

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Global Food Security and Hunger

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	10%			
104	Protect Soil from Harmful Effects of Natural Elements	5%			
125	Agroforestry	5%			
205	Plant Management Systems	20%			
302	Nutrient Utilization in Animals	10%			
307	Animal Management Systems	20%			
403	Waste Disposal, Recycling, and Reuse	3%			
601	Economics of Agricultural Production and Farm Management	20%			
608	Community Resource Planning and Development	2%			
806	Youth Development	5%			
	Total	100%			

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	2.3	0.0	0.0	0.0
Actual Paid	3.3	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
194231	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
97115	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

This plan of work is about developing local food production for our island communities. We addressed animal and plant production issues by networking with; the agricultural industry supply, professional support (government and private), and demand sectors through collaborative needs assessments, program planning efforts, curriculum development, demonstrations and public trainings. We have taken the approach that true food security in an island context involves engaging both small subsistence and home plots as well as developing a vigorous import substitution effort in terms of our food supply with our commercial producers and distributors. So we worked to develop home and community produced food as alternatives to imported food through farm, home, farming/gardening, and animal production programs thus increasing local food diversity and self reliance.

In the past year we conducted activities such as:

1. Conducted applied research and program demonstrations on campus, local farms and partner sites.
2. Conducted training workshops for local and regional animal, fruit, vegetable and aquaculture producers at campus and community facilities and on program demonstration sites. We also provided support to partner agency outreach efforts (field days and workshops) on farms and other venues.
3. Conducted field tours for animal producers, fruit and vegetable producers, youth groups, home gardeners, and visiting agricultural professionals on the program demonstration sites.
4. Strategic planning meetings were held with agriculture support agencies, farmer organizations, non government agencies/non profits, agricultural consultants and island leaders involved with food. We identified priorities for program development, grant funding and partnership building to address these priorities. Funded grants and partnership MOU's are a planned output of this POW, demonstrating capacity building through training, collaborative planning and presentation of needs.
5. To support partner agencies efforts and increase collaboration: a workshop was held on government incentive programs and funding opportunities for farmers and the community, a workshop was held on writing grants to address needs of the agriculture community, and a subregional conference was held on island agriculture infrastructure.
6. To increase the skills of island agricultural and food professionals we held shared curriculum development meetings and then train the trainer workshops on program curriculum prior to holding workshops at the demonstration sites for the general public.

2. Brief description of the target audience

Primary local clients will include former, existing and potential new plant and animal producers including home, small-scale subsistence level and home, school and community gardeners. Over the past decade, the Chamorro Land Trust Commission signed 1,000+ new agriculture land leases and the DoAg identified 300+ existing full and part time commercial and subsistence agricultural producers. Many producers possess limited resources and desperately need education and technical support programs. Additionally, village based needs assessments indicate that there are hundreds if not thousands of local homeowners and community groups that want training in sustainable food production practices so this effort is being adapted to include them. Also identified, is a strong desire among many of our community leaders to start community gardens so this is now one target group.

The secondary target audience are the agricultural and food professional (both plant and animal) communities on Guam. This program is a collaborative effort to build capacity and enhance performance of Guam's Cooperative Extension Ag professionals and partner agencies and groups so they can better identify issues and mobilize resources to provide broader technical assistance. The Micronesian Chefs Association and Guam Community College Culinary program faculty are strong supporters of this program's efforts. Ag professionals with partner land grant programs throughout the American Affiliated Pacific have requested assistance. Regional workshops will address these requests.

The tertiary target group is island youth and youth program professionals. The youth target population includes students, youth interested in entrepreneurial agricultural activities, and clients of mayors' offices interested in small scale and community agricultural activities.

A fourth audience is the University of Guam agricultural student cohort. The demonstration farms are utilized as a laboratory and classroom for students enrolled in agriculture courses (Introduction to Agriculture and Introduction to Animal Science, Introduction to Aquaculture and other courses).

3. How was eXtension used?

eXtension was used to identify program materials developed in other states that can be used in our education outreach efforts. We took the approach that there is no need to reinvent the wheel, where we could use another state's publication as resource materials for our clients we did so. In other cases we utilized these materials as information in developing Guam specific outreach materials.

V(E). Planned Program (Outputs)

1. Standard output measures

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	5765	17300	595	1000

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

Year: 2014

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # of workshops or conferences

Year	Actual
2014	15

Output #2

Output Measure

- # of applied research and best management practice demonstrations conducted on farms or institutional sites

Year	Actual
2014	6

Output #3

Output Measure

- # of one to one contacts

Year	Actual
2014	1310

Output #4

Output Measure

- # of popular articles in newsletters, magazines and newspapers

Year	Actual
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2014 3

Output #5

Output Measure

- # of extension publications and presentations (fact sheets, white papers, web-based learning modules, etc.)

