaching policy leaders how to interpret and apply economic data for planning and decisions).
- Assisted Extension expertise was sought in developing focus group questions, recruitment planning and focus group facilitation. Four focus groups were conducted to better understand the needs and challenges related to the following areas: cancer survivors, Guam Medicare Assistance Program stakeholders and Senior Medicare Patrol volunteer
 - Conducted facilitation training for the Guam Cancer Control Coalition, Cancer Survivorship Workgroup.
 - Updated the Pacific Workforce Investment Workgroup Directory;
 - Developed State Rehabilitation Council (SRC) Member Handbook;
 - Assisted in strategic planning, needs assessments, asset mapping
 - Provided technical support in understanding community capitals approach;
 - Conducted assessments (survey design and field data collection);
 - Maintained collaborations with local and federal government;
 - Establish partnership and/or collaborative MOAs and MOUs

2. Brief description of the target audience

Target audience composition include continuing collaboration with local government agencies, policy-makers, government boards, and councils; non-governmental organizations, youth ages 14-17. Other target audiences include industry collaboration, community groups and the general public.

3. How was eXtension used?

eXtension was not used in this program.

V(E). Planned Program (Outputs)

1. Standard output measures

2011	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	116	0	20	0

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

Patent Applications Submitted

Year: 2011
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2011	Extension	Research	Total
Actual	1	0	1

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- number of extension articles
 Not reporting on this Output for this Annual Report

Output #2

Output Measure

- number of workshops

Year	Actual
2011	2

Output #3

Output Measure

- number of brochures

Year	Actual
2011	0

Output #4

Output Measure

- number of disseminated research results, new technology and information

Year	Actual
2011	0

Output #5

Output Measure

- number of surveys

Year	Actual
2011	0

Output #6

Output Measure

- number of focus groups conducted

Year	Actual
2011	2

Output #7

Output Measure

- number of popular articles in newsletters, magazines and newspapers

Year	Actual
2011	1

Output #8

Output Measure

- number of one to one assistance

Year	Actual
2011	5

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Percentage of youth increasing knowledge and skills in youth entrepreneurship
2	Percentage of individuals increasing awareness and understanding of disaster preparedness.
3	Number of community institutions increasing awareness and understanding of community food security issues, trends, and processes.
4	Number of community institutions adopting community food security practices.
5	Percentage of individuals increasing awareness and understanding of community food security issues, trends, and processes.
6	Percentage of individuals adopting community food security practices.
7	Percentage of individuals increasing understanding of decision making process
8	Percentage of individuals increasing knowledge of personal and interpersonal leadership skills
9	Number of organizations adopting group and organizational leadership skills.
10	Percentage of individuals increasing knowledge, understanding and skills in program development.
11	Number of organizations adopting program development skills.
12	Number of organizations determining and developing appropriate and effective strategies for public decision making
13	Number of organizations crafting, evaluating, and implementing alternative solutions to address public issues
14	Number of organizations building skills and identifying opportunities to enhance effective participation in public decision making processes

Outcome #1

1. Outcome Measures

Percentage of youth increasing knowledge and skills in youth entrepreneurship

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	36

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 continue to increase. Youth finance and entrepreneurship programs help to promote skills, behavior, knowledge, and attitude for participant to become proactive in their future financial challenges. The project aims to strengthen our island communities by focusing on increasing the capacity of at-risk youth to generate income through entrepreneurial activities.

What has been done

UOG-CES established a partnership with the Guam Superior Court Juvenile Section to provide entrepreneurial courses to participants of the Court's Juvenile Probation Services. The partnership provided an educational opportunity to youth participants while, at the same time, earning credit for court ordered community service. Three sessions (40 hours, with 20 hours in curriculum and 20 hours of hands-on activities) were conducted in 2011.

Results

Thirty-six youth, ages 15-17, increased their knowledge and understanding in the basics of starting a small business, identifying potential ventures, basic marketing and financial management skills via use of computer technology. One teen venture was established using eggplant to make a local favorite dish called "spicy eggplant in coconut milk". This teen venture made \$138.00 selling the product to restaurants.

4. Associated Knowledge Areas

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

802 Human Development and Family Well-Being

Outcome #2

1. Outcome Measures

Percentage of individuals increasing awareness and understanding of disaster preparedness.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	25

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Guam EDEN Disaster Education programs continue to promote awareness and understanding of disaster preparedness through community educational materials, brochures and programs for community partners.

What has been done

Presentation to Guam Homeland Security GovGuam First Responders and call for publication assistance to update Extension's Typhoon Publication. This also includes expanding stakeholder representation to include non-government organizations, volunteers.

Results

Collaboration with the Guam Homeland Security Office to sponsor recruitment of first responder members to serve on the publication workgroup. Expanded workgroup with non-government organizations. Established EDEN Collaborator workspace for reviewing typhoon publication. Twenty-five individuals increase awareness of disaster preparedness.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
801	Individual and Family Resource Management
802	Human Development and Family Well-Being

Outcome #3

1. Outcome Measures

Number of community institutions increasing awareness and understanding of community food security issues, trends, and processes.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Northern Marianas College (NMC) Extension Service and Producer Association invited the Guam Cooperative Extension to address community interests and values in food production and food security related to the importance of sweet potato as a food source and commerce.

What has been done

Presented at the sweet potato: "Eat Kamuti" (eat root vegetables) festival educational activities workshop. Addressed conference objectives related to increasing production and value added opportunities for sweet potato.

Results

Powerpoint presentation on Sweet potato food security. Ongoing collaboration with NMC community college and farmer interests on expanding formal marketing of sweet potato into Guam's institutional markets. Addressing need for trade data and marketing practices. Ongoing effort.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
704	Nutrition and Hunger in the Population
801	Individual and Family Resource Management
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services

Outcome #4

1. Outcome Measures

Number of community institutions adopting community food security practices.

Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

Percentage of individuals increasing awareness and understanding of community food security issues, trends, and processes.

Not Reporting on this Outcome Measure

Outcome #6

1. Outcome Measures

Percentage of individuals adopting community food security practices.

Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

Percentage of individuals increasing understanding of decision making process

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	4

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Guam State Rehabilitation Council, the Guam Workforce Investment Board and the ServeGuam Commission, request for technical assistance in addressing leadership capacity across government and community organizations. This includes helping organizations address program delivery and service alignment interests, managing information and data technical assistance. The most requested technical assistance includes strategic planning and needs assessment and leadership and member recruitment and training.

