

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

#### Program # 2

##### 1. Name of the Planned Program

Global Food Security and Hunger: Sustainable Agriculture

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
111	Conservation and Efficient Use of Water	20%			
205	Plant Management Systems	20%			
307	Animal Management Systems	20%			
403	Waste Disposal, Recycling, and Reuse	20%			
601	Economics of Agricultural Production and Farm Management	20%			
	<b>Total</b>	100%			

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

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

Year: 2014	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	4.1	0.0	0.0	0.0
<b>Actual Paid</b>	3.6	0.0	0.0	0.0
<b>Actual Volunteer</b>	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
100000	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
50000	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
100000	0	0	0

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

**1. Brief description of the Activity**

1. Shortcourses, workshops, and demonstrations were conducted to disseminate information about recommended, research-based sustainable production practices, including composting, drip irrigation, etc.

2. Announcements were made through the print and electronic media to promote educational activities and disseminate information about sustainable agricultural practices.

3. Farm visits and telephone contacts were made to address clientele problems and to disseminate information about the program.

4. Workshops and other projects were conducted in partnership with other entities to implement strategies to increase farm water supply and enhance the efficient use of this resource.

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

The program's general target audience consisted of crop and livestock producers, outreach professionals from government and academic institutions, students, and young adults who aspire to be farmers. The primary audience was farmers who are typically socially disadvantaged, limited resource individuals who lack the necessary technical training, technological tools, and infrastructure for optimum farm production.

**3. How was eXtension used?**

eXtension was not used in this program

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

**1. Standard output measures**

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	365	3000	20	150

**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**

<b>2014</b>	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Actual</b>	0	0	0

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

**Output Target**

**Output #1**

**Output Measure**

- Number of shortcourses, workshops, demonstrations, annual fairs and exhibits

<b>Year</b>	<b>Actual</b>
2014	4

**Output #2**

**Output Measure**

- Number of publications

<b>Year</b>	<b>Actual</b>
2014	0

**Output #3**

**Output Measure**

- Number of announcements through print and electronic media

<b>Year</b>	<b>Actual</b>
2014	4

**Output #4**

**Output Measure**

- Number of farm visits and telephone contacts

<b>Year</b>	<b>Actual</b>
2014	98

**Output #5**

**Output Measure**

- Projects to increase farm water supply and water use efficiency

<b>Year</b>	<b>Actual</b>
2014	0

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

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

O. No.	OUTCOME NAME
1	Increase the number of farmers who use sustainable agriculture practices by 5%
2	Increase the number of farmers who utilize value added strategies by 10%
3	Increase the number of producers who adopt practices to enhance water use efficiency by 10%
4	Increase the number of farmers who conduct or enhance recordkeeping practices by 10%
5	Increase the number of agricultural professionals and farm mentors trained in sustainable GAP by 5%.

## **Outcome #1**

### **1. Outcome Measures**

Increase the number of farmers who use sustainable agriculture practices by 5%

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

- 1862 Extension

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

Change in Condition Outcome Measure

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

<b>Year</b>	<b>Actual</b>
2014	365

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

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

The average age of farmers in the VI is approximately fifty-five (55) years. Some existing farmers still rely on practices that are unsustainable. They need to be educated in current best management practices.

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

The Beginning Farmer Training Program provided opportunities for new and experienced farmers to receive training in crop and livestock production. The goal of the program was to train new farmers in the fundamentals of production and to build capacity within the agriculture community. Three short courses were offered on St. Thomas; Computerized Farm Financial Record Keeping, Tropical Fruit Production, and Marketing. The UVI Small Business Development Center staff provided training on the rudiments of selling products in the market place. AES and the VI Department of Agriculture staff conducted a six (6) week course on the production of such tropical fruits as coconut, bananas, carambola, avocado, and mango.

CES partnered with the VI Department of Agriculture, and the Cruzan Beekeeping Network to host the 7th Caribbean Beekeeping Congress and the 2nd Caribbean Beekeeping College at the Albert Sheen campus. Researchers, educators, commercial and backyard beekeepers from 13 countries, 5 states and all 3 Virgin Islands spent one week educating and being educated on the art and science of apiculture (beekeeping) in the Caribbean.

The 50th annual meeting of the Caribbean Food Crop Society was held at the Sugar Bay Resort and Spa on St. Thomas. Over 150 research scientists, scholars, extension educators and local and regional farmers participated in the largest gathering of agriculture professionals in the Caribbean.

Farmers on St. Thomas and St. Croix received information on the National Organic Standards Program and Organic production from two nationally recognized experts in that area of agriculture.

Farmers on both islands also attended a seminar on the benefits of establishing a farmers cooperative and networking with other farmers and farm organizations.

### **Results**

Approximately eighteen (18) individuals increased their knowledge of the fundamentals of fruit production. Sixteen (16) individuals became more aware of best practices for marketing commodities.

