

2018 University of the Virgin Islands Combined Research and Extension Annual Report of Accomplishments and Results

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I. Report Overview

1. Executive Summary

Fiscal year 2018 was a year of recovery from total devastation of the Virgin Islands caused by the passage of two category 5 hurricanes (Irma and Maria) during September 2017. All of our programs were significantly affected. Facilities were severely damaged or destroyed. During this year, we have made some progress towards recovery but we still have a long way to go, on the road to full recovery.

The merger of Agricultural Experiment Station (AES) and Cooperative Extension Service (CES) under one administrative head (Dean/Director AES/CES) saw some progress towards its implementation. It was scheduled for October 1, 2018 but did not happen by that date.

Because of the extreme damage to the Agricultural Experiment Station (AES) field facilities on the Albert A Sheen campus on St Croix from the category 5 storm in September 2017 (Hurricane Maria) much of the year was spent cleaning up debris and assessing damage. Debris clean up began in early October 2018 and continued through December 2018. There has been little rebuilding as we are still waiting on either insurance for FEMA funds.

Several research programs in AES had significant damage to all or some of their field facilities. The Animal Science program lost a barn/office building, several storage sheds, had damage to animal pens and pasture fences, and lost 45 sheep (adults and lambs) either during the storm or in the immediate aftermath. Small power equipment (chain saw, weed eaters, pole saw, gas cans) was stolen immediately after the storm and had to be replaced for use in clean-up and recovery. The six greenhouses and a shade house that were used by the Agronomy, Biotechnology & Agroforestry and Horticulture & Aquaculture programs were all destroyed and now have very limited use. Several fish tanks and aquaponics systems were destroyed. The main storage building had a section of the roof blown off and the interior suffered water damage. The perimeter fence of the AES Field Research facility was totally destroyed and after the storm this led to thefts from storage rooms as security was severely compromised. At the Beef Cattle Research Facility pasture fences and animal holding pens were damaged, several shed/pole barns were destroyed but there was no loss of animals.

Buildings housing AES offices and labs had little damage, but there was some. There was minor water incursion into some rooms due to the roof being compromised. The lack of public utility power made it necessary to use the campus generators to provide power to campus buildings, but even this had issues with fuel supply and generator breakdowns. Some lab equipment was damaged in the aftermath because of power fluctuations and lack of continuous air conditioning, which led to mold build up in some rooms. AES administration is still working with UVI Campus Operations and FEMA to develop scopes of work for recovery/repair/mitigation plans. To date the only project that has moved forward is the perimeter fence that ties into the campus perimeter fencing. Other projects are being prioritized and awaiting approval by Campus Operations and/or FEMA before progress can be made.

In spite of the damage to our research facilities, AES was able to carry on with some activities. A student attended a summer internship at the University of Guam in the summer of 2018. This activity was supported by a grant from the US Department of Agriculture - National Institute of Food and Agriculture (USDA-NIFA) Resident Instruction in the Insular Areas program. In addition, four students were mentored in AES labs while conducting research during 2018. The students worked in Biotechnology, Horticulture and Aquaculture. Students were supported by funds received from a USDA-NIFA Resident Instruction in the Insular Areas grant. Funds from this grant were also used to support Research Day on the St Croix

campus, which is an event that highlights faculty and student research from all colleges at UVI. Funds were used to promote the event, print the program and transport local public and private school students to the event on campus. Three students were supported for a week long educational tour of the University of Florida Institute of Food and Agriculture Sciences campus and off campus research facilities in March 2018. The students made a presentation to UVI students and faculty after their return.

The Animal Science program of AES was unable to conduct any research because of the damage to the sheep and cattle facilities. Efforts were made to maintain the general management, breeding and lambing program in the sheep flock to build up animal numbers again. The cattle herd was also managed to maintain the breeding and calving with minimal production data collected.

The economic challenges of the U.S. Virgin Islands continued. They were exacerbated by the destruction caused by the two category 5 hurricanes, Irma and Maria. The jobs created for recovery projects funded by FEMA caused a reduction in the unemployment rates in the territory. The unemployment rates were approaching 20% immediately following the storms due to many businesses being closed. As recovery work begun the unemployment rates began to drop as recovery related jobs, primarily funded by FEMA, became available. The overall unemployment rate ranged from 17.0 to 7.2%, with the district of St. Thomas having the highest level of 18.5% to 7.8%. The territory was already facing a financial crisis due to a very high debt level and a structural budget deficit before the hurricanes. Following the storms, it became worse.

As a result of this, residents continue to be desirous of developing new marketable skills, enhancing their current skill levels and reducing their food bill by growing some of the food they consume. Food security became a priority. The Cooperative Extension Service responded by providing short courses, workshops, and demonstrations so residents acquired new skills and improved their abilities for future employment, including self-employment. The programs planned and executed by the Cooperative Extension Service were designed to transform the lives of Virgin Islanders by addressing workforce development, the high unemployment rate and cost of living. A total of 81 short courses, 172 workshops, and 40 demonstrations were conducted for residents. The Cooperative Extension Service co-sponsored major outreach and educational events including the VI Agriculture and Food Fair, Mango Melee and Tropical Fruit Festival and World Food Day observance. Staff made local media appearances on radio and TV stations.

The Virgin Islands Cooperative Extension Service reached most of its projected goals and objectives. Responses from our clientele indicated that the training initiatives, exhibits, workshops, short courses, and other outreach efforts positively impacted the lives of Virgin Islands residents. Through these activities, the CES staff engaged a significant percentage of Virgin Islanders and awarded 667 certificates of program completion to clientele.

The programs under Food Security promoted the revival of agriculture production and recommended recovery and resiliency strategies for improvements in the capacity to address food security issues by endeavoring to meet the growing demand for food grown locally in the Virgin Islands.

The small livestock and beef production program conducted workshops, demonstrations, and training to help farmers develop their pastures as they tried to recover from the major devastation they experienced. Producers were also given training in management of their flocks. Animal identification continued to be demonstrated to farmers to assist them in identifying their animals for better management practices. Three improved pastures that were established during the previous years were rehabilitated and monitored. These pastures are contributing to the recovery efforts for increasing animal productivity and the incomes of the livestock enterprises.

The Sustainable Agriculture Program conducted short courses, workshops, and demonstrations to inform producers about sustainable agricultural practices including composting, micro-irrigation, and soil conservation. The demonstration gardens on both islands were destroyed. The garden on St. Thomas was rehabilitated then continued to be an attraction for farmers, visitors, and students to be informed about good agricultural practices. The St. Thomas garden was in even more demand this year for cruise ship visitors who came to learn about local tropical fruits, culinary and medicinal herbs and sustainable gardening practices.

The Urban Gardening Program conducted classes, workshops and demonstrations to educate and inform

the public about how to create gardens, proper garden management, and low-cost efficient technology practices and principles in gardening. Some residents regularly inform us of the savings they experienced in their monthly household grocery bill as a result of producing vegetables in their home gardens.

The Urban Forestry Program assisted local residents in the proper restoration and maintenance of trees in public places. Arborist training was conducted in both districts. These workshops provided knowledge on restoring trees damaged by storms. The topics also included proper pruning techniques, introduction to arboriculture equipment, deciding when to remove a tree and the importance of native trees. Technical advice was provided to the entities that were involved in reforesting the beaches of the Virgin Islands to welcome back cruise lines and their passengers.

Projects under Climate Variability and Change provided knowledge to help develop an agricultural system that maintains high productivity in conditions of climate changes. These programs assisted the producers to plan for and make decisions to adapt to changing environments and sustain economic vitality.

The Natural Resource and Environmental Management Program facilitated the interaction of community groups and leaders to address resource conservation and management issues, pollution prevention and the establishment of an eco-tourism industry based on the incorporation of the Virgin Islands natural and cultural history along with low-impact tourism concepts. The Water Quality Program continued to focus on transmitting information on water quality protection. Workshops and demonstrations on the use of non-toxic household products were given to schools, corporate groups, government agencies and the general public. Major outreach efforts were conducted and media appearance made following the storms to educate the public about water quality and healthy homes to assist them in recovery activities. CES continued to promote the implementation of best management practices to protect water quality at coastal public parks, hotels, and large sub-divisions with intensive coastal and offshore resources.

Programs in the Childhood Obesity Prevention area provided guidance so that individuals and families can make informed, science-based decisions about their health and well-being. The programs promoted nutritious foods that are affordable and easily available.

The nutrition program developed culturally-sensitive nutrition and health related products and resources that were made available to professionals, students, and the general public. There have been positive indicators relative to improvement related to children and their families' awareness of the importance of healthy lifestyles in the prevention of childhood obesity. The Healthy Living Grant recruited and trained 231 teens and teachers and provided four healthy living lessons for 2,111 youth. There were positive responses and involvement from children who acquired knowledge about healthy living and healthy lifestyles. Children gained knowledge on healthy eating and the importance of physical activity.

The Food Safety programs intended to reduce the incidence of food borne illnesses and provide a safer food supply by educating consumers and food safety professionals on developing food-processing techniques to improve safety. The food safety program focused its attention on the importance of safe handling practices in the preparation by food vendors as well as educating low-income families about basic nutrition and behavior change practices. Basic food safety information was disseminated through classes, demonstrations, experiential activities and lectures. The EFNEP program continues to target low-income, at-risk clientele. Low-income individuals enrolled in EFNEP were educated about the importance of proper hygiene, food storage and preparation, and food handling to prevent food borne illness. The food safety program continued to evaluate the results of its activities, which showed that the children who received information continued to improve on their knowledge gained.

The 4-H Youth and Volunteer Development program continued to recruit and develop volunteers to lead and establish 4-H clubs in the community. Two community-based clubs and three school-based clubs were established.

The Computer Training and Technology program continued to positively impact the Virgin Islands community. Class participants utilized the knowledge and skills gained from the computer literacy classes to help them acquire new skills for job placement and to advance in their present career. A total of 148 persons graduated from the computer classes and received certificates to assist in future employment. The Marketable Skills program continued to train residents in the art of Batik making, clothing construction, and designing pillows, towels and other items for sale to the tourist industry. This program has taught skills, which helped the clientele to generate income by being able to sell products, that they made, to the

local community and to tourists.

CES staff were all personally affected by the hurricanes and the university sustained severe damage but we were still able to respond and assist our clients and the community/territory in recovery efforts. Staff helped develop post-hurricane plans for restoring damaged/destroyed vegetation in VI coastal recreational areas in partnership with local government agencies, community groups, businesses (including Royal Caribbean Cruise Line) and other UVI partners. Our recommendations were incorporated into a plan to restore severely damaged vegetation at the Magens Bay Territorial Park; perhaps the most visited beach and recreational area in the Virgin Islands. Located on St. Thomas, Magens Bay is considered to be the premier Caribbean "shore recreational area" by Royal Caribbean Cruise Line executives who funded much of the project, assisted by Fairchild Tropical Gardens, with the goal of "jump starting" VI tourism by bringing over 1,000 visitors per day to the park. The project was completed in time for the park to receive the first post-storm cruise ship visits and stimulate the islands' tourism-based economy.

Our staff joined an ad-hoc advisory committee including a number of local and federal agencies along with non-profit organizations to develop a plan for recycling the large amounts vegetative/wood waste debris left by the hurricanes. Selected fallen trees were set aside for VI woodworkers. Other wood waste was converted to mulch that was made available for distribution. We helped recruit thousands of recipients for the mulch (park managers, hotel personnel, farmers and the general public).

Clients and other residents were educated about trying to eat healthy even though the food distributed was unhealthy. 4-H Health Ambassadors shared teen-friendly, healthy recipes that could be prepared using MRE's and other items received from the distribution centers.

The marketable skills classes on St. Thomas became support groups for the participants where they helped each other and spoke about their experiences during and after the storms.

4-H Ambassadors assisted a fellow member who lost his home and they joined V.I. National Guard volunteers to assist at a food distribution center. Educational presentations on hurricane preparedness were made to 4-H members, parents and their families by the local disaster management agency and the American Red Cross.

CES staff organized focus groups and health assessments post-storms. Participants received free water testing and water filters. The focus groups also explained the importance of mental, community and cistern health post-storms. We worked with Rotary Clubs and other partners to distribute more than 11,000 water filters. We also collected and distributed supplies including water filters, solar chargers, books and school supplies for more than 200 schoolchildren and teachers.

Staff coordinated and collaborated on a water quality lab for 'Love City Strong' organization, in St. John, which got funding from the Bloomberg Foundation.

We collaborated with the CDC on site visits on STX and STT post-storms. Conducted meetings for further collaboration with the local Department of Health on STT and STX for study on water quality of cisterns to set up protocols for long term monitoring.

CES partnered with UVI Center for Green Technology, St. Thomas Recovery Team (STRT) and a team of the Minority Scholars from Under-Represented Groups in Engineering and the Social Sciences Capacity in Disasters project (SURGE) to focus on food security projects in the VI after the hurricanes. SURGE, in partnership with UVI, identified funding for community garden and food security projects in St. Thomas-St. John that currently are being developed with assistance from CES.

Staff documented and shared information on the presence of unwanted pests and the shift in pest populations (numbers and species) in the aftermath of the hurricanes.

Staff helped distribute donated bee food and other beekeeping supplies to local beekeepers.

Assisted farmers in assessing and reporting damage also helped them to get financial and other assistance. Also hosted many meeting for farmers with local and federal agencies.

Assisted the Botanical garden in its recovery efforts of clearing debris, pruning trees.

Worked with a partner out-of-state University that provided financial assistance to two local NGO's.

Provided technical assistance to federal and other agencies in the restoration projects for streambeds, watercourses, etc. and vegetation assessment of the impact of the storms on the environment.

Educated the public on the proper way of caring for damaged trees and worked with federal, local, private entities to distribute fruit and native trees.

In response to the regular communications infrastructure being damaged/destroyed, CES switched from teaching its basic computer classes to focus on the use of mobile devices - smartphones and tablets.