What has been done

CES collaboration with the various councils, boards and organizations culminates in updated work plans, annual reports and resolutions. This includes facilitation of planning meetings, providing technical assistance in program development and needs assessments. Work effort includes: evaluation of workforce development strategies, promoting regional economic development, promoting local product and value-added strategies, and promoting the use of community capitals and asset mapping.

Results

Increased understanding and knowledge related to empowering communities and building capacity and relationship networks. Increased awareness of needs assessment, public issues education and helping improve data collection efforts necessary to evaluate programs and services.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
801	Individual and Family Resource Management
802	Human Development and Family Well-Being

Outcome #8

1. Outcome Measures

Percentage of individuals increasing knowledge of personal and interpersonal leadership skills

Not Reporting on this Outcome Measure

Outcome #9

1. Outcome Measures

Number of organizations adopting group and organizational leadership skills.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	8

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Workplace planning related to succession planning and team productivity remain recurring issues with community organizations. Striking a balance between hard skills and soft skills training continues to be a key concern in community collaboration related to group and organizational leadership development. Eight organizations representing community and government stakeholders continue to request technical assistance in strategic planning, program assessment, program development, and developing interpersonal skills.

What has been done

Three public issues education and community development leadership development workshops were conducted. This include technical assistance in developing focus group questions, addressing program planning and focus group facilitation. Four focus groups were conducted to better understand needs and challenges related to medicare assistance program stakeholders and senior medicare patrol volunteers. Guam Cancer Coalition and Cancer Survivorship Workgroup received facilitation training.

Results

Government and community organizations have increased their organizational leadership skills and increased their knowledge about community planning related to both hard and soft skills. Organizations continue to actively engage in team building sessions and organizational planning and investments in team capacity building.

4. Associated Knowledge Areas

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

Outcome #10

1. Outcome Measures

Percentage of individuals increasing knowledge, understanding and skills in program development.

Not Reporting on this Outcome Measure

Outcome #11

1. Outcome Measures

Number of organizations adopting program development skills.

Not Reporting on this Outcome Measure

Outcome #12

1. Outcome Measures

Number of organizations determining and developing appropriate and effective strategies for public decision making

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Extension collaborators (Government agencies, boards and commissions, councils)through the various organizational planning processes continue to leverage the strategic planning process to provide and align program issues, resources and access to expertise and technical assistance. Organizations continue to participate in various community and government organization sponsored programming and planning activities. This includes helping build both planning and leadership capacity of the various collaborators and stakeholders serving on community boards and organizations.

What has been done

CES continues to provide technical assistance in providing facilitator training for organizations, needs assessments and organization reporting.

Results

The program network continue to employ the acquired strategic planning tools and increased use of community capitals in their planning sessions, leveraging participatory research, stakeholder input and using data sets as part of their planning process.

4. Associated Knowledge Areas

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

Outcome #13

1. Outcome Measures

Number of organizations crafting, evaluating, and implementing alternative solutions to address public issues

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Guam Department of Public Health and Social Services (DPHSS) programs continually face challenges related to limited funding in program assistance and support. The DPHSS and the Guam Medicare Assistance Program (MAP) and Senior Medicare Patrol (SMP) require direct program investments in resources and expertise to be backed by services that promote program stability and expertise in reviewing program issues related to stakeholder services and assistance. This is necessary to understand perceptions of program service gaps.

What has been done

Six senior citizens participated in focus group session. This session generated qualitative data used to make decisions on evaluating and improving the agency's MAP & SMP programs.

Results

Department of Public Health and Social Services (DPHSS) have access to focus group data related to how the program can recruit new volunteers, identify volunteer training opportunities & program sustainability. Taking a balance approach via a public issues education reference protects and ensures programming viability for DPHSS programs.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
704	Nutrition and Hunger in the Population
801	Individual and Family Resource Management
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services

Outcome #14

1. Outcome Measures

Number of organizations building skills and identifying opportunities to enhance effective participation in public decision making processes

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Extension expertise was sought in developing focus group questions, recruitment planning and focus group facilitation. Three focus groups were conducted to better understand the needs and challenges of cancer survivors among key stakeholders.

What has been done

Three focus groups were conducted to better understand the needs and challenges of cancer survivors among key stakeholders.

Results

Focus group generated qualitative data that is currently being analyzed to better understand the unmet needs of cancer survivors. Results of the focus group will be used to inform future program planning efforts to affect policy changes and enhance health practices.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
704	Nutrition and Hunger in the Population
801	Individual and Family Resource Management
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services

V(H). Planned Program (External Factors)

External factors which affected outcomes

- 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

Government re-organizations and economic hardships of island community continue to stress the resources of the various organizations providing services to the community.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Realizing stronger communities and stronger organizations speak to the continued investments in building leadership capacities of Extension's broad collaboration base (government and non-government organizations). This is evident through increased program planning (strategic planning efforts, use of program data for evaluating action plans and strategies), evaluation of programs through various stakeholder assessments. This includes the use of strategic plans and their periodic reviews and assessments and use of collaborator workspace for sharing reports, and increased communication.

Key Items of Evaluation

Our stakeholders have indicate demand for capacity assessment tools (needs assessments, asset maps, appreciative inquiry methods use for gathering information about an organization's ability to perform or facilitate program delivery and managing funds and resources. Also requested was increasing workgroup collaboration and identification of data collection efforts related to prioritized program areas and planning.

Program reviews and resources furnish information that contribute to understanding of levels of government program delivery and effectiveness.

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Food Safety

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
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 FTE/SYs expended this Program

Year: 2011	Extension		Research	
	1862	1890	1862	1890
Plan	1.0	0.0	0.0	0.0
Actual Paid Professional	1.2	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
95048	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
71429	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Our activities in the community of Guam and regions include: (1) providing food safety and food processing workshops; (2) demonstrating food safety practices and processing value-added food products in the community fairs; (3) disseminating research-based information of food safety and food processing; (4) determining biological properties of tropical plants, fruits and vegetables for human health benefits; (5) providing consultant services to residents to support for their processing and marketing safe and wholesome value-added food products.

2. Brief description of the target audience

Target audiences include general consumers/homewoners, entrepreneurs, food manufacturers, food service workers, food-safety educators, farmers, college students and school children of all ages.

3. How was eXtension used?

eXtension was used as a search engine to find research-based information to education activities in the community.

