

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

**Program # 7**

**1. Name of the Planned Program**

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

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

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

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

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

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

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

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

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

### 1. Brief description of the Activity

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

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

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

### 2. Brief description of the target audience

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

## V(E). Planned Program (Outputs)

### 1. Standard output measures

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

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

#### Patent Applications Submitted

Year: 2010

Plan: 0

Actual: 0

#### Patents listed

### 3. Publications (Standard General Output Measure)

#### Number of Peer Reviewed Publications

2010	Extension	Research	Total
<b>Plan</b>	0	0	
<b>Actual</b>	0	0	0

## V(F). State Defined Outputs

### Output Target

#### Output #1

##### Output Measure

- # of workshops

Year	Target	Actual
2010	4	5

#### Output #2

##### Output Measure

- # of extension publications

Year	Target	Actual
2010	2	1

#### Output #3

##### Output Measure

- # of field trips

Year	Target	Actual
2010	4	5

#### Output #4

##### Output Measure

- # of applied research conducted in demonstration site

Year	Target	Actual
2010	2	2

#### Output #5

##### Output Measure

- # of visitors

Year	Target	Actual
2010	150	200

**Output #6**

**Output Measure**

- # of one to one contacts

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2010	100	130

**Output #7**

**Output Measure**

- # of request for animal displays

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2010	5	6

**Output #8**

**Output Measure**

- # of 4-H / Military Kids programs conducted at site  
Not reporting on this Output for this Annual Report

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	# of producers increasing in knowledge and husbandry skills on an integrated to approach to animal and plant farm operations (short term)
2	# of producers adopting demonstrated practices
3	# of producers practicing regular replacements of broodstocks (medium term)
4	# of producers decreasing in feeding imported commercial feeds (medium term)
5	% increase in sustainable small-scale farms (long term)

## **Outcome #1**

### **1. Outcome Measures**

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

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

- 1862 Extension

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

Change in Knowledge Outcome Measure

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

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2010	50	25

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

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

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

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

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

#### **Results**

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

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

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

## **Outcome #2**

### **1. Outcome Measures**

# of producers adopting demonstrated practices

Not Reporting on this Outcome Measure

## **Outcome #3**

### **1. Outcome Measures**

# of producers practicing regular replacements of broodstocks (medium term)

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

- 1862 Extension

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

Change in Knowledge Outcome Measure

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

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2010	40	30

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

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

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

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

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

#### **Results**

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

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

<b>KA Code</b>	<b>Knowledge Area</b>
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**

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2010	45	20

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

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

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

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

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

#### **Results**

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

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

<b>KA Code</b>	<b>Knowledge Area</b>
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**

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2010	10	7

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

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

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

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

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

#### **Results**

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

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

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

## **V(H). Planned Program (External Factors)**

### **External factors which affected outcomes**

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

### **Brief Explanation**

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

### **1. Evaluation Studies Planned**

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

### **Evaluation Results**

### **Key Items of Evaluation**