Individuals, who were now dependent on their mobile devices, were trained on how to get the most out of these devices. The focus was on how to communicate by utilizing apps such as WhatsApp, Messenger, and Basic Texting.

Staff created advertising videos and a fundraiser link with footage of farmers speaking about their experiences and needs. We also consulted with various recovery groups that provided assistance. CES staff made appearances on talk shows broadcasted on the only on-air St. Thomas radio station (at that time). The presentations focused on mold remediation but also included pointers to a safe & healthy drinking water supply. This resulted in requests to make presentation to organizations, churches, private companies. We made presentations at health fairs. These appearances were recorded and rebroadcasted a number of times.

Total Actual Amount of professional FTEs/SYs for this State

Year: 2018	Extension		Research	
	1862	1890	1862	1890
Plan	33.3	{No Data Entered}	9.7	{No Data Entered}
Actual	26.3	0.0	7.7	0.0

II. Merit Review Process

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

- Combined External and Internal University External Non-University Panel

2. Brief Explanation

Brief Explanation

The Agricultural Experiment Station (AES) uses internal reviewers from academic faculty and Cooperative Extension Service (CES) as well as external professionals from the VI Dept. of Agriculture to review Hatch proposals. The Agricultural Experiment Station (AES) has an advisory council of active farmers and stakeholders in the community that provide input on the research being conducted and ideas of areas to focus on to resolve agronomic challenges in the US Virgin Islands.

The Cooperative Extension Service (CES) programs were developed by agents and specialists then sent to the state Program Leaders for their review, input and approval. They were then submitted to the Associate Director for his input and budget allocation. After the Associate Director approved the programs, they were sent to the State Director for his review and approval. The programs that were accepted were then forwarded to the Extension Advisory Council for its input and approval. Approved programs were shared with specific Commissioners for their comments and inputs. The final programs were sent to the State Director for final approval and implementation.

III. Stakeholder Input

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

- Use of media to announce public meetings and listening sessions
- 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
- Survey of the general public
- Survey specifically with non-traditional groups

Brief explanation.

Brief Explanation

AES stakeholder participation is encouraged through our advisory council and interaction at workshops, yearly agricultural fair and World Food Day activities. AES actively engages our stakeholders also through on-farm research projects.

CES encouraged participation by the general public through all its public meetings, town hall meetings and through the local radio stations, television stations, and local newspapers. Information was sent to the UVI Public Relations Office for distribution to the UVI community and the general public bulletin board. Invitations were sent to various farmers' groups such as St. Thomas Livestock Associates Farmers, We Grow Food Inc., and St. Croix Farmers in Action to encourage their members to participate in all extension programs and activities. Invitations were also sent to individuals who had attended any programs or activities conducted by CES or had contact with a specialist or agent, to participate in extension programs and activities. Volunteer groups, homemakers club, and other focus groups were sent special invitations to participate in extension program activities.

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
- Needs Assessments
- Use Surveys
- Other ((Individual, direct contacts from the community))

Brief explanation.

Brief Explanation

Input was received from the CES Programs Advisory Councils and the Farmer Organizations. A needs assessment was conducted on CES clientele. CES evaluated its programs by giving participants of seminars, meetings, and workshops survey forms to complete. Farm and clientele visits were made to determine the impact of the programs and suggestions made by clientele, were recorded and used to make improvements in CES educational programs and activities. Meetings and program activities were advertised through local newspapers, and the local television and radio stations. An assessment was also conducted on CES programs to assess their value to our clientele and the general public.

AES Advisory council was made up of members of the farming community who were selected based on their level of involvement and experience in a variety of areas of farming.

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
- Meeting with invited selected individuals from the general public
- Other (Clients contact AES with specific requests)

Brief explanation.

Brief Explanation

CES collected information and recommendations from its stakeholders at meetings. Surveys of CES stakeholders were conducted by program staff during CES programming to get stakeholders involvement in setting priorities and addressing emerging issues in the community. This enabled CES to upgrade its programs and ensure that community needs were met.

AES used input from the Advisory Council and informal contact with community members to guide its research.

3. A statement of how the input will be considered

- In the Budget Process
- To Identify Emerging Issues
- Redirect Extension Programs
- Redirect Research Programs
- In the Action Plans
- To Set Priorities

Brief explanation.

Brief Explanation

AES uses stakeholder input to assist in designing research projects that benefit the farmers and local agricultural community. This input may result in on-farm trials to assist in resolving the local issue. Stakeholders' input was considered in the budget allocation of programs. Stakeholders' involvement helped CES in setting its priorities and addressing emerging issues in the community. During the year, CES continued its collaboration with the Virgin Islands Departments of Agriculture, Health, Labor, Education, Human Services, the Virgin Islands Housing Authority, and the Office of the Governor in addressing at-risk issues in the community. Stakeholders' input was also used in redirecting extension programs.

Brief Explanation of what you learned from your Stakeholders

Brief Explanation

CES stakeholders assisted the Extension Service in focusing on the needs of the community and also helped in focusing CES' activities on emerging issues. They enhanced CES programs and

increased the number of participation in CES programs.
 AES scientists have been very responsive to our stakeholders and they have expressed how much they value the information we produce that they are able to incorporate into their agricultural operations.

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
{No Data Entered}	{No Data Entered}	{No Data Entered}	{No Data Entered}

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	1491048	0	295694	0
Actual Matching	0	0	145641	0
Actual All Other	208700	0	415784	0
Total Actual Expended	1699748	0	857119	0

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

V. Planned Program Table of Content

S. No.	PROGRAM NAME
1	Global Food Security and Hunger: Small Livestock and Beef Production
2	Climate Change - Livestock production
3	Computer Training and Technology Program
4	Eastern Caribbean Extension Outreach and Interchange
5	Global Food Security and Hunger: Sustainable Agriculture
6	Global Food Security and Hunger: Urban Gardening
7	Climate Change: Urban Forestry Program
8	Marketable Skills for Limited Resource Families, Youth and Communities
9	Food Safety Education-EFNEP and EFNEP Youth
10	A Healthy, Well-Nourished Population
11	4-H Youth and Volunteer Development
12	Climate Change: Water Quality Program
13	Climate Change: Natural Resources and Environmental Management
14	Aquaculture
15	Agronomy - Evaluation of Integrated Tropical Cover Crop System
16	Biotechnology - Plant Breeding

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Global Food Security and Hunger: Small Livestock and Beef Production

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
301	Reproductive Performance of Animals	20%		25%	
302	Nutrient Utilization in Animals	15%		0%	
303	Genetic Improvement of Animals	0%		20%	
306	Environmental Stress in Animals	0%		20%	
307	Animal Management Systems	30%		35%	
311	Animal Diseases	10%		0%	
312	External Parasites and Pests of Animals	10%		0%	
315	Animal Welfare/Well-Being and Protection	10%		0%	
603	Market Economics	5%		0%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2018	Extension		Research	
	1862	1890	1862	1890
Plan	1.5	0.0	1.6	0.0
Actual Paid	1.7	0.0	2.2	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
108332	0	84782	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	41758	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
10000	0	126539	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

- The "Buy Local, Eat Fresh" program promoted the consumption of locally produced animal products
- The external parasite monitoring program continued for livestock farms to document parasite populations and concentrations as an aid in tick control programs
- Test sites were restored and monitored for enhanced forage evaluation in pastures following the devastation caused by Hurricanes Irma and Maria
- The program continued, as circumstances allowed due to the destruction of livestock housing by the hurricanes, to demonstrate to producers the health and financial advantages of proper housing for livestock.
- Limited methods of nutrition evaluation were demonstrated to producers so that they can determine the effects of reproduction and performance
- Continued an information exchange between established and developing farmers through farm visits to see what can be done to improve management and production
- Broadcast programs focusing on different areas of livestock production
- Conduct research
- Publish results
- Present data at conferences
- Collaborate with other members of multistate research project

2. Brief description of the target audience

- Virgin Islands livestock producers
- Virgin Islands consumers
- Virgin Islands youth
- Livestock producers in the tropics, greater Caribbean, Central and South America and the southern US.

- School Lunch Program
- Senior Citizens

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2018	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	540	1275	350	1080

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

Patent Applications Submitted

Year: 2018
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2018	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Workshops/demonstrations would be conducted on management, nutrition, housing, and identification of livestock.

Year	Actual
2018	4

Output #2

Output Measure

- Pasture testing and demonstration sites would be set up for forage evaluation.

Year	Actual
2018	3

Output #3

Output Measure

- Farms would be visited for general evaluation of management techniques and counseling.

Year	Actual
2018	10

Output #4

Output Measure

- Farms would be visited for parasite monitoring and evaluation.

Year	Actual
2018	4

Output #5

Output Measure

- Farms would be visited to weigh animals to monitor performance.

Year	Actual
2018	0

Output #6

Output Measure

- Continue to implement a "Buy Local" campaign with local farmers for use by producers in the community.

Year	Actual
2018	5

Output #7

Output Measure

- Provide training to farmers in identification methods.

Year	Actual
2018	20

Output #8

Output Measure

- Number of farmers using late weaning of hair lambs

Not reporting on this Output for this Annual Report

Output #9

Output Measure

- Using tick burdens as a selection criteria in Senepol cattle
Not reporting on this Output for this Annual Report

Output #10

Output Measure

- Identifying traits of adapted livestock
Not reporting on this Output for this Annual Report

Output #11

Output Measure

- Using new method of artificial insemination with liquid semen as opposed to frozen semen
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	Establish and/or monitor (5) sites annually to demonstrate the use of drought-resistant and nutritional forages for pastured livestock.
2	Decrease animal losses due to parasites and poor nutrition by 5%.
3	Increase the sales and consumption of locally produced livestock products such as meat and eggs by 5%.
4	Increase the number of livestock herds/flocks using complete identification and recordkeeping practices by 10%
5	Increase the number of pig farmers that are raising their livestock in recommended facilities by 5%.
6	Using tick burdens as a selection tool in Senepol cattle
7	Develop methods to distribute germplasm

Outcome #1

1. Outcome Measures

Establish and/or monitor (5) sites annually to demonstrate the use of drought-resistant and nutritional forages for pastured livestock.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Farmers want more improved pastures with forages with increased nutritional value and are drought resistant.

What has been done

Monitor restoration and maintenance of pasture with improved grass varieties.

Results

Better forage sources, higher nutritional value and drought resistant.

4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals
312	External Parasites and Pests of Animals
315	Animal Welfare/Well-Being and Protection

Outcome #2

1. Outcome Measures

Decrease animal losses due to parasites and poor nutrition by 5%.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Extension staff, farmers, consumers and the general public who are interested in healthier animals being raised and available.

What has been done

Maintenance of pastures. De-worming of animals.

Results

Farmers are able to raise and sell more animals.

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
303	Genetic Improvement of Animals
306	Environmental Stress in Animals
307	Animal Management Systems
312	External Parasites and Pests of Animals
315	Animal Welfare/Well-Being and Protection

Outcome #3

1. Outcome Measures

Increase the sales and consumption of locally produced livestock products such as meat and eggs by 5%.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	30

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Farmers, consumers and youth.

What has been done

Encourage and assist farmers to recover from the ravages of the hurricanes.

Results

Farmers with our assistance and from other partnering agencies are slowly recovering and getting their farms fully functional again.

4. Associated Knowledge Areas

KA Code	Knowledge Area
603	Market Economics

Outcome #4

1. Outcome Measures

Increase the number of livestock herds/flocks using complete identification and recordkeeping practices by 10%

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	20

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The general public to be able to identify roaming animals and farmers to assist in their recordkeeping.

What has been done

Technical assistance and advice was provided to livestock producers following the destruction of perimeter fencing on their farms.

Results

Farmers were able to locate their roaming animals following the storms.

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems

Outcome #5

1. Outcome Measures

Increase the number of pig farmers that are raising their livestock in recommended facilities by 5%.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
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2018

6

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Farmers, consumers and agriculture professionals

What has been done

Farmers were encouraged to restore their livestock Facilities.

Results

Farmers are still in the process of rebuilding and restoring their facilities.

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
315	Animal Welfare/Well-Being and Protection

Outcome #6

1. Outcome Measures

Using tick burdens as a selection tool in Senepol cattle

Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

Develop methods to distribute germplasm

Not Reporting on this Outcome Measure

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

Brief Explanation

Natural Disasters - two category 5 hurricanes destroyed much of the AES field research facilities, thus preventing a significant amount of research activity

Struggling Economy

Appropriation changes/challenges

Competing Public Priorities

Government Regulations

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Because AES could not conduct any research in the past year there was no evaluations conducted.

Key Items of Evaluation

N/A

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Climate Change - Livestock production

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
305	Animal Physiological Processes	0%		50%	
306	Environmental Stress in Animals	0%		50%	
	Total	0%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2018	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	0.0	1.6	0.0
Actual Paid	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	716	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	353	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	1069	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

- Conduct Research Experiments

- Publish results
- Present data at conferences

2. Brief description of the target audience

Target audience is livestock producers in areas of heat stress and collaborators on the multistate research project.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2018	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: 2018
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2018	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Abstracts presented at conferences

Year	Actual
2018	1

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Continued use of heat tolerant breeds in local livestock operations

Outcome #1

1. Outcome Measures

Continued use of heat tolerant breeds in local livestock operations

Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

A category 5 hurricane in September 2017 damaged field facilities at both livestock farms preventing any significant research activity beyond normal production management.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

None

Key Items of Evaluation

None

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Computer Training and Technology 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
903	Communication, Education, and Information Delivery	100%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2018	Extension		Research	
	1862	1890	1862	1890
Plan	1.6	0.0	0.0	0.0
Actual Paid	1.6	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
98017	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
20000	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Advertise the Computer Training and Technology Program. Conduct eight weeks Basic Computer Training Courses that will teach participants how to use Microsoft Windows, Microsoft Word, E-mail, and

search for information using the World Wide Web.