V(E). Planned Program (Outputs)

1. Standard output measures

2011	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	240	1500	820	500

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

Patent Applications Submitted

Year: 2011
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2011	Extension	Research	Total
Actual	1	1	2

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # of peer reviewed publications

Year	Actual
2011	1

Output #2

Output Measure

- # of non-peer reviewed publications

Year	Actual
2011	1

Output #3

Output Measure

- # of workshops

Year	Actual
2011	4

Output #4

Output Measure

- # of dissemination of science-based information

Year	Actual
2011	800

Output #5

Output Measure

- # of one to one intervention

Year	Actual
2011	1

Output #6

Output Measure

- # of work with media

Year	Actual
2011	1

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Changes (%)of participants in knowledge of food safety and food processing
2	Changes (%) of participants in action of food safety and food processing
3	Changes (%) of condition in food safety and food processing: reducing the incidences of foodborne illness or increasing numbers of safe value-added products in the community

Outcome #1

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	24

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The frequency of foodborne illness on tropical island of Guam is higher than that in the U.S. states. About ninety percent of foods are imported from other Asian countries and the U.S. mainland. Using tropical produces and resources to process value-added food products is needed.

What has been done

Workshops in food safety and home food processing were provided in the community. Pre- and post tests was conducted in the workshops.

Results

Participants gained knowledge in food safety and food processing after participating in the 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
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #2

1. Outcome Measures

Changes (%) of participants in action of food safety and food processing

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

Changes (%) of condition in food safety and food processing: reducing the incidences of foodborne illness or increasing numbers of safe value-added products in the community

Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Competing Public priorities
- Competing Programmatic Challenges

Brief Explanation

Limited funding and competing priorities between programs and projects affected the outcomes of this program.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

The pre- and post tests in the workshops shows that participants increased their knowledge by 24% after education.

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 FTE/SYs expended this Program

Year: 2011	Extension		Research	
	1862	1890	1862	1890
Plan	4.0	0.0	0.0	0.0
Actual Paid Professional	7.0	0.0	0.0	0.0
Actual Volunteer	5.0	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
152212	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
71429	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
80685	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

In 2011, the 4-H and Communities program conducted workshops using the Experiential Learning Model to promote life skills UOG-CES planned, organized and facilitated and conducted activities that reached 31,709 youth. Activities included conducted 18 youth organized community clubs, 26 organized in school clubs, 6 organized 4-H after school clubs and 6 Military 4-HH clubs. We also conducted 16 special interest/short term programs, 2 overnight camping programs, 3 weeks day camping programs, 18 in school enrichment programs, 6 individual study/mentoring/family learning programs, 2 after-school program using 4H curricula/staff training, 2 instructional TV/Video/Web programs.

This program also conducted workshops where 1,0875 youth participated in consumer family sciences, biological sciences, technology and engineering, in physical sciences, environmental education/earth science, and agriculture in the classroom. 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.

2. Brief description of the target audience

Primary target audience includes: children, youth, and families in the community and public and military schools, and their families, teachers, educators, and organizations that requested our services in a collaborative manner. Extension continued its effort to reach population who are under-served. This year 4H partnered with Guam Department of Education's Federal Programs providing life skills workshops to students whose language is other than English, students who are primarily from the Federated States of Micronesia. We have established a partnership with JPTorres Alternative School dealing with high risk students.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2011	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	500	650	10016	31709

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

Year: 2011
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2011	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- (1) # of club members

Year	Actual
2011	17795

Output #2

Output Measure

- (2) # of volunteer leaders

Year	Actual
2011	123

Output #3

Output Measure

- (3) # of workshops

Year	Actual
2011	150

Output #4

Output Measure

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

Output #5

Output Measure

- (5) # of surveys

Year	Actual
2011	50

Output #6

Output Measure

- (6) # of media articles and promotions
Not reporting on this Output for this Annual Report

Output #7

Output Measure

- (7) # of focus group
Not reporting on this Output for this Annual Report

Output #8

Output Measure

- (8) # of volunteers trained

Year	Actual
2011	28

Output #9

Output Measure

- (9) # of extension staff trained

Year	Actual
2011	8

Output #10

Output Measure

- (10)# of collaboration established

Year	Actual
2011	15

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	Actual
2011	7590

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Communication and expressive arts programs promotes effective communication, public speaking, citizenship skills, build leadership and personal development, increases community/volunteer services, and civic engagement. These programs help youth express themselves, increase self confidence, develop good self esteem, Additionally the programs increase knowledge in critical thinking, decision making, goal setting and problem solving. These are identified essential skills in youth development as youth prepare to enter into the workforce.

What has been done

Eighty-two workshops were conducted with the total of 7,590 youth participating in the life skills sessions that increased their knowledge and skills in communication and expressive arts.

Results

2258 participated in civic engagement, 683 learned skills in community/volunteer service, 2701 increased their leadership and personal development skills, 1948 increase their communications skills and participate in expressive 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	Actual
2011	10875

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

It is essential that youth take part in becoming leaders in our community and environmental issues. Sustainable community depends on our youth partnerships and leadership development. Youth need to understand the linkages between natural resources and environmental education program. By involving youth in ecological projects, they increase their sense of ownership, citizenship, and environmental stewardship.

What has been done

A number of workshops were conducted to increase their knowledge and skills in natural resources and environmental education programs.

Results

Ten thousands eight hundred and seventy five youth participants in the 4H natural resources and environmental programs increased their knowledge and demonstrated learned skills in environmental education programs including 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 Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	3818

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Youth who participated in school gardening(Ag. in the Classroom) curriculum developed positive self-esteem, increased nutritional habits, developed leadership skills, increased awareness and appreciation for the nature and the environment, increase a sense of healthy-life styes, and increased science skills. Youth gained an understanding of value of food, food processing and preparation as it related to healthy living. Youth outdoor activities increased their physical well being.

What has been done

Workshops were conducted in the schools and 4H Clubs that helped increased youths knowledge and understanding of plant, soils, consumer sciences, food processing and preparations. Additionally, youth learned about the science of entomology and how insect play a major role in our environmental connectedness.

Results

Three thousand and eighteen youth learned new science skills and increased their knowledge with regard to plant and soils sciences and how the sciences of entomology is interconnected to organisms and 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	Actual
2011	6250

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

An essential element in youth development is independence. A skill that motivate youth to become critical thinkers, problem solvers, and good decision makers. To achieve these, CES provides opportunities for the youth to engage in learning that motivates them to be masters of the skills and practice learned skill through community services and citizenship activities

What has been done

A number of workshops were conducted to help youth increase their knowledge and skills in critical thinking, problem solving, and good decision making. Youth reported positive attitude and/or aspirations about learning and career identification in 4H project area.