Eighty-eight (88) registered individuals increased their knowledge and awareness of such subjects as Natural Beekeeping, Caribbean Honey Bee Health Report, Africanized Honeybee Emergency Management, Bee Pests and Diseases and many more subjects.

Over seven (7) days, participants increased their knowledge and awareness of the latest advances in tropical food production, management, processing and distribution in the Caribbean.

Twenty-seven (27) farmers on St. Thomas participated in the Vegetable Production short course where attendees received theoretical and practical training in producing economically popular vegetables.

Farmers on St. Croix completed the Tropical Fruit Production Course where attendees received practical and theoretical training in producing popular and potentially economically viable tropical fruit.

Six (6) farmers received an introductory course in Pesticide Safety Education. This class is the prerequisite course for taking the pesticide certification course. Two of the six farmers have signed up for the next certification exam.

On St. Croix, 25 farmers completed the Computerized Farm Financial Planning and Record keeping short course where attendees gained practical experience in creating crop budgets and planting schedules.

Thirty-seven (37) farmers on St. Thomas received a CD with the national organic standards and other documents necessary to have a certified organic farm.

Twenty-three (23) farmers on St. Thomas received firsthand knowledge on cooperatives from a well-known retired professor and organic farmer from Southern University, Dr. Owosu Bendele.

## **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
111	Conservation and Efficient Use of Water
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**

Increase the number of farmers who utilize value added strategies by 10%

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

- 1862 Extension

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

Change in Knowledge Outcome Measure

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

<b>Year</b>	<b>Actual</b>
2014	300

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

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

Because of over planting of crops, and/or the inability to sell all of the crops or livestock, farmers at times have decide what to do with the surplus. They have several options including dumping, giving it away, composting, or adding value to the product and sell it in a different form. The later has the potential of increasing the overall income of that farmer. It also brings to the market place more choices for the consumer.

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

During the annual World Food Day event, selected crops and livestock were featured through demonstrations and educational opportunities for the general public. Cucurbits, avocado, and tilapia were the featured commodities this year. Along with the production seminars, there were classes in which participants observed post-harvest processing and handling such as cooking, drink making, baking, preserving and drying of one or more of the featured commodities.

Additionally, the annual Mango Melee and Tropical Fruit Festival, along with two agriculture and food fairs were used for the dissemination and display of value added information, demonstrations, and products.

Monitoring local food production is important in order to stay abreast of what is happening in our farming community.

#### **Results**

Approximately 300 farmers, agriculture professionals, home gardeners, and other residents learned how to grow and maintain cucurbits, and avocado trees and were provide with handouts on each subject. They also became more aware of the potential for increased income by converting unsold crops into value-added products. Participants also learn sustainable ways to raise and manage tilapia.

Thousands of residents increased their knowledge of the various uses and ways of preparing value-added products from mango and other tropical fruits at Mango Melee and tropical fruit festival. They also became aware of the various flavors of different types of mangoes.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
205	Plant Management Systems
307	Animal Management Systems
601	Economics of Agricultural Production and Farm Management

#### Outcome #3

##### 1. Outcome Measures

Increase the number of producers who adopt practices to enhance water use efficiency by 10%

Not Reporting on this Outcome Measure

#### Outcome #4

##### 1. Outcome Measures

Increase the number of farmers who conduct or enhance recordkeeping practices by 10%

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2014	44

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

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

Natural and man-made disasters occur each year in the Virgin Islands. In providing assistance from both federal and local agencies, production records of activity prior to the disaster are

required in order to qualify for aid. If a farmer wants to borrow money for expansion, he/she is required to produce documentation of the farms profitability. However, many farmers fail to keep proper records and in some instance no records at all and thus disqualifying them from disaster aid and/or denying them the opportunity to expand their operations.

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

The Beginning Farmer Training Program provided opportunities for new and experienced farmers to receive training in crop and livestock production. Computerized Farm Financial Record Keeping shortcourse was offered.

#### **Results**

Nineteen (19) farmers on St. Thomas and 25 on St. Croix participated in a six-week short course designed to increase their knowledge of the importance of recordkeeping. The Computerized Farm Recordkeeping Short course introduced participants to the use of Quicken software as a means of managing the farm expenses.

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

<b>KA Code</b>	<b>Knowledge Area</b>
205	Plant Management Systems
307	Animal Management Systems
601	Economics of Agricultural Production and Farm Management

#### **Outcome #5**

##### **1. Outcome Measures**

Increase the number of agricultural professionals and farm mentors trained in sustainable GAP by 5%.

Not Reporting on this Outcome Measure

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

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

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Public Policy changes
- Government Regulations
- Competing Public priorities

##### **Brief Explanation**

The external factors listed can seriously affect the outcomes of the program. Natural disasters negatively impact life in the islands. Priorities of the government as determined by the economy, policy changes and regulations will determine priorities for funding.

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

### **Evaluation Results**

Information regarding knowledge gained and change in behavior was collected using online surveys. The responses indicated 96% increased their knowledge, 74% positively changed their attitude, and 92% improved their skills.

### **Key Items of Evaluation**