2. Brief description of the target audience

The population will consist mainly of computer illiterate adults in the USVI who are from low income households. Also members of the clothing construction and EFNEP classes.

3. How was eXtension used?

n/a

V(E). Planned Program (Outputs)

1. Standard output measures

2018	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	170	2100	48	740

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

Patent Applications Submitted

Year: 2018
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2018	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Conduct a seven-week basic computer training course designed to increase the participants' knowledge and usage of computer in Basic Computer Maintenance, Microsoft Word, and E-mail/Internet.

Year **Actual**
 2018 5

Output #2

Output Measure

- Conduct three-day workshops on Internet communication.

Year	Actual
2018	5

Output #3

Output Measure

- Conduct six-day workshops on Microsoft Excel

Year	Actual
2018	2

Output #4

Output Measure

- Conduct five-day workshops on Microsoft PowerPoint

Year	Actual
2018	2

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Participants will acquire/increase their knowledge of Microsoft Window by 70%.
2	Participants will acquire/increase their knowledge of Microsoft Word by 70%.
3	Participants will acquire/increase their knowledge of E-mail by 70%.
4	Participants will acquire/increase their knowledge of the Internet by 70%.
5	Participants will acquire/increase their knowledge of Microsoft Excel by 70%.
6	Participants will acquire/increase their knowledge of Microsoft PowerPoint by 70%.

Outcome #1

1. Outcome Measures

Participants will acquire/increase their knowledge of Microsoft Window by 70%.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	47

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is a large population of computer illiterate adults. Some of these individuals need to acquire these computer skills in order to get employment to better their household income and to take advantage of new technology.

What has been done

Five UVI CES seven-week weeks Basic Computer Training Courses were conducted these classes teach how to use Microsoft Windows, Microsoft Word, E-mail, and use the World Wide Web.

Results

98% of individuals who participated indicated that they acquired/increased their knowledge and/or usage of Microsoft Windows.

4. Associated Knowledge Areas

KA Code	Knowledge Area
903	Communication, Education, and Information Delivery

Outcome #2

1. Outcome Measures

Participants will acquire/increase their knowledge of Microsoft Word by 70%.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	47

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is a large population that does not know how to use MS Word. Microsoft Word is one of the most widely used word processing software. By acquiring or increasing their skills in MS Word, these individuals will be better equipped to seek employment or a promotion. They can also use MS Word in their day-to-day lives to make some tasks easier.

What has been done

Five UVI CES seven-week weeks Basic Computer Training Courses were conducted these classes teaches how to use Microsoft Windows, Microsoft Word, E-mail, and use the World Wide Web.

Results

98% of individuals who participated indicated that they acquired/increased their knowledge and/or usage of Microsoft Word

4. Associated Knowledge Areas

KA Code	Knowledge Area
903	Communication, Education, and Information Delivery

Outcome #3

1. Outcome Measures

Participants will acquire/increase their knowledge of E-mail by 70%.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	47

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is a large population that does not have and/or does not know how to use an e-mail account. Electronic mail, e-mail, is a very effective way to communicate. Using e-mail will save individuals time and money. Instead of waiting days for sent documents to be received, e-mail allows them to be sent and received in minutes. It also does not cost an individual to send an e-mail.

What has been done

Five UVI CES seven-week weeks Basic Computer Training Courses were conducted these classes teaches how to use Microsoft Windows, Microsoft Word, E-mail, and use the World Wide Web

Results

98% of individuals who participated indicated that they acquired/increased their knowledge and/or usage of E-mail

4. Associated Knowledge Areas

KA Code	Knowledge Area
903	Communication, Education, and Information Delivery

Outcome #4

1. Outcome Measures

Participants will acquire/increase their knowledge of the Internet by 70%.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	47

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is a large population that does not know how to use the internet. The Internet provides a variety of benefits to users by making large amounts of information available. Individuals can also perform a variety of task using the internet such as shopping, banking and paying bills

What has been done

Five UVI CES seven-week weeks Basic Computer Training Courses were conducted these classes teaches how to use Microsoft Windows, Microsoft Word, E-mail, and use the World Wide Web

Results

90% of individuals who participated indicated that they acquired/increased their knowledge and/or usage of the internet

4. Associated Knowledge Areas

KA Code	Knowledge Area
903	Communication, Education, and Information Delivery

Outcome #5

1. Outcome Measures

Participants will acquire/increase their knowledge of Microsoft Excel by 70%.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	23

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is a large population that does not know how to use MS Excel. MS Excel is very useful application when creating budgets, keeping track of loan payments, and for a number of other useful mathematical calculations.}

What has been done

Two six- day workshops were conducted that focused on the uses of MS Excel.

Results

99% of individuals who participated indicated that they acquired/increased their knowledge and/or usage of MS Excel

4. Associated Knowledge Areas

KA Code	Knowledge Area
903	Communication, Education, and Information Delivery

Outcome #6

1. Outcome Measures

Participants will acquire/increase their knowledge of Microsoft PowerPoint by 70%.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	30

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is a large population that does not know how to use MS PowerPoint. MS PowerPoint is a very useful tool to give presentations and can be used for learning within the classroom. Individuals who utilize PowerPoint are often more captivating and engaging with their audience versus an individual who uses standard note cards.

What has been done

Two four-day workshops were conducted that focused on the uses of MS PowerPoint.

Results

98% of individuals who participated indicated that they acquire/increase their knowledge and/or usage of MS PowerPoint .

4. Associated Knowledge Areas

KA Code	Knowledge Area
903	Communication, Education, and Information Delivery

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Appropriations changes

Brief Explanation

Because the territory was hit by two category five hurricanes, some of the computer courses and workshops were cancelled. The CES Computer Training and Technology Program developed a Smartphone and Tablet workshop, because many residents were relying on their smartphones and tablets to do numerous things that they would normally do on their computer. Forty-eight residents were trained in the Smartphone and Tablet workshop.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

The pre and post test evaluations indicated that a significant number of the participants increased their knowledge and skills regarding computer technology.

Key Items of Evaluation

The key evaluation tools were used to evaluate participants.

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Eastern Caribbean Extension Outreach and Interchange

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
603	Market Economics	10%		0%	
606	International Trade and Development	10%		0%	
903	Communication, Education, and Information Delivery	80%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2018	Extension		Research	
	1862	1890	1862	1890
Plan	1.2	0.0	0.0	0.0
Actual Paid	1.0	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
28672	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
2000	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Professional linkages were maintained with other agricultural organizations in the Eastern Caribbean. Extension specialists provided consultations on food and nutrition programs, sustainable agriculture, horticulture, and livestock production and management. Breeding animals were exchanged with other islands through the Breeders Exchange Program. UVI/CES telecommunication systems for collaborative training with other regional institutions was utilized to train extension specialists and agents. CES will assist in the planning and execution of international and regional meetings for CFCS and, CACHE.

2. Brief description of the target audience

The target audience of this program was extension specialists, extension agents, district supervisors, extension educators and research scientists in the Eastern Caribbean. Producers and farm operators were targeted for this program. Regional institutions, homemakers and youth were also targeted.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2018	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	300	550	150	400

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

Patent Applications Submitted

Year: 2018
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2018	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Agricultural linkages will be established with five organizations in the Eastern Caribbean

countries.

Year	Actual
2018	3

Output #2

Output Measure

- International and regional workshops will be coordinated.

Year	Actual
2018	1

Output #3

Output Measure

- Proceedings, newsletters and other publications will be published for CFCS, CACHE, and CARAPA.
Not reporting on this Output for this Annual Report

Output #4

Output Measure

- Update and expand directory of individuals and institutions in agricultural research in the Eastern Caribbean.
Not reporting on this Output for this Annual Report

Output #5

Output Measure

- Animal breeding stock will be exchanged between countries in the Eastern Caribbean.

Year	Actual
2018	150

Output #6

Output Measure

- Extension specialists will provide consultation on sustainable agriculture, horticulture and livestock production and management.

Year	Actual
2018	3

Output #7

Output Measure

- Provide forum for training youth leaders and volunteers (amount of youth trained).

Year	Actual
2018	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Agricultural linkages established with regional organizations
2	International and regional workshops coordinated
3	Amount of animal breeding stock exported to Eastern Caribbean countries
4	Directory of individuals and institutions in agricultural research in the Eastern Caribbean
5	Proceedings, newsletters and other publications published for CFCS, CACHE, and CARAPA

Outcome #1

1. Outcome Measures

Agricultural linkages established with regional organizations

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is a need for agricultural scientists to network and share information on new research and technology.

What has been done

One combined regional conference was held - Caribbean Food Crop Society/CACHE.

Results

Regional and National Scientists made presentations, exchanged ideas and networked.

4. Associated Knowledge Areas

KA Code	Knowledge Area
606	International Trade and Development
903	Communication, Education, and Information Delivery

Outcome #2

1. Outcome Measures

International and regional workshops coordinated

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Stakeholders who are involved in and think that more international and regional workshops should be conducted.

What has been done

We participated in one joint regional workshop involving two regional organizations.

Results

Participants increased their knowledge and shared information.

4. Associated Knowledge Areas

KA Code	Knowledge Area
606	International Trade and Development
903	Communication, Education, and Information Delivery

Outcome #3

1. Outcome Measures

Amount of animal breeding stock exported to Eastern Caribbean countries

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	150

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Livestock producers in Caribbean countries and territories who are interested in improving their production operations. Departments of Agriculture in the Caribbean who are interested in livestock genetic improvement in the Caribbean region. It is very difficult to get breeding stock on some islands.

What has been done

One hundred fifty broiler chicks were exported to the British Virgin Islands.

Results

These animals were distributed to producers for genetic improvement.

4. Associated Knowledge Areas

KA Code	Knowledge Area
603	Market Economics
606	International Trade and Development

Outcome #4

1. Outcome Measures

Directory of individuals and institutions in agricultural research in the Eastern Caribbean

Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

Proceedings, newsletters and other publications published for CFCS, CACHE, and CARAPA

Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

The U.S. Virgin Islands were devastated by two category 5 hurricanes. Most of the year was spent on issues related to disaster recovery.

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: 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%		0%	
205	Plant Management Systems	20%		0%	
307	Animal Management Systems	20%		0%	
403	Waste Disposal, Recycling, and Reuse	20%		0%	
601	Economics of Agricultural Production and Farm Management	20%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2018	Extension		Research	
	1862	1890	1862	1890
Plan	3.6	0.0	6.0	0.0
Actual Paid	5.1	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
288105	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
40000	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

1. Shortcourses, workshops, and demonstrations will be conducted to disseminate information about recommended, research-based sustainable production practices, including composting, drip irrigation, etc.
2. Publications (e.g. fact sheets) and newsletter articles will be developed and published to disseminate information regarding sustainable production and marketing practices.
3. Announcements will be made through the print and electronic media to promote educational activities and disseminate information about sustainable agricultural practices.
4. Farm visits and telephone contacts will be made to address clientele problems and to disseminate information about the program.
5. Workshops and other projects will be 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 will consist of crop and livestock producers, outreach professionals from government and academic institutions, students, and young adults who aspire to be farmers. The primary audience will be 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?

n/a

V(E). Planned Program (Outputs)

1. Standard output measures

2018	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	1175	300	230	200

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

Patent Applications Submitted

Year: 2018
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2018	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

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

Year	Actual
2018	12

Output #2

Output Measure

- Number of publications

Year	Actual
2018	0

Output #3

Output Measure

- Number of announcements through print and electronic media

Year	Actual
2018	15

Output #4

Output Measure

- Number of farm visits and telephone contacts

Year	Actual
2018	150

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Increase the number of farmers who become more aware of sustainable agriculture practices by 5%
2	Increase the number of farmers who become more aware of value-added strategies to increase farm profitability by 10%
3	Increase the number of farmers who increase or enhance their knowledge of farm financial and operational planning, organizing, managing, and recordkeeping practices by 10%

Outcome #1

1. Outcome Measures

Increase the number of farmers who become more aware of sustainable agriculture practices by 5%

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	12

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

A limited, but steadily growing number of producers and farm families are fully aware of the principles and practices of sustainable agriculture.

What has been done

To address this need, educational programs were conducted throughout the territory to increase knowledge and awareness of sustainable agriculture principles and practices.

Results

A total of 750 producers increased their knowledge of sustainable agriculture theory and practices as a result of the training activities.

4. Associated Knowledge Areas

KA Code	Knowledge Area
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 become more aware of value-added strategies to increase farm profitability by 10%

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

A limited, but growing number of producers are aware of the value and potential benefits of value added agricultural practices.

What has been done

In addition to on-site farm visits, this need was primarily addressed through demonstrations and other educational activities conducted at food fairs and exhibitions.

Results

An estimated 250 producers and other interested persons increased their knowledge regarding value added agricultural practices.

4. Associated Knowledge Areas

KA Code	Knowledge Area
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 farmers who increase or enhance their knowledge of farm financial and operational planning, organizing, managing, and recordkeeping practices by 10%

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	8

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Farmers are in need of training regarding the business, farm financial planning and record keeping aspects of the industry.

What has been done

In response to this need workshops were conducted that focused on record keeping, tax filing and the cooperative business model.

Results

As a result of the educational initiatives conducted a total of 175 producers increased their knowledge of farming as a business.

4. Associated Knowledge Areas

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

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 complete implementation and impacts of all planned educational activities were hampered by the occurrence of two hurricanes in September 2017. Significant resources were redirected toward post hurricane recovery efforts.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Clients responded favorably to the formal and informal evaluation methods used by CES, especially in-person, one-on-one conversations. Standard evaluation forms are used during workshops and training programs. Pre and Post tests were most commonly used.

Key Items of Evaluation

All key items of evaluation were used.