Results

Six thousand two hundred and fifty youth increased their knowledge and changed their attitudes with regard to career choice and overall outlook of the future.

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	Actual
2011	5171

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In partnership with our local education department and 4H Military project, a demand for science, engineering and technology has been addressed. Resources identifications and sharing had equipped our 4H staff to deliver needed life skills activities that serviced SET programs. Our young people must learn skills in SET in order to be competitive in job market.

What has been done

Ninety SET workshops were conducted in the GDOE, local 4H Clubs, community organizations, summer and Christmas break including four with the Military Installation 4H Clubs.

Results

Five thousand and one hundred seventy-one participants indicated an increased knowledge in basic sciences, engineering and math. Increased skills in measurements, plant identification, rocketry, marines sciences, and boating safety were identified to be activities that were also most enjoyed and learned.

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	Actual
2011	123

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Volunteers are a vital resources necessary for the success of our youth development programs. They play a important role in extending partnerships through community involvement, building, collaborations 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

One hundred and twenty three volunteers received training and orientation in the 4H Youth Development Program. 4H 101 training manual was used. The manual is extensive and provides a systematic approach to youth development programming.

Results

4H Community 4H Clubs, Special Interest 4H Clubs, School Based 4H Clubs, Military 4H Clubs were organized and Chartered. 4H Office continuous to services clubs implementing life skills activities as scheduled. Finally, Volunteers have had a major impact in the increase enrollment of 4H Membership as a whole.

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	Actual
2011	102

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 continue to increase. Youth finance and entrepreneurship programs help to promote skills, behavior, knowledge, and attitude for participant to become proactive in their future financial challenges.

What has been done

4H Staff conducted twelve workshops within Guam public schools, local 4H Clubs, community organizations and during summers and Christmas break including 2 Military installations. Workshops in budgeting, understanding where money goes, value of money, and simple business plans were conducted.

Results

One hundred and two youth participants increased their knowledge and skills in money (finance) management, and practiced the development of a business plan. Youth indicated having increased their knowledge/skills related to economic education and /or entrepreneurship.

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	Actual
2011	7590

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Leadership skills are critical in our democratic governance. Youth who serves in leadership roles are potentially the leader of our nation's future. We must cultivate these skills and increase our potential if we are to become and continue to be a stronger nation. Our future depends on good leaders with good leadership skills.

What has been done

Partnering with our schools, volunteers, local organizations, and Military partners, 4H has conducted life skills training using Targeting Life Skills Model and Experiential Learning Model.

Results

Seven thousand five hundred and ninety youth participated in workshop activities designed to increase skills in leadership that included targeted areas of: communication, teamwork, self discipline, self responsibility, decision making, problem solving, concerns for others, goal setting, critical thinking, cooperation, conflict resolution, good character and responsible citizenship.

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	Actual
2011	683

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Volunteering and community service are the key elements to successful youth development programming. Youth need to learn from adults and adults need to learn from the youth as we engage both in community betterment and oneself. Successful programs nationwide are based on volunteerism and community services.

What has been done

UOG-CES conducted workshops linking volunteer and community service to sustainable environment, community, individuals, families, and organizations resiliency.

Results

Six hundred and eighty three, youth and adult volunteers who attended and participated in the workshops were able to report an increase in positive attitude regarding caring for the environment and their families. An increase in their generosity performance indicated that they want to share what they have learned (master), increase in participatory community service(belonging), while share their capabilities (independence).

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

Brief Explanation

Financial constrains have been most challenging. However, our this planned program continues its efforts to seek extramural funding sources.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Pre and post evaluation results indicated that youths who participated in 4H life skills activities demonstrated increased knowledge in subject matter areas, increased awareness of well-being (self esteem and self motivation), increased levels of social skills, increased participation in teamwork, and increased level of critical thinking, problem solving, decision making and learning to learn.

Key Items of Evaluation

Participants include middle and high school students who are referred to attend J.P. Tores Alternative School (a school for high-risk students) where learning is participatory and based on the Experiential Learning Model.

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Childhood Obesity

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
701	Nutrient Composition of Food	15%			
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 FTE/SYs expended this Program

Year: 2011	Extension		Research	
	1862	1890	1862	1890
Plan	2.7	0.0	0.0	0.0
Actual Paid Professional	2.8	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
178074	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
71428	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
209256	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Child Obesity/Nutrition Education Program for Guam provided basic nutrition education classes on topics that related to nutrition and food which include: 'MyPyramid'; Food Safety (Kitchen & Safe Food Handling); Importance of Exercise; Fruits & Vegetables (Vitamins); Shopping Tips; Budgeting; meal Planning; Reading Food labels; promoting use of herbs and spices to help reduce the intake of salts, fats and sugars; and chronic disease prevention. In addition, the following activities were conducted: nutrition workshops to target populations, develop culturally relevant curriculum for promoting physical activity; education to prevent obesity; localized general nutrition education materials (brochures/pamphlets); developed recipe/meal plan book that incorporates healthful modifications of local recipes; conducted food demonstrations on local dishes that incorporate healthful modifications; conducted workshops promoting locally grown fruits and vegetables with healthful recipes for both farmers and experienced cooks.

This planned program has received additional support through the Childrens Healthy Living Program for Remote and Underserved Minorities in the Pacific Region through a multi-institution grant awarded by USDA - NIFA integrated programs. In 2011 we conducted activities with community partners and collaborations to inform the development of interventions to be implemented in 2012. Intervention activities for 2012 will be reported in 2013.

2. Brief description of the target audience

The target audiences of the program included: (1) school-aged children (elementary through high school level); (2) families in public assistance programs; (3) families with young children; (4) general consumers; (5) military families; (6) health educators; (7) school teachers; (8) local farmers; (9) working professionals; (10) other groups requesting services, such as senior citizens (aged 55 or older) with one or more chronic disease conditions.

3. How was eXtension used?

eXtension was not used in this program.

