

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

**Program # 2**

**1. Name of the Planned Program**

Global Food Security and Hunger: Livestock Improvement Program

Reporting on this Program

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

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
303	Genetic Improvement of Animals	40%		0%	
307	Animal Management Systems	40%		0%	
311	Animal Diseases	5%		0%	
312	External Parasites and Pests of Animals	5%		0%	
313	Internal Parasites in Animals	5%		0%	
902	Administration of Projects and Programs	5%		0%	
	<b>Total</b>	100%		0%	

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

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	1.0	0.0	1.0	0.0
Actual Paid Professional	0.5	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
51390	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**

The NMC-CREES Livestock Improvement Program aims to develop educational and capacity building programs that support and encourage livestock producers, contributing to the sustainability and financial viability of their operations. Our program uses a variety of methods and venues that serve to gather and disseminate information to livestock producers, to include, technical assistance, demonstrations, workshops, field days, and locally appropriate research studies related to breed improvement, pasture management, feed processing, animal health, disease management, meat processing and value adding, herd surveys, waste management, and marketing. Although this program works with individuals and associations involved in livestock production, the goals of the program help to contribute to local and regional improvements in food security, access to fresh meats and proteins, increased agricultural commerce, and the adaptability of local agriculture to the affects of climate change.

**2. Brief description of the target audience**

\*Youth and adult agencies   \*Leaders   \*Ranchers/farmers   \*Retirees looking at new investment   \*Livestock producers   \*Entrepreneurs   \*Government

**3. How was eXtension used?**

eXtension was not used in this program

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

**1. Standard output measures**

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	80	20	50	25

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

**Patent Applications Submitted**

Year: 2013  
Actual: 0

**Patents listed**

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

**Number of Peer Reviewed Publications**

2013	Extension	Research	Total
<b>Actual</b>	0	0	0

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Number of Research projects on Animal Diseases and management, Animal genetic upgrading, Animal nutrition, and Animal science

<b>Year</b>	<b>Actual</b>
2013	1

**Output #2**

**Output Measure**

- Number of Workshops and professional development trainings for livestock program (Production, Animal Health, etc.)and sustainable agriculture program

<b>Year</b>	<b>Actual</b>
2013	9

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

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

O. No.	OUTCOME NAME
1	Numbers of clients adopted livestock best management practices as well as sustainable agriculture that resulted to creation of alternative livestock enterprise
2	Numbers of new client gained knowledge and skills about animal science, production, health and management, animal husbandry and sustainable agriculture

## **Outcome #1**

### **1. Outcome Measures**

Numbers of clients adopted livestock best management practices as well as sustainable agriculture that resulted to creation of alternative livestock enterprise

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

- 1862 Extension
- 1862 Research

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

Change in Condition Outcome Measure

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

<b>Year</b>	<b>Actual</b>
2013	25

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

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

Livestock Production is an important component of our local food systems. Livestock producers provide our communities with access to fresh meats that would otherwise not be available to the general public, due to the sheer distance from our islands to the Mainland USA. Many livestock producers have structured their production systems, based on outdated and unsustainable management practices, resulting in losses to production and created the threat of environmental damage.

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

The NMC-CREES Livestock Improvement Program has been working in partnership with the University of Hawaii, University of Guam, and University of the Virgin Islands, and many other partners to conduct a series of training and capacity building opportunities for farmers in the CNMI and Guam, which has come to be known as the "Marianas Grazing Academy". We set up farmer advisory councils and met with producers throughout the region to guide our program planning efforts. We have developed the first publicly supported artificial insemination program for cattle, established grass and leuceana demonstration and research plots, and conducted workshops and field days on a variety of livestock production topics.

The NMC-CREES livestock Improvement program employs a variety of evaluation tools to assess our programs, to include pre and post-surveys, herd and livestock surveys, areas under pasture, pasture and legume data collection, numbers of clients applying and receiving EQIP and FSA funding, amount of USDA dollars applied for and spent on conservation practices, numbers of waste management systems constructed, number of clients adopting BEST management practices (such as composting), pre and post-tests, interviews, advisory councils, and direct and indirect client contact numbers.

## Results

Through the collection and analysis of data collected through a variety of methods, our program has observed increases in livestock production, pastured areas, meat processing activity and businesses, legislative support (imports to Guam), and increases in the interest levels of farmers in adopting BEST management practices, such as, weed suppression, pasture management, animal health, biomass and forage improvement, breed improvement, animal waste management, and overall community support for sustainable livestock production in the CNMI.

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
303	Genetic Improvement of Animals
307	Animal Management Systems
311	Animal Diseases
312	External Parasites and Pests of Animals
313	Internal Parasites in Animals
902	Administration of Projects and Programs

### Outcome #2

#### 1. Outcome Measures

Numbers of new client gained knowledge and skills about animal science, production, health and management, animal husbandry and sustainable agriculture

#### 2. Associated Institution Types

- 1862 Extension
- 1862 Research

#### 3a. Outcome Type:

Change in Knowledge Outcome Measure

#### 3b. Quantitative Outcome

Year	Actual
2013	100

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

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

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

### **Brief Explanation**

## **V(I). Planned Program (Evaluation Studies)**

### **Evaluation Results**

Extension agents have been effective at improving grazing strategies through the promotion of rotational grazing. In addition to time and labor saved on managing weeds by using rotational grazing, farmers have reported that cattle grow faster due to the increased nutrition associated with rotational grazing. This has resulted in greater beef yields than previously observed.

As a result of extension agents, dragon fruit production has been introduced and is being done by several farmers. Programming has resulted in increased use of sustainable agriculture methods as well as increased farm income due to increased crop production. The latter helps to improve the overall economic condition of the CNMI while providing healthier food choices.

### **Key Items of Evaluation**

There is a need to recategorize the rotational grazing outcome for next reporting season.