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Global Food Security and Hunger: Urban Gardening

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
205	Plant Management Systems	95%		80%	
403	Waste Disposal, Recycling, and Reuse	5%		20%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2018	Extension		Research	
	1862	1890	1862	1890
Plan	1.2	0.0	4.5	0.0
Actual Paid	1.3	0.0	3.5	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
132078	0	19019	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	9368	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	2837	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Educational classes, workshops, seminars
 Development of publications, resource materials, curriculum guides

- Conducting field days, field demonstrations, exhibits and tours
- One-on-one counseling
- On-site visits
- Use of electronic and social media
- Website development
- Vegetable trials
- Microirrigation
- Biotechnology
- Aquaponics
- Germplasm evaluation and breeding

2. Brief description of the target audience

- Homeowners
- Horticultural Organizations
- Public Housing Residents
- Senior citizens homes
- School teachers
- Policy Makers
- Master Gardeners Candidates
- Youth groups

3. How was eXtension used?

n/a

V(E). Planned Program (Outputs)

1. Standard output measures

2018	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	1660	600	325	125

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

Patent Applications Submitted

Year: 2018
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2018	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of educational classes to help residents plan and create a garden

Year	Actual
2018	8

Output #2

Output Measure

- Number of workshops/demonstrations using efficient technologies, practices and principles in gardening

Year	Actual
2018	5

Output #3

Output Measure

- Number of educational classes in the benefits of proper gardening

Year	Actual
2018	7

Output #4

Output Measure

- Number of consultations with residents, public and private agencies, about gardening

Year	Actual
2018	200

Output #5

Output Measure

- Number of articles/publications on urban gardening management

Year	Actual
2018	0

Output #6

Output Measure

- Number of fairs and exhibits displaying best management practices and other information pertaining to the Urban Gardening program

Year	Actual
2018	2

Output #7

Output Measure

- Number of print, electronic, and social media appearances/programs promoting urban gardening

Year	Actual
2018	95

Output #8

Output Measure

- Number of demonstration sites developed using urban gardening principles and practices

Year	Actual
2018	1

Output #9

Output Measure

- Number of public and private entities and individuals establishing gardens

Year	Actual
2018	2

Output #10

Output Measure

- Number of residents, non-profit organizations, and public and private entities becoming more aware of the benefits of composting.

Year	Actual
2018	425

Output #11

Output Measure

- Number of abstracts presented at conferences

Year	Actual
2018	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Increase the number of residents who will become more aware of the benefits of gardening by 10%
2	Increase the number of residents, who increase their knowledge of more efficient low cost technologies, practices, and principles by 10%
3	Increase the number of residents, public and private agencies who will establish gardens by 10%
4	Increase the number of residents, public and private agencies who start composting by 5%
5	Increase the number of growers using microirrigation and controllers
6	Increase the number of root crop growers
7	Increase the number of commercial aquaponic systems

Outcome #1

1. Outcome Measures

Increase the number of residents who will become more aware of the benefits of gardening by 10%

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	15

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

A continuously increasing number of residents desire to increase their knowledge and awareness of the benefits of urban gardening.

What has been done

In order to address this need site visits and demonstrations were conducted and guest presentations were delivered to students, homeowners and community groups. Information was also shared via electronic and social media.

Results

An estimated 380 persons throughout the territory increased their knowledge as a result of CES efforts.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #2

1. Outcome Measures

Increase the number of residents, who increase their knowledge of more efficient low cost technologies, practices, and principles by 10%

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	4

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is a lack of knowledge among many residents regarding the most cost efficient and energy efficient practices in crop and urban gardening production.

What has been done

In response to this need, the CES conducted workshops, demonstrations as well as home and other site visits.

Results

As a result of CES efforts approximately 650 residents increased their knowledge of this subject.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #3

1. Outcome Measures

Increase the number of residents, public and private agencies who will establish gardens by 10%

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

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

2018

5

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Many residents have expressed an interest in establishing home gardens to enhance their health and well-being in addition to reducing their food costs.

What has been done

In order to address this need, the CES team conducted numerous visits and demonstrations in schools, private home and public housing communities.

Results

At least 200 residents reported to the CES regarding grocery cost savings as a result of their home garden endeavors.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #4

1. Outcome Measures

Increase the number of residents, public and private agencies who start composting by 5%

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	10

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Many residents and homeowners throughout the territory continue to express an interest in increasing their knowledge regarding the science and benefits of composting.

What has been done

In response to this need, the CES conducted several home site and farm visits and delivered

guest presentations and demonstrations on the art and science of composting.

Results

At least 350 clients reported to the CES regarding their increased knowledge and practice of composting.

4. Associated Knowledge Areas

KA Code	Knowledge Area
403	Waste Disposal, Recycling, and Reuse

Outcome #5

1. Outcome Measures

Increase the number of growers using microirrigation and controllers

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	80

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Numerous residents continue to express their knowledge of micro-irrigation as a time and water saving measure.

What has been done

The CES responded to this need by conducting several demonstrations and sharing information via social media, workshops and during fairs and exhibits.

Results

An estimated 80 persons implemented some level of micro-irrigation technology as part of their urban gardening efforts.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #6

1. Outcome Measures

Increase the number of root crop growers

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #7

1. Outcome Measures

Increase the number of commercial aquaponic systems

Not Reporting on this Outcome Measure

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

During the reporting period the implementation and impacts of program initiatives were severely hampered by the impact of two major hurricanes during the month of September 2017. Significant resources were redirected toward post-hurricane recovery efforts.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Clients responded favorably to the formal and informal evaluation methods used by CES, especially in-person, one-on-one conversations. Standard evaluation forms are used during workshops and training programs. Pre and Post test were most commonly used.

Key Items of Evaluation

All key items of evaluation were used.

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Climate Change: Urban Forestry 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
123	Management and Sustainability of Forest Resources	20%		0%	
124	Urban Forestry	80%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2018	Extension		Research	
	1862	1890	1862	1890
Plan	0.7	0.0	0.0	0.0
Actual Paid	0.8	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
80021	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
14700	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Partnerships were established and strengthened with public and private agencies, and community leaders and groups to provide education, information, and technical advice to the general population. This was achieved using publications, seminars, mass media, and exhibits as well as personal contacts.

As FY 2017 ended in September 2017 the Virgin Islands were left in ruins, caused by the ravages of two Category 5 hurricanes - Irma and Maria. Our educational programs focused on recovery from the devastation and destruction caused by the storms. The primary focus of the programs was the revitalization and resurgence of the urban forests. Emphasis was placed on resilience in anticipation of future climate change events including hurricanes.

The community is now much more acutely aware of the value of trees/forests; what they provide to the local economy. Now that so many trees have been lost, the valuable contributions they make to the tourism industry and the quality of life of residents continues to be more evident.

The Virgin Islands Agriculture and Food Fair which usually attracts thousands of attendees, was a smaller event this year but still provided the opportunity to share information and increase the knowledge and awareness of our target audience. Some of our other major outreach activities were canceled due to storm damage.

Arborist workshops were held focusing on tree biology, reasons for pruning, making proper pruning cuts, pruning equipment and safety equipment with special reference to hurricane damage. The workshops were conducted on St. Croix and St. Thomas and included hands-on demonstrations.

The attendees (45) who increased their knowledge consisted of extension professionals, governmental agency personnel, NGO's, natural resources professionals, urban foresters, utility employee/linemen, forestry professionals, private sector landscapers, landowners, property managers and residents. University and VI Department of Agriculture staff, landowners, certified arborists, utility linemen, landscape maintenance and other arboriculture/forestry professionals attended two-day workshops, in both Districts of the Virgin Islands, focusing on tree climbing methods, precision tree felling, chainsaw safety & handling, pruning methods and tree biology. This information improved the knowledge and skills of the attendees (60) from the target audience.

'Preparing Your Trees for Hurricane Season and Restoring Storm Damaged Trees' workshops were conducted at the beginning of the 2018 hurricane season. The target audience was homeowners with trees on their property and persons involved with or interested in caring for trees. The information provided was very valuable for attendees to prepare their trees for the 2018 hurricane season and to continue storm recovery activities. The information provided improved the knowledge and skills of the attendees (30). Hundreds of private landowners and homeowners increased their knowledge about a variety of tree related issues through technical assistance and advice during onsite visits.

Staff served as members of the Virgin Islands Urban and Community Forestry Council and the Virgin Islands Forest Stewardship Council. Assistance and technical advice were provided to Urban and Community Forest projects.

A Climate Change Workshop was held, in both districts, focusing on adaptation and mitigation practices. Attendees were made aware of the negative effects of climate change on the weather, especially droughts, flooding, the severity of tropical storms/hurricanes and how best to mitigate these effects. Staff continued to be involved in several adaptation, planning, assessment and implementation meetings related to climate change.

2. Brief description of the target audience

The targeted audience was public and private landowners, forestry professionals, community leaders and organizations, youth/youth groups, NGO's, and residents.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2018	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	1950	2495	565	970

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

Patent Applications Submitted

Year: 2018
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2018	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of educational classes on the benefits of tree.

Year	Actual
2018	6

Output #2

Output Measure

- Number of workshops/demonstrations on tree care including pruning, planting, selection etc.

Year	Actual
2018	2

Output #3

Output Measure

- Number of one-on-one consultation with residents about tree care.

Year	Actual
2018	370

Output #4

Output Measure

- Number of fairs and exhibits displaying best management practices and other information pertaining to the Urban Forestry

Year	Actual
2018	2

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Increase the number of homeowners, landowners, policy makers who become more aware of the potential economic, social, and environmental contributions of the urban and suburban forest by 10%
2	Increase the number of homeowners, residents and landowners, public and private agencies, and nonprofit organizations who increase their knowledge of the care and management of the urban forest by 10%
3	Increase the number of landowners, public agencies and residents who become educated about and plant trees properly in the urban and suburban forest by 10%

Outcome #1

1. Outcome Measures

Increase the number of homeowners, landowners, policy makers who become more aware of the potential economic, social, and environmental contributions of the urban and suburban forest by 10%

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	850

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

As urban expansion continues to reduce forested areas in the Virgin Islands the need for educating the public about the role of trees in the environment, particularly in urban communities, maintains its importance. The VI economy is experiencing an economic downturn and many residents continue looking for opportunities to supplement their income. Trees and parts of trees (trunks, stems and branches) that can be made into moneymaking art pieces are still being sent to the landfill to be destroyed. Educating residents with an emphasis on our young people is strategic to ensuring that the next generation can be involved in the management of trees in urban and other forest communities. Artisans, homeowners, landowners, persons interested in earning additional income, policymakers, youth, educators, persons concerned about the environment and the general public should all care about the contributions made by urban and suburban forests.

What has been done

In response to the devastation of the urban forest caused by the passage of two Category 5 hurricanes, we conducted educational activities to expose the community to recycling/reusing/ repurposing green waste, trees and tree parts. Extension staff set up displays and provided one-on-one consultations with attendees at the Agriculture and Food Fair of the Virgin Islands.

Technical assistance was provided to many residents, agencies and organizations especially related to recovery of the urban forest. Staff served on and provided information to potential enrollees in the VI-DOA Forest Stewardship and Forest Legacy Programs and reviewed program conservation plans.

Results

Through personal contact and anecdotal information, a majority of the persons who attended educational activities reported that they became more aware of the economic and environmental benefits of trees. Approximately 850 attendees at the agriculture fair and other educational outreach events learned of the economic potential for products from green waste, tree and tree parts.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources

Outcome #2

1. Outcome Measures

Increase the number of homeowners, residents and landowners, public and private agencies, and nonprofit organizations who increase their knowledge of the care and management of the urban forest by 10%

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	970

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Proper pruning and management of trees along with planting the right tree in the right place reduces the likelihood of trees coming into contact with utility lines and buildings. It also reduces the occurrences of other conflicts involving trees. Correcting these problems can be costly, not only to the government and property owners but could also result in actions that can be detrimental to the trees. Homeowners, businesses, and organizations who plant trees for symbolic, therapeutic, environmental, and others reasons should care about appropriate tree care and management. Proper planting of trees ensures a good establishment of the tree and increases the likelihood of the root system adapting favorably to the soil environment in which it is growing.

What has been done

The Virgin Islands Agriculture and Food Fair provided CES with the opportunity to influence a large group of clients and other residents over a three-day period in a concentrated effort. Extension staff had the opportunity to provide information and conduct one-on-one consultations with attendees on the subject of restoring storm damaged trees, planting trees and planting the right trees in the right places.

Home visits and one-on-one contact with residents, and public and private landscape crews were used as methods to provide them with current tree management information. Radio appearances also provided general information to a broad audience. On-site visits provided additional opportunities for hands-on practical demonstrations and providing technical information.

Staff participated in meetings, as members of the VI Urban & Community Forestry Council, Inc., with VI legislators and continued discussions on the progress of the Community and Heritage Tree law of the Virgin Islands.

Arborist training was conducted in both Districts for arboriculture/agriculture professionals and other interested persons. The topics covered included proper pruning techniques, pruning equipment, safety equipment with special emphasis on hurricane damage. Other topics included preparing your trees for hurricane season and restoring storm damaged trees.

Results

The Bill related to the Community and Heritage Tree law of the Virgin Islands is still being considered by the legislature. A recent legislative committee hearing sent the bill to the full body with a favorable recommendation. Staff participated in ongoing urban forestry projects.

One hundred thirty five persons - including staff of the University of the Virgin Islands, the VI Department of Agriculture, certified arborists and other arboriculture/forestry professionals attended CES sponsored arborist training activities.

Approximately six hundred (850) individuals were directly impacted and over a thousand more indirectly by displays and interactions with Extension staff at the annual agriculture fair and other educational outreach activities. Many other persons benefited from home visits and one-on-one consultations.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
124	Urban Forestry

Outcome #3

1. Outcome Measures

Increase the number of landowners, public agencies and residents who become educated about and plant trees properly in the urban and suburban forest by 10%

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	130

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Elected and other public officials, arborists, forestry professionals, landscape architects, public planners and residents should all be concerned and care about planting trees in the urban and suburban forests. They should all recognize the importance of trees and other vegetation for improving communities through the social, economic and ecological benefits especially in this era of climate change.