V(E). Planned Program (Outputs)

1. Standard output measures

2011	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	114	1026	987	433

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

Year: 2011
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2011	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # of workshops

Year	Actual
2011	31

Output #2

Output Measure

- # of brochures

Year	Actual
2011	1

Output #3

Output Measure

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

Year	Actual
------	--------

2011 136

Output #4

Output Measure

- # of one to one intervention

Year	Actual
2011	114

Output #5

Output Measure

- # of focus group

Year	Actual
2011	1

Output #6

Output Measure

- # of work with media

Year	Actual
2011	3

Output #7

Output Measure

- # of articles in newsletter, magazines, and newspapers

Year	Actual
2011	2

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	# of participants exposed to nutrition, exercise, and obesity 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 who have been exposed to health and nutrition education for chronic disease prevention

Outcome #1

1. Outcome Measures

of participants exposed to nutrition, exercise, and obesity prevention information

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	1101

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The data from the Guam Dept 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 education programs and services as they relate to the promotion of healthy diets and lifestyle habits for the whole community of Guam.

What has been done

Nutrition education workshops for: 1) families with young children 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 education 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 1,101 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	Actual
2011	87

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 and skills. Through nutrition education, the people of Guam would be better informed on the many health benefits of proper nutritional intake of foods and the importance of regular exercise as it too links to good health.

What has been done

Nutrition education workshops for: 1) families with young children 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 education 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 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 Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	87

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

A sedentary lifestyle and poor food choices are linked to the increase number of Guam residents who suffer from chronic and preventable diseases such as obesity, diabetes, cardiovascular diseases, and cancer. 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 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 education 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 who have been exposed to health and nutrition education for chronic disease prevention

Not Reporting on this Outcome Measure

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.)

Brief Explanation

V(I). Planned Program (Evaluation Studies)

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	8%			
104	Protect Soil from Harmful Effects of Natural Elements	10%			
125	Agroforestry	20%			
205	Plant Management Systems	20%			
307	Animal Management Systems	10%			
403	Waste Disposal, Recycling, and Reuse	10%			
601	Economics of Agricultural Production and Farm Management	20%			
608	Community Resource Planning and Development	1%			
806	Youth Development	1%			
	Total	100%			

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2011	Extension		Research	
	1862	1890	1862	1890
Plan	1.0	0.0	0.0	0.0
Actual Paid Professional	3.2	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
107883	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
71428	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
44116	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Support for home and community grown food as alternatives to store bought food through home and community gardening programs is high, thus increasing local food diversity and self reliance. In the current program year the ANR unit engaged the support of the Micronesian Chefs Association to promote local produce through many public venues as viable import substitutes.

Chamorro Land Trust Farmers with agricultural land leases that are not utilizing the land for agricultural or underutilizing the land were targeted for recruitment into the education and demonstration activities and surveyed on barriers to their agriculture implementation.

To increase the skills of the islands agricultural professionals train the trainer workshops were held on the New Farmer curriculum with a significant focus on Organic Agriculture curriculum. These efforts were prior to holding workshops at the demonstration farms or New Farmer Trainings for the general public. Multi-agency participation was utilized in the generation of outreach publications on the demonstrated conservation and production practices. Three planning meetings were held between cooperating agencies to identify priorities in outreach program deliver. Additionally, these meetings also prioritized areas to jointly apply for grant funding to address these priorities particularly in the areas of soil and water conservation, organic agriculture and community gardens.

Funded grants are a planned output of this program, demonstrating capacity building through training, collaborative planning and presentation of needs.

Best management conservation and sustainable agricultural practices are being demonstrated on multi-agency demonstration farms, new enterprises (tropical fruits) and production methods (sheet mulching), and other organic practices are being demonstrated.

Workshops were held on government incentive programs and funding opportunities for farmers workshops on applying for Western Region Sustainable Agriculture Research and Education Program grants in particular the farmer rancher grants and the professional producer grants. Workshops on soil and water conservation regularly included segments on the NRCS EQIP program and on the Farm Service Agency loan programs.

Outputs of this outreach collaboration over the past year included over 75 contact hours of workshops on new farmer curriculum and organic agriculture. These workshops ranged from 4-hour morning or afternoon workshops to several 2.5-hour twice-weekly workshops for two weeks workshops on

expanded topics like "Developing realistic farm production and business plans".

2. Brief description of the target audience

The primary target audience is the one thousand plus agricultural lease holders of the Chamorro Land Trust Commission (CLTC) agricultural lands programs and the more than 100 existing full and part time commercial agricultural producers on Guam and the thousands of subsistence and home gardeners on our island.

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.

Other audiences include clients of mayors' offices interested in small scale and community agricultural activities and island youth interested in entrepreneurial agricultural activities.

A third audience are the agricultural professionals in the nearby islands' land grant programs, and their partners, throughout the American Affiliated Pacific.

3. How was eXtension used?

The primary use, was to identify extension publications on organic agriculture, farm management, personal finance, and soil and water conservation practices appropriate for the tropics that could be used in New Farmer workshops.

In one to one contact with walk-in clients eXtension was used to provide personal financial management pamphlets for several Extension clients.

In addition to eXtension we found the publications on the ATTRA of the National Sustainable Agriculture program to be instrumental in our educational outreach efforts.

V(E). Planned Program (Outputs)

1. Standard output measures

2011	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	1170	5000	0	0

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

Patent Applications Submitted

Year: 2011

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2011	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- number of popular articles in newsletters, magazines and newspapers
Not reporting on this Output for this Annual Report

Output #2

Output Measure

- number of workshops

Year	Actual
2011	14

Output #3

Output Measure

- number of extension fact sheets/brochures/pamphlets

Year	Actual
2011	2

Output #4

Output Measure

- number of one to one intervention

Year	Actual
2011	78

Output #5

Output Measure

- workshop curriculum developed and piloted with agricultural professionals

Year	Actual
2011	6

Output #6

Output Measure

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

Year	Actual
2011	3

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	Actual
2011	90

Output #9

Output Measure

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

Year	Actual
2011	1

Output #10

Output Measure

- TV or other media coverage of programs or program events

Year	Actual
2011	6

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	Actual
2011	60

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Over 1,000 agriculture leases are held by the Chamorro Land Trust Commission (CLTC) land lease holder. More than 60% of these leases are underutilized in terms of ag production or worse the lands are being poorly managed and subject to erosion.

What has been done

Over 50 hours of evening and weekend workshops were held targeting these new farmers who need management and soil and water conservation training. These workshop had attendance of between 20 to 50 people and advertisement targeted the CLTC ag land lease holders.

Results

The participants learned soil and water conservation practices, how to available of local services to assist them, techniques of agricultural production and recommended agroforestry 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

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	Actual
2011	36

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is a strong interest in our local community for trainings in organic agriculture and for a certification program to be brought to our island. A key is to have qualified trainers and inspectors this was one focus of the past years efforts.