Year	Actual
2014	6

Output #6

Output Measure

- # of research and extension advisory councils and boards

Year	Actual
2014	8

Output #7

Output Measure

- # of workshop curriculum developed and piloted with agricultural professionals

Year	Actual
2014	18

Output #8

Output Measure

- # adults participating in food system knowledge and skill enhancement programs

Year	Actual
2014	465

Output #9

Output Measure

- # of either: Memorandums of Understanding, cooperative agreements, partnerships, or shared demonstrations initiated or continued

Year	Actual
2014	8

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	# of program participants indicating adoption of recommended program practices, activities, and technology
2	# of producers practicing regular replacements of broodstocks (medium term)
3	# of producers decreasing imported ag production inputs
4	# of program participants indicating improved knowledge and skills of recommended practices
5	# of community strategic plans and policies implemented as a result of this program
6	# of 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 program participants indicating adoption of recommended program practices, activities, and technology

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	280

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In many cases we provide training and information but never know if it is used as there is little site visits for follow up. We can only report on what we are told or actually have the chance to observe.

What has been done

When we conduct workshops we include questions asking if the individual now plans on changing their practices or try something new. We also not on repeat farm visits if recommendations were followed.

Results

Roughly 60% of the workshop participants indicate on the postworkshop evaluations that they will change their behavior or try something new based on our recommendations. This translates into into roughly 280 people changing their behavior or trying one of the recommendations.

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
302	Nutrient Utilization in Animals
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 #2

1. Outcome Measures

of producers practicing regular replacements of broodstocks (medium term)

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

of producers decreasing imported ag production inputs

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	101

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Soil ammendments like imported manure, compost, potting soil and other sources of organic are expnesive inputs to farms, gardens and container production. These imported materials are also a source of invasive species. We are working to develop local sources of organic matter for our soils.

What has been done

A "Green waste to farms and gardens, not the landfill" demonstrations program was run over the past several years.

Also promotion of using shredded paper and cardboard as mulch has been a key workshop topic.

Results

In this reporting period 4 distribution days and several delivery to community/school garden sites were conducted. Over 61 individuals picked up at least 1.5 cubic yards of mulch (some multiple loads), and 18 community/school garden sites received deliveries (of 1.5 to 8 cubic yards), at a average cost of \$20 a cubic yard. This is less than the cost of a bag of sunshine mix or 3 bags of chicken manure that is imported. The demand for local mulch and compost was proven to be huge. Local entrepreneurs are now taking up this enterprise and running with it.

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
403	Waste Disposal, Recycling, and Reuse
601	Economics of Agricultural Production and Farm Management
608	Community Resource Planning and Development

Outcome #4

1. Outcome Measures

of program participants indicating improved knowledge and skills of recommended practices

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	350

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

It is difficult to know how much actual knowledge is gained from the one on one contacts so we are not reporting on this this year. But in our workshops we we ask them about knowledge gained.

What has been done

On the evaluations we ask to assess the level of their knowledge on the target subject at the beginning of the workshop. We also ask them to assess their knowledge at the end of the workshop. We get an approximate average of 75% of the participants indicating a knowledge gain.

Results

for the workshops this translates into around 450 individuals. But these numbers are actually much higher because of the thousands we provide one on one training that we didn't assess the gain in knowledge on.

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
302	Nutrient Utilization in Animals
307	Animal Management Systems
403	Waste Disposal, Recycling, and Reuse
601	Economics of Agricultural Production and Farm Management
806	Youth Development

Outcome #5

1. Outcome Measures

of community strategic plans and policies implemented as a result of this program

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Cooperative Farmers Association of Guam (Co-Op) lacked funds for key coop/market manager position, farmers market, supporting infrastructure to promote buying of local produce.

What has been done

Based on the strategic plan developed for them by University of Guam Cooperative Extension (UOG CES) two laws were created in previous years that: Awarded the Co-Op 180,000 to hire market manager and buy key equipment and second law to fund the building of a new Farmers Market Facility. During this year UOG CES assisted the Co-Op in internal structural issues and in developing plans to support these two effort.

Results

Co-Op is advertising for Co-OP manager/market manager and preparing grant for new facility. This is the result of one strategic partnership between UOG CES, the Farmers and the legislature.

UOG CES has also partnered with the NonCommuncable Disease Consortium and the Guam Department of Education to set up school gardens. The purpose is to increase elementary school childrens' familiarity with fruits and vegetables.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
601	Economics of Agricultural Production and Farm Management
608	Community Resource Planning and Development
806	Youth Development

Outcome #6

1. Outcome Measures

of 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
2014	21

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Strong desire for school and community gardens. Teachers and others promoting this do not have knowledge of gardening practices.

What has been done

New Farmer Curriculum was adapted to an 8 module (2 hours each) gardening curriculum. Extension personnel in 4H, Nutrition and childhood obesity prevention were trained in use of this curriculum.

Results

These trained teachers to use these materials through workshops. Now many school teachers are using these materials as well. There are now many school and home gardens started by people trained in this new curriculum.

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
403	Waste Disposal, Recycling, and Reuse
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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
- Other (Change in government leaders)

Brief Explanation

The change in government regulation (amended importation law on cattle to Guam) can now alleviate the issue of cattle inbreeding. Local producers can now buy cattle broodstocks from Saipan to cross-breed with the local cattle population.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Evaluations were conducted at all workshops.
Most indicate both knowledge and attitude/behavior change.

Key Items of Evaluation

Strong interest in more value added procession workshops.
Farmers want more produce marketing alternatives (selling is more difficult than growing for them).
Want more programs to provide low cost local organic matter for soil amendments.
Farmers would like more new planting materials/recommendations.