What has been done

During informal meetings in offices, classrooms, and on various sites, CES continued to provide technical information about conserving and incorporating native and non-invasive exotic plants in public landscapes to government personnel, new business operators, personnel from NGOs involved in urban and community forestry projects, engineers/architects/contractors, students/faculty, and the general public. This was emphasized even more following the devastation caused by the hurricanes and the amount of replanting that is necessary to recstore the urban forest.

Results

Recommendations were made to incorporate native trees in planting/replanting projects and persons were trained on the proper methods of tree planting.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Government Regulations
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

The worsening economic conditions in the Virgin Islands have resulted in UVI-CES budget cuts and staff reductions, which continue to create challenges in program delivery. This was a year of recovery following the islands being devastated by two Category 5 hurricanes. Elected officials have been working on tree laws for Virgin Islands for a very long time and are now very close to approving a revision of the existing ordinances. Turnover is high in some VI Government agencies and among elected officials. It is difficult at times to establish effective long-term relationships that can result in policy changes or effective training. Political pressures can impede enforcement and the development of new regulatory policies. However, CES maintains some long-term partnerships with individuals in VI environmental regulatory agencies resulting in client referrals and shared resource management initiatives.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Clients responded favorably to the informal evaluation methods used by CES, especially in-person, one-on-one conversations. Attendees verbally indicated interest in, endorsement of, and benefits derived from presentations and other information shared.

Key Items of Evaluation

All key items of evaluation were used.

V(A). Planned Program (Summary)

Program # 8

1. Name of the Planned Program

Marketable Skills for Limited Resource Families, Youth and Communities

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
801	Individual and Family Resource Management	75%		0%	
802	Human Development and Family Well-Being	15%		0%	
806	Youth Development	10%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2018	Extension		Research	
	1862	1890	1862	1890
Plan	1.9	0.0	0.0	0.0
Actual Paid	2.1	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
114763	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

- Conducted workshops and demonstrations to promote the different F&CS program offerings. Set up volunteer recruitment booths at World Food Day, St. Thomas/St. John Agriculture and Food Fair, and the V.I. Agriculture and Food Fair (St. Croix).
- Provided orientation, training and professional development for volunteers, partners, 4-H/Family and Consumer Sciences/CYFAR staff, and CES personnel.
- Utilized multi-media outlets to promote FCS programs to attract potential clientele.
- Conducted workshops and short courses that help low-income, at-risk audiences build knowledge, skills and attitudes that will positively impact their quality of life.
- Collaborated with government departments, non-profit agencies, community-based programs, and special interest groups to recruit, train and support 4-H volunteer development.

2. Brief description of the target audience

- Current and newly recruited F&CS participants
- Low-income, at risk, un- or underemployed adults residing in public/federally subsidized housing communities and Children, Youth & Families at Risk- clientele.
- Clientele and staff being served through fellow UVI, CES and AES programs.
- Clientele referred from Department of Human Services, Department of Labor - Unemployment Office; V.I. Housing Authority- Tenant Services Office and other agencies working with similar audiences.
- Parent of 4-H club members and summer program participants
- Youth and adults (general public responding to multi-media 4-H volunteer campaign)
- Youth and adults indicating interest in F&CS programs at World Food Day and fairs
- Department, agencies, clubs and programs working with F&CS.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2018	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	350	900	40	300

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

Patent Applications Submitted

Year: 2018
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2018	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of short courses conducted

Year	Actual
2018	3

Output #2

Output Measure

- Number of workshops facilitated as part of "Women at the Crossroads" short course

Year	Actual
2018	9

Output #3

Output Measure

- Number of special interest workshops conducted

Year	Actual
2018	2

Output #4

Output Measure

- Number of youth, volunteers, staff and partners trained

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

2018

60

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Through participation in Basic Clothing Construction Short Courses, participants will develop knowledge and awareness of sewing machine parts, basic tools and equipment, fabric line and design, measuring techniques, use of patterns, and glossary of terms.
2	Through participation in Basic Clothing Construction Short Courses, participants will learn how to baste, stitch, trim and finish seam allowances using a serger, put in hems and waist bands, apply zippers, insert elastic, insert darts, and make button holes. Acquisition of these skills will allow participants to construct at least one simple outfit resulting in personal savings
3	As a result of completing the Basic Clothing Construction Short Course, 75% of participants will enroll in the Intermediate/Advanced level of this course. In addition to using basic skills developed in the basic course, participants will learn how to apply pockets and collars, put in linings, use more detailed patterns, and incorporate more difficult fabrics. Their skills and interest level will allow them to realize a savings and to use their skills to enhance their personal income by sewing for others
4	Through participation in the Basic Batik Short Courses, participants will become aware of the various types of batiik designs. Participants will learn how to design and develop batik designs for their fabric; hot to work with various methods of creating these designs and learn the steos in creating a batik fabric.
5	As a result of their training and interest in this area, participants will provide outreach to and train church, school and youth group members about how to create batik designs.
6	Through participation in Batik Short Courses, participants will learn how to make batik projects that can be used to beautify the home and serve as gifts. Additional personal income will be generated through either word-of-mouth sales or by establishing their own small home-based business.
7	Through 'Women at the Crossroads', participants will develop knowledge of workforce preparation, personal development, personal finances, women's health and wellness issues, leadership and volunteerism
8	Through 'Women at the Crossroads' participants will prepare a letter of application, build a personal resume, conduct a mock interview, complete a job application template and assemble a personal portfolio in preparation for an actual entry level employment interview.
9	Through 'Women at the Crossroads', participants will explore the impact that poise, personality, personal appearance, positive attitude and self-confidence have on enhancing family and workforce dynamics. As a result of their experiences, participants will select and model appropriate dress, and prepare and present a personal goals statement:
10	Through 'Women at the Crossroads', participants will develop a personal budget, establish a checking account, develop a living will and explore the benefits of investing
11	Through 'Women at the Crossroads', participants will learn about health issues impacting women, complete personal health screenings, identify nutritious foods and practice healthy eating habits
12	Through 'Women at the Crossroads', participants will build leadership skills needed to become effective volunteer leaders
13	As a result of graduating and being certified through the 'Women at the Crossroads' series, participants will successfully enter the workforce and/or improve their quality of living

Outcome #1

1. Outcome Measures

Through participation in Basic Clothing Construction Short Courses, participants will develop knowledge and awareness of sewing machine parts, basic tools and equipment, fabric line and design, measuring techniques, use of patterns, and glossary of terms.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	36

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Sewing and craft skills increase the potential for generating additional income and increases the buying power in a more fragile than usual economy.

What has been done

Workshops and educational sessions were offered on a more limited basis as a result of the infrastructure upheaval following hurricanes.

Results

As usual, participants requested more advanced and more frequent workshops.

4. Associated Knowledge Areas

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

Outcome #2

1. Outcome Measures

Through participation in Basic Clothing Construction Short Courses, participants will learn how to baste, stitch, trim and finish seam allowances using a serger, put in hems and waist bands, apply zippers, insert elastic, insert darts, and make button holes. Acquisition of these skills will allow participants to construct at least one simple outfit resulting in personal savings

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	45

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Although more limited this year, participants benefited from acquisition of new skills and the potential for entrepreneurship.

What has been done

Educational sessions, workshops, individual instruction and summer camp sessions.

Results

Most participants completed basic course and requested more courses that are advanced.

4. Associated Knowledge Areas

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

Outcome #3

1. Outcome Measures

As a result of completing the Basic Clothing Construction Short Course, 75% of participants will enroll in the Intermediate/Advanced level of this course. In addition to using basic skills developed in the basic course, participants will learn how to apply pockets and collars, put in linings, use more detailed patterns, and incorporate more difficult fabrics. Their skills and interest level will allow them to realize a savings and to use their skills to enhance their personal income by sewing for others

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	25

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

On St. Thomas, batik classes were offered and continued to be in demand.

What has been done

After completion of the initial course, participants have used new skills to decorate and sell home beautification items.

Results

Requirements for satisfactory completion of the classes were met.

4. Associated Knowledge Areas

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

Outcome #4

1. Outcome Measures

Through participation in the Basic Batik Short Courses, participants will become aware of the various types of batiik designs. Participants will learn how to design and develop batik designs for their fabric; how to work with various methods of creating these designs and learn the steps in creating a batik fabric.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	60

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Decorative items to sell and expansion of personal wardrobes were two of the benefits of participants in the sessions provided.

What has been done

Six-week classes were provided as in years but with fewer cycles available.

Results

Participants completed new skill acquisition satisfactorily.

4. Associated Knowledge Areas

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

Outcome #5

1. Outcome Measures

As a result of their training and interest in this area, participants will provide outreach to and train church, school and youth group members about how to create batik designs.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	60

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

All members of the community care about the development of additional resources to ultimately enrich their respective neighborhoods.

What has been done

Part of the conservation of participants making use of existing materials and expanding their use was shared through information dissemination on recycling.

Results

Participants were made aware of the many benefits of recycling.

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management
802	Human Development and Family Well-Being
806	Youth Development

Outcome #6

1. Outcome Measures

Through participation in Batik Short Courses, participants will learn how to make batik projects that can be used to beautify the home and serve as gifts. Additional personal income will be generated through either word-of-mouth sales or by establishing their own small home-based business.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	50

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The general community benefits from expanded home-based businesses, which enhance community services and develops self- sufficiency in residents.

What has been done

Low- income participants were exposed to increased potential through educational sessions.

Results

Skills acquired by low-income participants enhanced their financial potential.

4. Associated Knowledge Areas

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

Outcome #7

1. Outcome Measures

Through 'Women at the Crossroads', participants will develop knowledge of workforce preparation, personal development, personal finances, women's health and wellness issues, leadership and volunteerism

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	15

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The more information relayed to residents about wellness, the better they can exercise due prudence in remaining healthy and enhancing personal growth.

What has been done

Limited workshops and individual instruction were provided.

Results

An overall increase in confidence and self-efficacy were demonstrated after the educational sessions.

4. Associated Knowledge Areas

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

Outcome #8

1. Outcome Measures

Through 'Women at the Crossroads' participants will prepare a letter of application, build a personal resume, conduct a mock interview, complete a job application template and assemble a personal portfolio in preparation for an actual entry level employment interview.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	10

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The general community benefits from full employment by residents. Resources extend to the entire community.

What has been done

Participants received educational sessions to help with acquiring the skills for seeking and employment.

Results

Participants were prepared for interviewing and competing for job opportunities.

4. Associated Knowledge Areas

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

Outcome #9

1. Outcome Measures

Through 'Women at the Crossroads', participants will explore the impact that poise, personality, personal appearance, positive attitude and self-confidence have on enhancing family and workforce dynamics. As a result of their experiences, participants will select and model appropriate dress, and prepare and present a personal goals statement:

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	10

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The entire community from more highly skilled residents.

What has been done

Workshops, individual instruction and access to computer technology were a part of the job preparation process.

Results

After having successfully completed the requirements, participants celebrated their task completion.

4. Associated Knowledge Areas

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

Outcome #10

1. Outcome Measures

Through 'Women at the Crossroads', participants will develop a personal budget, establish a checking account, develop a living will and explore the benefits of investing

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	11

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Increased financial literacy is important to the economic growth and development of the entire community.

What has been done

Educational sessions on establishment of checking accounts, investing and budgeting were held.

Results

Participants developed a living will and prepared budgets.

4. Associated Knowledge Areas

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

Outcome #11

1. Outcome Measures

Through 'Women at the Crossroads', participants will learn about health issues impacting women, complete personal health screenings, identify nutritious foods and practice healthy eating

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	11

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Many disease levels, i.e. diabetes, high blood pressure and heart disease are high in the territory so teaching residents about healthy eating habits and personal health screenings require top priority.

What has been done

The need to exercise was stressed in the educational sessions, which were provided. Healthy eating habits and health screenings were also emphasized.

Results

Improvement in food safety and food preparation were reported by participants who stress more utilization of healthy dietary practices.

4. Associated Knowledge Areas

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

Outcome #12

1. Outcome Measures

Through 'Women at the Crossroads', participants will build leadership skills needed to become effective volunteer leaders

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	8

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Focusing on leadership skills help to build confidence in residents as they explore their leadership potential. Increased skills that arena provided more proactive and constructive improvements in the general community.

What has been done

Workshops were held which emphasized development of leadership and volunteerism potential.

Results

Participants became more aware of their personal ability to influence challenged in the community through volunteerism and activism.

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management
802	Human Development and Family Well-Being
806	Youth Development

Outcome #13

1. Outcome Measures

As a result of graduating and being certified through the 'Women at the Crossroads' series, participants will successfully enter the workforce and/or improve their quality of living

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	9

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The general community benefits when residents experience full employment.

What has been done

Educational sessions were conducted to improve chances for gainful employment.

Results

Participants were excited to secure a variety of employment possibilities.

4. Associated Knowledge Areas

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

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy

Brief Explanation

Being in the midst of the hurricane zone, it is hoped that the territory will not experience the same level of devastation experienced in 2017 when the infrastructural systems were all but decimated. This of course impacted most systems, i.e. education, public utilities, transportation, etc which are part of the everyday existence in the territory. Recovery is ongoing but the results of which will not be seen for some years in the future.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Pre/post measures have been favorable, as well as anecdotal responses.

Key Items of Evaluation

Anecdotal data and focus groups, as well as follow-up interviews have been favorable.

V(A). Planned Program (Summary)

Program # 9

1. Name of the Planned Program

Food Safety Education-EFNEP and EFNEP Youth

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
703	Nutrition Education and Behavior	65%		0%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	25%		0%	
724	Healthy Lifestyle	10%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2018	Extension		Research	
	1862	1890	1862	1890
Plan	3.8	0.0	0.0	0.0
Actual Paid	3.7	0.0	0.0	0.0
Actual Volunteer	1.0	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
125996	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
72000	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

- Identify new locations to conduct classes.
- Recruit and train staff and volunteers to deliver food safety information to EFNEP participants (adults and youth).
- Develop and/or obtain culturally sensitive food safety curriculum appropriate for EFNEP participants (adults and youth).
- Develop and maintain relationships with partners including government agencies, clinics, places of worship, public and private schools, senior citizen centers, and day care centers.