What has been done

Two one week long intensive workshops in preparation for Organic Inspectors Qualifying exams were held under this program attendance for the first session with 32 participants and for the second session with 17 participants. The second group represented 15 local and regional agricultural professionals.

Results

Agricultural professionals passed the International Organic Inspectors Association qualifying course and exam for organic crop inspectors under this program. Curriculum developed in a train-the-trainer manner are being used by UOG CES and Guam Department of Agriculture programs in community outreach and school gardening efforts.

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	Actual
2011	9

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Our island organizations involved in outreach to the agriculture and gardening community are understaffed and underfunded. This program brings many of these organizations together to host workshops and pool our expertise and limited funds. This enables each organization to reach a larger number of their targeted clients.

What has been done

A 50-hour new farmer workshop series was conducted with NRCS, Chamorro Land Trust Commission, Guam Department of Agriculture, Farm Service Agency. Also participating were representatives from Gum Department of Public Health and Guam Environmental Agency, the Guam Farmers Cooperative and the Northern and Southern Soil and Water Conservation Districts.

Results

Members of these organization are utilizing the curriculum materials jointly developed. Hundreds of Extension Clients have either attended the workshops or received the educational materials developed under this effort.

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 #4

1. Outcome Measures

of farmers adopting recommended demonstration practices

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	9

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Best management conservation and sustainable agricultural practices are being demonstrated on multi-agency demonstration farms, new enterprises (tropical fruits) and production methods (sheet mulching), and other organic practices are being demonstrated.

What has been done

As part of Extension activities some farms were visited and on these a few practices such as mulch (including the use of shredded paper for carbon), fruit tree windbreaks and Nitrogen fixing trees were observed at 9 farm sites, gardens, and other agency demonstrations.

Results

We estimate that at least 10% of the CLTC farmers attending our workshops are implementing the practices covered in the workshops. In Post-Workshop evaluations participants state they intend to adopt practices but this year we did not follow up with field visits to determine if this is so.

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	Actual
2011	120

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

End of workshop evaluations show most participants increased their knowledge of the workshop topic.

Results

While over 120 participants from all the different workshops series offered over the year indicated change in knowledge on the end of workshop evaluations. Of particular significance is that 11 Participants in the Organic Agriculture trainings passed the IOIA qualifying exam for Organic Crop Inspectors. This is a very rigorous training and qualifying exam program that is internationally recognized.

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	Actual
2011	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Agricultural professionals utilizing these curriculum materials is evidence of not just change in attitude and knowledge but also change in behavior that serves to leverage the programs efforts with limited cost to the program.

What has been done

Two Department of Agriculture Agriculture Development Services employees are utilizing the program materials in their organic farm demonstration and in their work with school garden programs.

One chair of a soil and water conservation district is using these materials in both farmer trainings and in training the UOG Green Volunteers in setting up on campus demonstrations.

Results

Many non Extension clients benefit from the Guam Cooperative Extension efforts and utilized the knowledge we are trying to disseminate. These are individuals that Extension would not normally reach.

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 (change in government administration)

Brief Explanation

With a new island administration taking office during this reporting period many of the partnerships of the past 4 years must be redeveloped. This slow program implementation particularly our efforts with the Chamorro Land Trust Commission.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

UOG-CES find that farmers and home gardeners prefer workshops on weekday evenings and Saturday mornings. In addition, there is a growing interest in organic or other forms of pesticide free certification for Guam among farmers and gardeners.

Key Items of Evaluation

Farmers complain about the lack of many grant and service programs like those of the agricultural marketing service not being extended to the insular region. Many interesting agriculture business grants do not allow the territorial institutions to apply.

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	5%			
205	Plant Management Systems	10%			
211	Insects, Mites, and Other Arthropods Affecting Plants	10%			
212	Pathogens and Nematodes Affecting Plants	15%			
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 FTE/SYs expended this Program

Year: 2011	Extension		Research	
	1862	1890	1862	1890
Plan	2.5	0.0	0.0	0.0
Actual Paid Professional	5.0	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
253859	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
71427	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
56626	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, invasive species and grafting through trainings, workshops, brochures, fact sheets, television, radio, and one-on-one interventions. The group also provided plant disease diagnostics and insect identification for the island through the Cooperative Extension Service's Plant Health Clinic.

The Plant Health and Pest Management group continued its research and outreach education on Guam's declining Ironwood (*Casuarina equisetifolia*) trees. Research has led to a possible new species of the *Ganoderma* fungus that may be a factor in Ironwood Tree Decline (ITD). DNA sequencing of the fungus show no species match in genetic data bases. Further work on this is currently ongoing. Also, *Casuarina equisetifolia* seeds from 24 different locations around the world were planted and are being maintained in a green house. These trees will be planted in areas of ITD and monitored for signs of 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. At the University of Guam Charter Day and EPA Earth Day, over 1,000 students, teachers, farmers, and the general public were educated on ITD and Ironwood tree care using interactive displays. They were able to observe samples of the fungus *Ganoderma* and *Phelinus*, discoloration of the wood, and other symptoms of decline. They were also given native Ironwood seedlings to plant and instruction on how to plant them.

The Plant Health and Pest Management group also continued to work on the eradication and control of the Coconut Rhinoceros Beetle (CRB), which feed on coconut and ornamental palms and can sometimes cause these trees to die. In the last reporting year, a bio-control agent, a virus, was brought into Guam to be used against the beetle. During this reporting year a second attempt to establish biological control for the CRB uses a strain of green muscardine fungus (GMF). The Guam CRB Eradication Project crew have been incorporating GMF wherever they find CRB breeding sites. When the crew revisits these sites after a few weeks, they find that many of the beetles are dead or dying from fungal infection. Education outreach on the CRB was conducted the University of Guam Charter day and EPA Earth Day, where over 1,000 students, teachers, farmers, and the general public were educated on CRB identification and damage symptoms on coconut trees cause by the CRB using interactive displays.

Live adult beetles as well as live larva feeding on dead coconut tree organic matter could be observed in secure aquariums, and small coconut trees with CRB damage were also on display.

The Plant Health and Pest Management group continued to take the lead on invasive species education. A workshop/training was held for the islands public and professionals in invasive species identification and reporting. Sixty-five people received certification as "First Detectors." Also, in collaboration with the Guam Department of Agriculture, an invasive species hot line was created, 1-671-735-PEST, and announced to the public through media outlets and CES workshops.