2. Brief description of the target audience

The program targets all U.S. Virgin Islanders but especially low-income individuals who are responsible for preparing the family's meal, school age children, and pregnant teens and adults.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2018	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	150	300	489	200

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

Patent Applications Submitted

Year: 2018

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2018	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of 6-8 week class series conducted for EFNEP participants (adults and youth)

Year	Actual
2018	35

Output #2

Output Measure

- Number of volunteers recruited and trained to deliver food safety program

Year	Actual
2018	2

Output #3

Output Measure

- Number of fair-type settings in which food safety information will be presented

Year	Actual
2018	1

Output #4

Output Measure

- Number of web sites developed and maintained

Year	Actual
2018	0

Output #5

Output Measure

- Number of partnerships with agencies and organizations that will assist in improving the food safety practices of U.S. Virgin Islanders

Year	Actual
2018	3

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of adults learning basic food safety information
2	Percentage of adults adopting and maintaining at least one food safety practice
3	Number of school age children learning basic food safety information
4	Percentage of children adopting and maintaining at least one food safety practice
5	Increase awareness among the EFNEP participants about food safety issues related to personal hygiene, food storage, food preparation, and food handling
6	Increase awareness among the EFNEP participants about food safety issues related to eating away from home (e.g., restaurants, mobile food vans, food booths) and purchasing food from street vendors (e.g., fish)

Outcome #1

1. Outcome Measures

Number of adults learning basic food safety information

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	39

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Nutrition educators and health educators are concerned regarding food safety because of the warm climate and the number of street vendors, but the entire community cares because lack of food safety practices could potentially impact everyone.

What has been done

Handouts, classes, demonstrations and workshops were conducted.

Results

Clients demonstrated their knowledge and awareness of food safety practices through simulations, discussion, pre/post measures.

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
724	Healthy Lifestyle

Outcome #2

1. Outcome Measures

Percentage of adults adopting and maintaining at least one food safety practice

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	100

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Nutrition and health educators are very concerned regarding food safety practices; along with the general community which would be directly affected by unsafe food practices.

What has been done

Classes, workshops and demonstrations were conducted; also handouts on food safety were disseminated.

Results

All participants demonstrated their knowledge on food safety.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
724	Healthy Lifestyle

Outcome #3

1. Outcome Measures

Number of school age children learning basic food safety information

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	489

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Department of Education, nutrition and health educators and families care about good food safety practices.

What has been done

Conducted 6-8 week classes in the local schools.

Results

Children demonstrated knowledge through written tests and verbal demonstrations.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
724	Healthy Lifestyle

Outcome #4

1. Outcome Measures

Percentage of children adopting and maintaining at least one food safety practice

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	85

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

All of the community benefits when children are aware of proper food safety measures.

What has been done

Youth received 6-8 weeks of educational sessions in the school setting.

Results

Youth demonstrated their knowledge of food safety.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
724	Healthy Lifestyle

Outcome #5

1. Outcome Measures

Increase awareness among the EFNEP participants about food safety issues related to personal hygiene, food storage, food preparation, and food handling

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	39

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

All of the community including nutrition and health educators care about good practices in personal hygiene, food storage, preparation and handling.

What has been done

Six to eight week sessions on the topics were conducted with low- income residents.

Results

There was a demonstrated increase in knowledge and confidence as a result of completion of the series of lessons.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
724	Healthy Lifestyle

Outcome #6

1. Outcome Measures

Increase awareness among the EFNEP participants about food safety issues related to eating away from home (e.g., restaurants, mobile food vans, food booths) and purchasing food from street vendors (e.g., fish)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	39

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

All of the community along with nutrition and health educators benefit from increased awareness about food safety.

What has been done

Classes were conducted which increased the knowledge and awareness about food safety.

Results

Pre-post tests showed an increase in knowledge; youth demonstrated verbal knowledge .

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
724	Healthy Lifestyle

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Other (Cultural Environment)

Brief Explanation

The islands have street vendors serving food and due to the hot climate, food can create conditions for food borne illnesses

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Pre-post measurement results demonstrated a gain in knowledge.

Key Items of Evaluation

Questions related to food safety on the evaluation instrument and verbal demonstration of knowledge yielded positive results.

V(A). Planned Program (Summary)

Program # 10

1. Name of the Planned Program

A Healthy, Well-Nourished Population

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
701	Nutrient Composition of Food	20%		0%	
703	Nutrition Education and Behavior	60%		0%	
724	Healthy Lifestyle	20%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2018	Extension		Research	
	1862	1890	1862	1890
Plan	3.7	0.0	0.0	0.0
Actual Paid	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
138903	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

Develop culturally sensitive nutrition and health education products and resources to be made available to professionals, students, and the public. The following are examples of the products and resources to be developed and made available for distribution:

a beverage poster, brochure and/or flyer that lists the sugar and calorie content of commonly consumed beverages in the territory;

vegetable nutrient composition poster, brochure and/or flyer that highlights the nutritional value of local vegetables--it will include the vitamin, mineral, and fiber content of local vegetables;

a poster, brochure, and/or flyer detailing the sodium, fat, cholesterol, carbohydrate, and fiber content of commonly consumed local foods;

a diabetes exchange list booklet that include local foods and beverages; and

a culturally sensitive cookbook using local and familiar produce.

- Conduct disease specific workshops, short courses, seminars, and other educational activities focusing on nutrition education and behaviour change modification.
- Recruit and train staff and volunteers to deliver nutrition, diet, and health relevant information to the community.
- Develop and/or obtain culturally sensitive nutrition/health curriculum appropriate for school age children at all grade levels.
- Develop and maintain relationships with partners including government agencies, clinics, places of worship, public and private schools, senior citizen centers, and day care centers.
- Develop a web page that relays information on issues relating to the program.

2. Brief description of the target audience

This program is directed at all U.S. Virgin Island residents. However, special attention is given to high-risk groups such as residents diagnosed with diseases such as diabetes, hypercholesterolemia, hypertension, and obesity; senior citizens; and school age children.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2018	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	961	300	489	150

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

Year: 2018
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2018	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- a. Number of 6-8 week class series conducted for EFNEP participants (youth & adults)

Year	Actual
2018	35

Output #2

Output Measure

- b. Number of volunteers recruited and trained to deliver nutrition education program.

Year	Actual
2018	2

Output #3

Output Measure

- c. Number of fair-type settings in which nutrition/health information will be presented.

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

2018 1

Output #4

Output Measure

- d. Number of web sites developed and maintained.

Year	Actual
2018	0

Output #5

Output Measure

- e. Number of nutrition and health education materials developed and made available to professionals, students, and the public.

Year	Actual
2018	0

Output #6

Output Measure

- f. Number of partnerships with agencies and organizations that will assist in improving the health practices of U.S. Virgin Islanders.

Year	Actual
2018	4

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of individuals who have indicated benefits from developed educational materials.
2	Percentage of adults adopting and maintaining at least one healthy lifestyle practice. Percentage of adults helping youth to practice healthy lifestyles in order to prevent childhood obesity
3	Number of school age children learning basic nutrition information and physical fitness
4	Percentage of children adopting and maintaining at least one healthy eating habit and exercise activity
5	Increase awareness among the general public of the relationship between food intake, physical fitness, stress management and disease prevention.
6	Number of individuals who report improvement in health status (e.g., lower blood sugar, and/or cholesterol level). & increase awareness of participants about prevention of childhood obesity.

Outcome #1

1. Outcome Measures

Number of individuals who have indicated benefits from developed educational materials.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	587

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Cooperative Extension Service, Department of Education, Department of Health, and Department of Human Services all benefit from the wellness of the population, which is important to help decrease nutrition related diseases.

What has been done

Six to eight (6-8) weeks of workshops with adults and youth using developed educational materials.

Results

There has been an improvement in nutrition practices with adults and youth.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #2

1. Outcome Measures

Percentage of adults adopting and maintaining at least one healthy lifestyle practice. Percentage of adults helping youth to practice healthy lifestyles in order to prevent childhood obesity

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	90

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Cooperative Extension Service, Department of Education, Department of Health and Department of Human Services all are concerned for the wellness and disease reduction of the population.

What has been done

Six-eight (6-8) weeks of workshops were conducted with youth and adults.

Results

There was an improvement in one or more healthy lifestyle practices with adults and youth.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

Outcome #3

1. Outcome Measures

Number of school age children learning basic nutrition information and physical fitness

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

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

2018 489

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Cooperative Extension Service, Department of Education & Department Health and the Department of Human Services are concerned for the wellness of youth.

What has been done

Youth receive six weeks of education materials in the school system.

Results

An increase in knowledge was demonstrated by a change in healthy lifestyles

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
724	Healthy Lifestyle

Outcome #4

1. Outcome Measures

Percentage of children adopting and maintaining at least one healthy eating habit and exercise activity

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	85

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Cooperative Extension Service, Department of Education, Department of Health and the Department of Human Services all care about the health of the youth to prevent nutrition related diseases

What has been done

Six (6) week of classes with youth were held in the schools.

Results

Youth showed improved nutrition knowledge and practices.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
724	Healthy Lifestyle

Outcome #5

1. Outcome Measures

Increase awareness among the general public of the relationship between food intake, physical fitness, stress management and disease prevention.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	300

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Cooperative Extension Service, Department of Health, Department of Education and Department of Human Services and the general community benefit from knowledge gained.

What has been done

Nutrition information was disseminated at Agricultural Fairs, Health Fairs and other public events.

Results

Positive feedback from the general public was attained after dissemination of information on nutrition.

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food
703	Nutrition Education and Behavior
724	Healthy Lifestyle

Outcome #6

1. Outcome Measures

Number of individuals who report improvement in health status (e.g., lower blood sugar, and/or cholesterol level). & increase awareness of participants about prevention of childhood obesity.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	35

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Cooperative Extension Service, Department of Health, Department of Education & Department of Human Services all benefit from improved health status of all residents.

What has been done

Six to eight weeks of nutrition lessons were provided

Results

Improvement in adult nutrition practices were demonstrated.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Other (Cultural Environment)

Brief Explanation

The USVI lies in a hurricane prone zone. Natural disasters such as hurricanes disrupt all aspects of life in the Virgin Islands and good survival skills are critical to acquire safe food and water which impacts all aspects of living.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

None undertaken

Key Items of Evaluation

None undertaken

V(A). Planned Program (Summary)

Program # 11

1. Name of the Planned Program

4-H Youth and Volunteer Development

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
802	Human Development and Family Well-Being	15%		0%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	5%		0%	
806	Youth Development	80%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2018	Extension		Research	
	1862	1890	1862	1890
Plan	6.0	0.0	0.0	0.0
Actual Paid	2.5	0.0	0.0	0.0
Actual Volunteer	6.0	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
145074	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
50000	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Recruit, orient and train volunteers and staff

ADULT/TEEN LEADER ENGAGEMENT - A total of 159 adults and 72 teens provided volunteer leadership for 10 4-H clubs and special interest programs territory wide.

- ST. CROIX
- 18 adults and 24 teens supported eight (8) 4-H clubs as follows:
 - (2) community clubs
 - (3) school-based clubs
 - (1) military 4-H unit
 - (2) special interest programs
- 141 teachers/camps staff and 48 teen 4-H Health Ambassadors supported the 2017-18 4-H Nutrition Education grant

- ST. THOMAS/ST. JOHN

- 5 adults supported (2) school-based clubs

4-H YOUTH ENGAGEMENT - A total of 3,325 youth were enrolled in (10) 4-H clubs, target nutrition education and special interest programs territory-wide.

- ST. CROIX

- 424 youth were enrolled in (2) community clubs; (3) school-based clubs; (1) military 4-H unit; and, (2) special interest programs
 - 2,111 youth received over 12,000 direct contact hours focused on healthy living through the 2017-18 4-H Nutrition Education grant
 - 748 youth participated in eleven (11) positive youth development programs completing over 4,400 direct contact hours.

- ST. THOMAS/ST. JOHN

- 42 youth were enrolled in (2) school-based clubs

In addition supporting 159 adults and 72 teens, organizing exemplary positive youth development programming, 4-H program professional staff served as: 4-H Military and Healthy Living liaisons on the national level;

Director of Youth Activities on the Board of Directors for the Agriculture and Fair of the Virgin Islands; CYFAR Program Advisory Council and provided technical assistance and temporary staffing for the CYFAR Afterschool Program, and Co-Director of the UVI AgDiscovery Program.

- Conduct workshops on leadership, public speaking and other positive youth development topics
- Organize regular positive youth development programs, events and activities
- Organize and implement annual summer day camp program
- Promote 4-H through presentations, displays, and other media outlets
- Support volunteers, counselors and clubs

- Identify and solicit funding to support programs, events and activities
- Facilitate youth and adult volunteers, and 4-H staff participation in annual Southern Region 4-H Volunteer Leaders' Forum, National 4-H Conference and other relevant national 4-H events or other positive youth development opportunities.

2. Brief description of the target audience

- Professionals in areas of 4-H project expertise
- 4-H alumni
- School-aged youth residing in the territory
- Teachers, educators, afterschool and camp coordinators
- Current 4-H members, volunteer leaders and parent
- Geographically dispersed military youth
- High school teens needed community service hours to fulfill graduation requirements
- UVI students interested in mentoring
- Clientele served by other UVI, CES and AES programs

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2018	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	154	1000	3325	5000

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

Patent Applications Submitted

Year: 2018

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2018	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of volunteers serving

Year	Actual
2018	231

Output #2

Output Measure

- Number of volunteers trained

Year	Actual
2018	231

Output #3

Output Measure

- Number of clubs operating

Year	Actual
2018	8

Output #4

Output Measure

- Number of youth enrolled

Year	Actual
2018	2111

Output #5

Output Measure

- Number of positive youth development events organized

Year	Actual
2018	11

Output #6

Output Measure

- Number of counsellors hired
Not reporting on this Output for this Annual Report

Output #7

Output Measure

- Number of campers enrolled
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 volunteers serving
2	Number of volunteers trained
3	Number of clubs operating
4	Number of youth enrolled as reported on ES-237
5	Number of positive youth development events organized
6	Number of counsellors hired for summer camp
7	Number of campers enrolled in summer camp

Outcome #1

1. Outcome Measures

Number of volunteers serving

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	231

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Recruiting and sustaining volunteers remains the greatest challenge for the UVI 4-H Program and its further development. Low-income adults, who represent the most readily available audience, require extensive training and ongoing support. Many experience challenges with transportation and unreliable child-care options. Traditional volunteers, while willing and interested, are increasingly less available due to the need for additional employment and/or additional income.