2. Brief description of the target audience

The target audience for this program includes local farmers, homeowners, nurseries, landscapers and golf course superintendents and their crews, teachers, school children, and government agencies.

3. How was eXtension used?

eXtension was used a reference for our publications and to obtain ideas for our publications.

V(E). Planned Program (Outputs)

1. Standard output measures

2011	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	7650	62750	4900	6140

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

Patent Applications Submitted

Year: 2011

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2011	Extension	Research	Total
Actual	7	4	11

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # of research papers

Year	Actual
2011	6

Output #2

Output Measure

- # of research citations

Year	Actual
2011	10000

Output #3

Output Measure

- # of extension fact sheets or articles

Year	Actual
2011	21

Output #4

Output Measure

- # of workshops/trainings/classes

Year	Actual
2011	44

Output #5

Output Measure

- # of brochures

Year	Actual
2011	5

Output #6

Output Measure

- # of research or new technology reports

Year	Actual
2011	2

Output #7

Output Measure

- # of one-on-one interventions

Year	Actual
2011	6065

Output #8

Output Measure

- # of surveys

Year	Actual
2011	1

Output #9

Output Measure

- # of focus groups

Year	Actual
2011	2

Output #10

Output Measure

- # of news media activities (TV and radio)

Year	Actual
2011	8

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	Actual
2011	91

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

Pesticide Safety Education Program (PSEP) Basic Core pesticide training workshops were held three times. Also, a National Plant Diagnostic Network (NPDN) invasive species training workshop was held. Identification of insect plant pests and insect invasive species were major components of these trainings.

Results

Ninety-one percent of participants passed EPA licensing tests and NPDN first detector certification.

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	Actual
2011	91

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 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

Pesticide Safety Education Program (PSEP) Basic Core pesticide training workshops were held three times. Also, a National Plant Diagnostic Network (NPDN) invasive species training workshop was held. Identification of plant diseases and invasive plant diseases were major components of these trainings.

Results

Ninety-one percent of participants passed EPA licensing tests and NPDN first detector certification.

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	Actual
2011	91

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

Pesticide Safety Education Program (PSEP) Basic Core pesticide training workshops were held three times. Also, a National Plant Diagnostic Network (NPDN) invasive species training workshop was held. Identification of weed pests and invasive weeds were major components of these trainings.

Results

Ninety-one percent of participants passed EPA licensing tests and NPDN first detector certification.

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	Actual
2011	85

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

Pesticide Safety Education Program (PSEP) Basic Core pesticide training workshops were held three times. Pesticides and pesticide application were major components of these trainings.

Results

Eighty-five percent of participants passed EPA licensing.

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

Not Reporting on this Outcome Measure

Outcome #6

1. Outcome Measures

% of participants adopting some established IPM practices

Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Competing Programmatic Challenges

Brief Explanation

Outcome 5 "% of participants reducing indiscriminate use of chemical pesticides" and outcome 6 "% of participants adopting some established IPM practices" were affected by external factors explained below.

The Plant Health and Pest Management group of UOG-CES are the educators for the EPA Pesticide Safety Education Program. Prior to this reporting year, UOG CES conducted the education and testing. Guam Environmental Protection Agency (GEPA) has assumed responsibilities for testing, while we still perform the education/training aspect of the program. Previously, pre-post questions related to outcomes 5 and 6 were asked of the participants, though they are not part of the testing/licensing. The questions posed were: "Have you reduced the indiscriminate use of chemical pesticides since your last licensing test? Have you adopted some established IPM practices since your last licensing test?". These questions/surveys were not asked by GEPA during this past years testing. UOG-CES is working with GEPA to correct this oversight so that these survey questions are asked during future courses/testing.

V(I). Planned Program (Evaluation Studies)

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	75%			
601	Economics of Agricultural Production and Farm Management	5%			
806	Youth Development	5%			
	Total	100%			

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2011	Extension		Research	
	1862	1890	1862	1890
Plan	1.0	0.0	0.0	0.0
Actual Paid Professional	1.4	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
130700	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
71430	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

UOG CES provided technical assistance and educational / informative materials to producers through farm visits, phone calls and e-mails. We conducted applied research on improving goat nutrition at the agriculture station and on-farm sites. Research focused on utilizing local feed materials such as breadfruit, taro, coconuts and Leucaena sp.. These local feeds were processed through drying and grinding. Feed rations were formulated from these unconventional feedstuffs based on the nutrient analysis of these ingredients.

High quality forage feeding trials were also conducted in goats. Forages such as pigeon pea, mulberry, Leucaena sp., Moringa sp. and sweet potato vines. Field plots were used to demonstrate these forages at the agriculture station and UOG campus. Goats were given these forages and observations were made as to palatability and acceptance of the forages and growth and performance of the animals.

Production of day-old chicks for replacements for farmers was also continued as demand was still high.

2. Brief description of the target audience

Target audience are mostly backyard livestock operators, with 5-30 heads of goats, swine, cattle and poultry. They are mostly retirees, though some are still working full or part-time in government or in private companies. They operated their farms for at least more than 10 years.

The agriculture station and research sites were free for visitations for students and the community-at-large. Agriculture major students conducted class laboratory exercises at these sites.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2011	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	250	400	50	200

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

Patent Applications Submitted

Year: 2011

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2011	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # of workshops

Year	Actual
2011	2

Output #2

Output Measure

- # of extension publications

Year	Actual
2011	1

Output #3

Output Measure

- # of field trips

Year	Actual
2011	3

Output #4

Output Measure

- # of applied research conducted in demonstration site

Year	Actual
2011	1

Output #5

Output Measure

- # of visitors

Year	Actual
2011	150

Output #6

Output Measure

- # of one to one contacts

Year	Actual
2011	250

Output #7

Output Measure

- # of request for animal displays

Year	Actual
2011	3

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	Actual
2011	5

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Availability and cost of livestock feeds are still one of main problems in farm sustainability on Guam. Imported feed costs are regularly increasing to the point where it is not affordable to the farmers anymore, making farms less productive and profitable. Eventually, this situation would discourage farmers to continue operate their farms.

What has been done

Expanded applied research of feeds and forages to goats. Demonstration of utilizing local feed resources such as breadfruit, taro, coconuts and *Leucaena* sp. for goat feed was conducted. Feeding trials with different forages such as pigeon pea, *Moringa* sp. mulberry were conducted at the Guam department of Agriculture station. Field plots of these forages were also demonstrated at the agriculture station and university campus.