What has been done

The 4-H program has increasingly relied on the existing 4-H clubs and program implementation models that are offered during the school day or within organized summer camps. Adult club volunteers, teachers and camp staff are trained to better understand 4-H principles and how they can effectively and efficiently support 4-H outreach efforts to optimally benefit youth participants.

Results

Over 154 adults and 63 teens stepped up to engage 3,325 youth in ten (10) 4-H clubs and special interest groups, eleven (11) positive youth development programs, events and workshops, and the 4-H Nutrition Education grant.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
806	Youth Development

Outcome #2

1. Outcome Measures

Number of volunteers trained

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	231

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Empowering volunteers through training, ongoing technical support and recognition is vital. Adult volunteers remain committed to our small, but vibrant 4-H club base. Teens continue to provide an opportunity to develop leadership, teamwork and commitment to 4-H ideals; they remain a ready source of assistance, but require additional adult volunteer and mentoring support.

What has been done

4-H 101/102 is used as the core curricula for volunteer training and development across the 4-H program. Due to severe staffing limitations, although recruitment is ongoing, training is done in the fall as a new cohort of volunteers is recruited.

Results

42 adults and teens have benefitted directly from training focused on the essential elements of positive youth development and the experiential learning model. 217 teachers, camp staff and mentors have learned about the culture of 4-H, delivery modes and in particular, the 4-H Healthy Living national mandate as part of the 4-H Nutrition Education Outreach effort.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
806	Youth Development

Outcome #3

1. Outcome Measures

Number of clubs operating

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	8

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The community club model remains the most reliable club model, however, community clubs are becoming increasingly difficult to initiate and/or maintain due to the challenges with recruiting volunteers willing to commit to the time needed to achieve success. The in-school club model has shown great promise, but is hindered by teachers as volunteers not willing to commit beyond the normal school day. The after school club model is working with five 4-H clubs with the greatest success and level of commitment shown at those schools where 4-H is part of their afterschool offerings. Teachers are more willing to stay one day for a shorter duration; children are readily available and parents appreciate that 4-H is part the afterschool program.

What has been done

4-H clubs have been actively engaged in youth leadership, citizenship and community service, healthy living and stem initiatives in line with the national 4-H mission mandates.

Results

23 adults along with 11 teen leaders serve as organizational and project leaders for 2 community clubs, 5 school-based clubs, 2 special interest clubs and 1 military 4-H club. These volunteers also provide support for the wide array of positive youth development programs, events and workshops, facilitate 4-H nutrition education and support military 4-H program initiatives.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #4

1. Outcome Measures

Number of youth enrolled as reported on ES-237

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	2111

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The slight downward 4-H enrollment trend is in line with and reflects the decreasing population being experienced in the territory. According to the latest Annie E. Casey Kids Count Data Report, the number of people calling the U.S. Virgin Islands decreased by 11%, however, there are still over 15,000 school-aged youth living in the territory representing a sizeable target audience.

What has been done

Special interest or SPIN Clubs has resulted in more robust enrollment. In addition, targeted programming such as the 4-H Nutrition Education outreach with short-term, focused learning has enhanced enrollment over the past few years.

Results

466 youth are enrolled in 2 community clubs, 5 school-based clubs and 1 military 4-H club; 2,111 youth were engaged through the 4-H Nutrition Education Program and 748 were connected via short-term and special interest programs, events, activities and workshops.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #5

1. Outcome Measures

Number of positive youth development events organized

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	11

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Special interest events, programs, activities and workshops have proven to be an effective strategy to connect schools with experiential learn, recruit new 4-H members and partners, and create positive youth development experiences for teens and youth both in and out of 4-H.

What has been done

A series of eleven (11) positive youth development programs, events, workshops and activities make up the annual 4-H Calendar. 4-H program staff provide leadership for these events, however, critical support comes from the many adult and teen leaders working with the community and school-based 4-H clubs.

Results

The programs are designed to include a minimum of 6 hours of direct contact. As a result, 748 youth are among the 3,325 official 4-H members. 31% of these youth have since become members of a 4-H club in their community or at their school.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #6

1. Outcome Measures

Number of counsellors hired for summer camp

Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

Number of campers enrolled in summer camp

Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

Two major hurricanes impacting the territory in September, 2017, caused widespread damage and contributed to families relocating in search of better education, health, and employment opportunities. Many schools were severely damaged resulting in campuses closing or being placed on double sessions; these schools have only recently resumed normal scheduling. In addition, there territory's economic woes, especially on St. Croix, continue resulting in drastic budget cuts across the government including UVI. The 4-H Program currently operates with one (1) professional staff position and relies heavily on external grant funding to support additional paid staff and student employment.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

No formal evaluation of this program is planned.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 12

1. Name of the Planned Program

Climate Change: Water Quality 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
101	Appraisal of Soil Resources	10%		0%	
104	Protect Soil from Harmful Effects of Natural Elements	10%		0%	
111	Conservation and Efficient Use of Water	10%		0%	
112	Watershed Protection and Management	10%		0%	
133	Pollution Prevention and Mitigation	60%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2018	Extension		Research	
	1862	1890	1862	1890
Plan	1.4	0.0	0.0	0.0
Actual Paid	1.8	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
117342	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

Train local government agency personnel, maintenance professionals, community group and non-governmental organization representatives, and volunteers to deliver information on water quality protection to their respective audiences and the general public utilizing the V.I. Home & Farm Water Quality Assessment (VI*A*Syst) program.

Develop and disseminate locally-oriented outreach materials related to water conservation, drinking water protection, wastewater disposal and best management practices for pollution prevention for delivery through the VI*A*Syst program, with particular emphasis on materials targeted towards youth and under-served audiences.

Educate homeowners and renters about residential environmental management including use of least-toxic household products and non-point source pollution control to protect aquatic ecosystems utilizing VI*A*Syst materials.

Develop publications, workshops, and presentations that relay information on the issues of watershed protection, non-point source pollution control, drinking water protection, and wastewater disposal and best management practices to reduce impacts to the general public.

Utilize the media to promote Water Quality programs through various methods, including, but not limited to, radio and television PSAs, television video spots, local talk shows (radio & TV), and videotapes of workshops, presentations, and symposia.

Provide technical assistance on a variety of topics, including but not limited to, erosion, sediment, and stormwater control; xeriscaping - incorporating native, drought-tolerant plants into the landscape; watershed planning; water quality assessment; drinking water protection; and environmental assessment, to government agencies, community groups, various areas of the private sector, and the general public.

2. Brief description of the target audience

Policy-makers and regulatory personnel, community groups, teachers and students, business community, non-governmental organizations, and the general public.

3. How was eXtension used?

n/a

V(E). Planned Program (Outputs)

1. Standard output measures

2018	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	1800	1500	350	200

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

Patent Applications Submitted

Year: 2018
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2018	Extension	Research	Total
Actual	11	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Education/Classes/Training in water quality protection and VI * A * Syst Program

Year	Actual
2018	40

Output #2

Output Measure

- Workshops / Presentations about water quality protection, less toxic household products and NPS BMP's through the VI * A * Syst Program, on-site wastewater treatment, cistern care, and watershed protection.

Year	Actual
2018	30

Output #3

Output Measure

- One-on-one consultations with residents, government employees, students

Year	Actual
2018	50

Output #4

Output Measure

- Tours of VI natural areas with students, community groups and others to raise awareness about watersheds and water quality protection.

Year	Actual
2018	10

Output #5

Output Measure

- Educational/research publications, articles, posters related to non-point source pollution, on-site wastewater treatment, watersheds, VI * A * Syst, and protection of VI native plant communities.

Year	Actual
2018	10

Output #6

Output Measure

- Fairs

Year	Actual
2018	3

Output #7

Output Measure

- TV/Media

Year	Actual
2018	20

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Awareness of the health risks associated with water quality impairment and water and wastewater treatment systems will increase, and fifty (50) homeowners will learn how various household substances (i.e. Fat/Oil/Grease & Pharmaceuticals and Personal Care Products, etc.) potentially can negatively affect onsite wastewater treatment systems (OWTS), water resources, marine life and human health.
2	Requests for site visits and VI*A*SYST assessments and presentations will increase. 75 clients or more will each adopt at least one VI*A*SYST recommended practice such as the use of non-toxic household products, etc.
3	Fifty (50) homeowners will improve cistern water quality by following CES recommendations.
4	Over 100 VI youth will become aware of the vital connections between human activities and water quality, how land-based activities affect coastal water quality, and why watershed protection is important to them and their well-being. Youth and volunteer involvement in water quality protection and resource conservation will increase.

Outcome #1

1. Outcome Measures

Awareness of the health risks associated with water quality impairment and water and wastewater treatment systems will increase, and fifty (50) homeowners will learn how various household substances (i.e. Fat/Oil/Grease & Pharmaceuticals and Personal Care Products, etc.) potentially can negatively affect onsite wastewater treatment systems (OWTS), water resources, marine life and human health.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	350

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Nitrification and contamination of surface, groundwater and coastal waters from leaking septic systems is considered a major problem in the VI. Nonpoint Source Pollution from defective septic systems impacts public health and marine resources. Health concerns related to impacted septic systems as potential bacterial and mosquito-borne disease breeding areas increased after hurricanes.

What has been done

In partnership with the UVI GeoCas (GIS), Physics and Chemistry Departments, the CES Water Ambassadors Program (WAP) introduced VI teachers and students to possible water quality impairment in VI watersheds caused by deficient on-site wastewater treatment systems. With funding from EPA Region 2, WAP initiated a WQ Testing Equipment Loan Program in the VI. After the hurricanes, WAP trainees demonstrated how to test water to detect the presence of pathogenic bacteria in various watershed sites downstream from septic systems.

Results

WAP partnered with the NGO, Love City Strong, and expanded WQ testing outreach services to St. John and the St Croix Environmental Assoc. Rotary Clubs on the three main islands received WAP services, and 54 individuals completed WAP's WQ "train the trainer" instruction in EPA's Citizen Science WQ training. 150 WAP students (public, private, home schools) learned water sampling research techniques and completed gathering samples in St. Thomas-St. John and St. Croix watersheds. Samples are currently being analyzed. 12 CES Water Ambassador Program (WAP), four UVI students volunteers presented sampling methods and research objectives at various public events. WAP participants from VI schools shared information about the causes of

water quality impairment with parents through various ways including WQ coloring books (Spanish-English) created by a WAP partner, the University of Puerto Rico ? Mayaguez. WAP clients also learned about diseases transmitted by mosquitoes breeding in septic systems and downstream from septic fields.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation

Outcome #2

1. Outcome Measures

Requests for site visits and VI*A*SYST assessments and presentations will increase. 75 clients or more will each adopt at least one VI*A*SYST recommended practice such as the use of non-toxic household products, etc.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	250

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Custodial professionals, business owners, school students, the general public and the natural environment can be exposed to negative effects caused by the use of toxic household products. Many residents on rely on maintaining healthy cistern catchments for their water supplies.

What has been done

CES promoted the use of non(or less)-toxic household products and integrated pest management products through the VI*A*SYST program and Water Ambassador Program presentations to individuals, schools, churches, scouts, businesses, housekeeping staff, government agencies, environmental groups, pesticide application professionals and trainees, etc. CES constantly updates this information through various sources, distributes CES publications and also promotes cistern care.

Results

Based on responses from the general public, VI*A*SYST program and CES Water Ambassador Program presentations continue to be very popular with all segments of the VI community resulting in requests for additional presentations and information about new product/practices. Many individuals indicated that they would stop using toxic household products after attending CES presentations, VI*A*SYST TV spots, or using CES publications (i.e. Recipes for a Non-toxic Household, Caribbean Home). Several attendees referred others to CES for VI*A*SYST information. CES clients indicate that they are following CES?s instructions to read product labels for safety instructions and purchasing more non-toxic products. Clients also notify CES when these products have run out of stock in various local stores. On St. Thomas and St. Croix, VI*A*SYST staff expanded outreach to pesticide application professionals/trainees by facilitating regularly scheduled training and certification classes.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation

Outcome #3

1. Outcome Measures

Fifty (50) homeowners will improve cistern water quality by following CES recommendations.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	1200

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Homeowners, farmers, custodial professionals, business owners, school students, the general public and the natural environment can be exposed to negative effects caused by the use of toxic household products. Many residents on rely on maintaining healthy cistern catchments and wells for their water supplies

What has been done

CES promoted cistern care through its VI*A*SYST program presentations and Water Ambassadors Program K-12 outreach, and distribution of publications (i.e. Help Yourself to a Healthy Caribbean Home, Recipes for a Non-toxic Household) and also promotes cistern care

through its CES Water Ambassadors Program. Also the 'WQ home uses/safe drinking water' filtration and testing promotion.