Results

Goat producers had all positive observations and comments at the results of the feeding trials and demonstrations. They saw the effect of feeding high quality forages compared to grazing and tethering their goats in undeveloped pasture.

One goat producer realized saving at least 50% from utilizing processed local 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

806 Youth Development

Outcome #2

1. Outcome Measures

of producers adopting demonstrated practices

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Goat producers were experiencing slow growth and production in their farms. Goats were grazing or tethered on land with just plain weeds to consume. No other feed supplements due to high costs.

What has been done

Seedlings and cuttings of different forages (pigeon pea, Leucaena sp. mulberry were made available to goats farmers. Ten producers were given these forage plant materials for their farm. Results of nutrient analysis of these forages were also received from a feed laboratory.

Results

Results of feeding trials with these forages shown what forages are the best to recommend to farmers. Unfortunately, most of the farmers who received plant materials were not successful in their propagations due to poor care and maintenance of the plants.

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 #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	Actual
2011	5

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Replacement programs is a big challenge on Guam due to its geographical distance from Hawaii and the US mainland. Inbreeding has now reached a point where animal sizes are getting smaller and smaller.

What has been done

Although frozen semen (cattle, swine and goat) was allowed to be brought in to Guam 10 years ago, it is not possible now unless the state law on importation of frozen semen be amended. Getting replacement day-old chicks from Hawaii is still allowed.

No actions from the Guam Department of Agriculture and from the farmers.

Results

Inbreeding will continue to greatly affect the livestock population on Guam.

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	Actual
2011	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Availability and cost of livestock feeds are still one of main problems in farm sustainability on Guam. Imported feed costs are regularly increasing to the point where it is not affordable to the farmers anymore, making farms less productive and profitable. Eventually, this situation would discourage farmers to continue operate their farms.

What has been done

Continue the demonstration of utilizing local feeds and education of farmers on the great benefit of processing local feeds.

Results

Capital involved to start utilizing local feeds is a major constraint for farmers. Local materials maybe available but processing them to feeds include investments on buying dryers, grinders and time and labor on gathering the materials. One goat producer realized 50% savings by using local feedstuffs.

One goat producer realized saving at least 50% from utilizing processed local 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	Actual
2011	5

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Existing small-scale farms are barely surviving due to high production inputs and less market and demand on livestock products Guam. There is no specific information drive or campaign for livestock and poultry products except for the general "buy local products" concept.

What has been done

Every technical assistance is being provided to livestock and poultry producers in their operations. Educational materials and applied knowledge provided to them to help them make better decisions in their farm. Collaborated with other federal agencies to facilitate implementation of conservation programs in their farms.

Encourage farmers to seek grants and partnerships with agencies in solving their production issues.

Results

Requests for technical services and information from producers continue to reach my office. New clients are showing up for grant assistance applications.

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
806	Youth Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Government Regulations
- Other (Change in government leaders)

Brief Explanation

Artificial insemination would be the fastest, cheaper and less risk of disease entry to Guam compared to bringing in live animals. Due to current government regulations on importation frozen semen, the possibility of alleviating the effects of inbreeding for the producers is still beyond reach. And nobody seem to take action to amend the regulations or at least waive the requirements.

A slow economy affects the buying capacity of people, including roasted pigs or special dishes of chevon on parties. A complete package of a roast pig on a table would range from \$250 to \$500 while a market size meat goat would also cost \$200-\$300.

Local leadership in government changed for the past two years and priorities and programs in agriculture shifted differently from the previous administration.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

No data entered

Key Items of Evaluation

No data entered

V(A). Planned Program (Summary)

Program # 8

1. Name of the Planned Program

Global Food Security and Hunger

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
801	Individual and Family Resource Management	100%			
	Total	100%			

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2011	Extension		Research	
	1862	1890	1862	1890
Plan	0.9	0.0	0.0	0.0
Actual Paid Professional	0.0	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

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

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

V(D). Planned Program (Activity)

1. Brief description of the Activity

Not Applicable - This program was inadvertently entered in 2011 Plan of Work. This has since been corrected.

2. Brief description of the target audience

Not Applicable - This program was inadvertently entered in 2011 Plan of Work. This has since been corrected.

3. How was eXtension used?

Not Applicable - This program was inadvertently entered in 2011 Plan of Work. This has since been corrected.

V(E). Planned Program (Outputs)

1. Standard output measures

2011	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2011

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2011	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of workshops held.

Not reporting on this Output for this Annual Report

Output #2

Output Measure

- Number of Extension fact sheets/brochures/pamphlets.

Not reporting on this Output for this Annual Report

Output #3

Output Measure

- Number of One to One contacts/interventions.
Not reporting on this Output for this Annual Report

Output #4

Output Measure

- Number of multi-agency agriculture And/Or best management practiced demonstrations conducted.
Not reporting on this Output for this Annual Report

Output #5

Output Measure

- Number of media stories/articles in newsletters, magazines, newspapers or on TV.
Not reporting on this Output for this Annual Report

Output #6

Output Measure

- Number of collaborations: memorandums of understanding, cooperative agreements, joint demonstrations, and planned programs/grants with partner agencies and organizations.
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 producers/participants noting increase in knowledge and husbandry skills on recommended best management practices.
2	Number of producers/participants adopting recommended/demonstrated practices.
3	Number of producers/participants that decreased imported inputs by using local substitutes.
4	Number of local and off island agency and organization personnel adopting and/or utilizing curriculum materials developed under this plan of work.
5	Number of agencies/organizations that leveraged/or increased their outreach efforts by participating in this plan of work.

Outcome #1

1. Outcome Measures

Number of producers/participants noting increase in knowledge and husbandry skills on recommended best management practices.

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Number of producers/participants adopting recommended/demonstrated practices.

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

Number of producers/participants that decreased imported inputs by using local substitutes.

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

Number of local and off island agency and organization personnel adopting and/or utilizing curriculum materials developed under this plan of work.

Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

Number of agencies/organizations that leveraged/or increased their outreach efforts by participating in this plan of work.

Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Other (local government changes)

Brief Explanation

Not Applicable - This program was inadvertently entered in 2011 Plan of Work. This has since been corrected.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Not Applicable - This program was inadvertently entered in 2011 Plan of Work. This has since been corrected.

Key Items of Evaluation

Not Applicable - This program was inadvertently entered in 2011 Plan of Work. This has since been corrected.