Results

Based on responses, VI*A*SYST program and Water Ambassadors Program presentations and recommendations continue to be popular with the VI community resulting in many requests for additional presentations and updates. The CES VI Cistern Health factsheet, available online, continues to provide standard WQ management information. Individuals have referred others to CES for VI*A*SYST information about cistern care after attending these presentations or viewing CES information on-line, on TV or in publications. The CES Water Ambassadors Program (WAP) extended its 'WQ home uses/safe drinking water' promotion primarily through the continued outreach efforts of trainees (UVI students, school children and volunteers) who instructed farmers, VI Rotary Clubs, congregations at a local mosque, temple and a church about how to easily produce safe drinking water through low-tech filtration equipment and its cistern and well WQ and soil testing services. WAP increased its outreach efforts and provided science-based information to over 1,000 students with funding received from EPA Region 2. WAP initiated a WQ Equipment Loan Program in the USVI and partnered with the NGO 'Love City Strong', expanded WQ testing outreach services to St. John and the St Croix Environmental Associations, and Rotary Clubs on the three main islands, and 54 individuals completed WAP's WQ 'train the trainer' instruction in EPA's Citizen Science WQ training.

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation

Outcome #4

1. Outcome Measures

Over 100 VI youth will become aware of the vital connections between human activities and water quality, how land-based activities affect coastal water quality, and why watershed protection is important to them and their well-being. Youth and volunteer involvement in water quality protection and resource conservation will increase.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	350

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Watershed residents, government agencies, resource managers, other partnering academic institutions require scientific information utilizing oceanographic and GIS technology in order to better understand the patterns of storm water runoff and the impacts of sediment and nutrient-laden runoff.

What has been done

CES helped UVI students with research projects related to the effects of land-based activities on VI coastal waters. CES instructed those replacing hurricane-destroyed vegetation at Magens Bay about the importance of strategically locating plants to maximize watershed protection. The CES Water Ambassadors Program guided youth in activities related to watershed protection. CES provided technical assistance to the UVI Coordinator of STEM Curriculum Development K-12 Coordinator re: the 'Blue Space' initiative and helped a VI farmer identify practices that support NRCS conservation district guidelines.

Results

Outreach strategies developed by the CES Water Ambassadors Program in partnership with UVI's GeoCas (GIS), Physics and Chemistry Departments introduced VI youth to the connections between human activities and water quality and increased the program's network of VI weather stations from 16 to 22 with GIS mapping capacity, drought monitoring alerts, and links through Google Apps. STEM-related curriculum development activities promoted by WAP were well-received by VI school teachers participating in the program and the UVI STEM Curriculum Development K-12 program. WAP outreach methods are serving as models for other U.S. and international school districts. UVI's MMES (Marine and Environmental Management Program) continue to use information provided by CES. Librarians in various VI schools continue to introduce CES publications focusing on critical marine and terrestrial interconnections to students and teachers.

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
104	Protect Soil from Harmful Effects of Natural Elements
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

n/a

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Clients responded favorably to the informal evaluation methods used by CES, especially in-person, one-on-one conversations. Clients and viewers verbally indicated interest and approval after NREM presentations or media appearances. Standard evaluation forms are used during workshops and training programs, and Research project reports and publications were peer-reviewed. CES's Water Ambassador Program favored using pre and post testing methods with over 350 elementary students to evaluate the program's effectiveness. UVI students and faculty involved with CES in environmental research projects have indicated that they value CES's guidance and technical assistance; they also indicate that they wish to continue partnering with CES on new projects.

Key Items of Evaluation

All key items of evaluation were used.

V(A). Planned Program (Summary)

Program # 13

1. Name of the Planned Program

Climate Change: Natural Resources and Environmental Management

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
112	Watershed Protection and Management	35%		0%	
123	Management and Sustainability of Forest Resources	35%		0%	
134	Outdoor Recreation	20%		0%	
136	Conservation of Biological Diversity	10%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2018	Extension		Research	
	1862	1890	1862	1890
Plan	1.4	0.0	0.0	0.0
Actual Paid	1.9	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
113745	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

- Continue participation with the development and implementation of environmental management, habit protection and restoration plans for territorial parks and recreation areas.
 - Continue participation with the development and implementation of environmental management master plans for Magens Bay, Estate Adventure Trail, and Great Pond Park recreation areas and a Magens Bay watershed advisory committee. Habitat protection and restoration plans/procedures will also be used to restore and/or protect other critical habitats, areas of particular concern in the territory, and areas designated as part of the VI Territorial Park initiative established by the Legislature of the VI in 2004.
- Develop resource conservation education outreach materials to engage the islands' growing immigrant populations and disseminate materials and information utilizing an innovative approach that incorporates and builds upon indigenous knowledge and practices.
- Develop websites, educational materials, workshops, presentations and demonstrations (informal learning sites) that relay information regarding native plants, ecosystems and habitats; naturalized, exotic, endangered and threatened plant species; urban forestry and other resource conservation issues.
- Utilize the media to promote Natural Resources programs through various methods, including, but not limited to, radio and television PSAs, television video spots, E-education, local talk shows (radio & TV), and presentations.
- Identify and/or develop technical materials related to resource conservation; pollution control practices; and native, medicinal, naturalized, exotic, endangered and threatened plant species for use by researchers, policy-makers and regulatory personnel.
- Provide technical assistance on a variety of topics, including but not limited to, plant identification, selection and maintenance; native, naturalized, exotic, endangered and threatened plant species; natural products development, environmental assessment; ecotourism development and other resource conservation issues to government agencies, community groups, various areas of the private sector, students and the general public.
- Play a lead role in facilitating the interaction of community groups and leaders to address natural resource conservation and management issues, as well as pollution control and prevention.
- Conduct ecotours for local schools and groups (mostly on St. Croix) to stimulate interest in careers in science, ecotourism or environmental management and to provide students and others with a general introduction to VI natural and cultural resources.

2. Brief description of the target audience

- Policy-makers and regulatory personnel, community groups, teachers and students, business community, non-governmental organizations, and the general public.
- Those charged with managing public recreation areas including the Magens Bay Authority, VI Territorial Park Advisory Committee, St. Croix East End Marine Park Committee, and Great Pond Park.
- Local environmental associations and Rotary Clubs that engage in activities to conserve and manage the VI environment.

3. How was eXtension used?

n/a

V(E). Planned Program (Outputs)

1. Standard output measures

2018	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	2650	1900	900	800

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

Patent Applications Submitted

Year: 2018
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2018	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Education/Classes in natural resources management, VI forest ecosystems

Year	Actual
2018	30

Output #2

Output Measure

- Workshops/presentations - VI forests, medicinal plants, environmental landscaping, watershed awareness, VI cultural and natural history, ecotourism, in-door air quality

Year	Actual
2018	10

Output #3

Output Measure

- One on One consultation with residents, government employees, students

Year	Actual
2018	1250

Output #4

Output Measure

- Tours of VI natural areas for students and community groups

Year	Actual
2018	10

Output #5

Output Measure

- E-education - NREM websites updated

Year	Actual
2018	1

Output #6

Output Measure

- Publications, articles, posters related to natural resources and environmental management

Year	Actual
2018	5

Output #7

Output Measure

- Fairs

Year	Actual
2018	2

Output #8

Output Measure

- TV/Media

Year	Actual
2018	5

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	The recommended environmental management BMP's will be adopted by one natural resource manager annually and successful BMP's will be used as prototypes for other critical habitats, parks and areas designated as part of the VI Territorial Park.
2	As a result of direct and indirect contacts or after attending non-formal education programs, the number of adults and students who adopt practices that protect native plants and their habitats because of their increased understanding of the human effects on native ecosystems will increase by 200.
3	Increase the number of stakeholders (government personnel, developers, community groups and students) who became more aware of the connections between terrestrial and marine communities, how watersheds function, and the importance of watershed protection by 500.
4	The number of Virgin Islands youth who increase their awareness of VI natural and cultural resources, and careers in environmental management and ecotourism will increase annually by 300

Outcome #1

1. Outcome Measures

The recommended environmental management BMP's will be adopted by one natural resource manager annually and successful BMP's will be used as prototypes for other critical habitats, parks and areas designated as part of the VI Territorial Park.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	4

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Magens Bay Authority and other local government agencies, Forest Stewardship Advisory Committee (U.S. Dept. of Forestry), St. Croix Environmental Assoc. and the Nature Conservancy (NGOs), or private landowners with natural conservation areas but are limited in their management resources. Hotel managers and developers are also responsible for implementing sound environmental management practices to protect their properties and critical natural resource habitats.

What has been done

CES helped develop post-hurricane plans for recycling green waste debris and restoring damaged/destroyed vegetation in coastal recreational areas in partnership with federal and local government agencies: (FEMA, Army Corps of Engineers, VI-DPNR/WMA/DOA, Magens Bay Authority); community groups (Island Green Builders Assoc., Hull Bay community association, VI Conservation Service), businesses (Royal Caribbean Cruise Line, arborists, hotels); and UVI partners (Green Technology Center, Science faculty, EPSCoR, UVI Physical Plant).

Results

UVI-CES recommendations were incorporated into a plan to restore hurricane-damaged vegetation at Magens Bay Territorial Park considered to be a premier Caribbean shore recreational area by Royal Caribbean Cruise Line executives who funded much of the project. CES worked with project partners to oversee the installation 530 mostly native trees by over 25 contracted workers (arborist, nursery businesses and crew) completed in time to receive the first post-storm cruise ship visits and stimulate tourism income. CES partnered with the VI Governor, VI Dept. of Tourism, VI Dept. of Agriculture (DOA), Army Corps of Engineers, UVI- Center for Green Technology and UVI-EPSCoR to develop a plan for recycling vegetative/wood waste debris left by the hurricanes. Based on information provided by CES, selected fallen trees were

aside for VI woodworkers and wood waste was converted to mulch and is available for distribution. CES helped recruit over 2500 recipients for the mulch (park managers, hotel personnel, farmers, general public).

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
123	Management and Sustainability of Forest Resources
134	Outdoor Recreation
136	Conservation of Biological Diversity

Outcome #2

1. Outcome Measures

As a result of direct and indirect contacts or after attending non-formal education programs, the number of adults and students who adopt practices that protect native plants and their habitats because of their increased understanding of the human effects on native ecosystems will increase by 200.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	600

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Many educators, resource managers, students, environmental groups, developers, environmental professionals, architects, engineers and the general public want to increase their understanding of V.I. native plants/natural ecosystems and the effects of human alterations to natural ecosystems.

What has been done

Through site visits, CES herbarium and Demonstration Garden visits, CES Facebook page and publications, permit evaluations and other direct and indirect contacts, CES delivered information

about how humans impact native plants and their habitats to students, watershed associations, businesses, developers, engineers, landowners and advisory committees. CES conducted tours with educators and students to evaluate human impacts on native plant ecosystems.

Results

UVI Students and other groups indicated that they learned about protecting and documenting VI native plants during CES herbarium tours. CES publications prompted client requests for information about native plant ecosystems, including plant identifications. VI students and other university environmental science graduate students used the UVI-CDC-CES field guide about VI plant and marine ecosystems. Students learned about the valuable protective role of plants from the Water Cycle coloring book (Spanish-English) distributed by the CES Water Ambassador Program and created by WAP partner, the University of Puerto Rico-Mayaguez. Requests for CES's book about VI traditional medicinal plants increased, and an updated version is being completed with assistance from UVI faculty and VI Department of Health. CES provided the post-hurricane green-waste debris removal advisory group and federal contractors with information about uses of VI native trees. During meetings, CES provided UVI Marine and Environmental Management graduate students and faculty with information that is being incorporated into a plan to restore the Magens Bay Arboretum and enhance it as an area for natural and cultural history tours.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
136	Conservation of Biological Diversity

Outcome #3

1. Outcome Measures

Increase the number of stakeholders (government personnel, developers, community groups and students) who became more aware of the connections between terrestrial and marine communities, how watersheds function, and the importance of watershed protection by 500.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	1250

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

CES stakeholders (government personnel, engineers, developers, community groups, resource managers, businesses educators, students) requested technical information to protect landscapes and the environment, comply with VI government permitting requirements for earth-change operations and construction or to develop urban landscape plans.

What has been done

CES delivered information about watershed/ecosystem protection through contacts with: community groups, resource managers, UVI faculty, UVI EPSCoR (NSF funded research program) and UVI Green Technology Center, VI Forest Stewardship Program, and VI schools (via CES Water Ambassadors Program, K-12). Contacts were made during site visits, class presentations, and advisory committee meetings, distribution of watershed publications, and CES Water Ambassadors Program national/international conference presentations and distance learning program.

Results

Resource managers, beach stakeholders, educators and community groups responded favorably to CES's post-hurricane strategies for improving damaged coastal riparian areas near public beaches. A developer of a planned subdivision near Magens Bay (STT) referred to CES by VI-DPNR agreed to follow CES's advice to strengthen the protection of native vegetation buffers in riparian areas outlined in the site plan. Long-range strategies to purchase and conserve VI priority watersheds were developed with CES's assistance through the VI Forest Stewardship and Forest Legacy Program committees. Additional CES information was incorporated into UVI environmental management graduate students' research projects. The CES Water Ambassador Program helped students and teachers gain a better idea of the land-sea connections that affect watershed health by guiding them through the process of how to test and monitor surface water in riparian and wetland areas and exposure to a distance-learning WQ link (in English/Spanish) focusing on conservation and water testing.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
123	Management and Sustainability of Forest Resources
136	Conservation of Biological Diversity

Outcome #4

1. Outcome Measures

The number of Virgin Islands youth who increase their awareness of VI natural and cultural resources, and careers in environmental management and ecotourism will increase annually by 300

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	700

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The VI has an economy based on tourism attracted by the natural and cultural resources and scenic beauty. Both residents, tourists and the local economy rely on the high-quality maintenance and conservation of these valuable resources. VI resource managers, tourism-related businesses, VI residents, and especially VI youth, need exposure to science-based environmental education, as well as guidance in career development that supports environmental management and protection.

What has been done

CES provided teachers, students, tourism-related businesses, Territorial Park managers with information about VI natural and cultural history, as well as the conservation and development of VI properties suitable for ecotourism. CES assisted UVI students researching traditional medicinal plant use and developing a research project related to managing ecotourism destinations. The CES Water Ambassadors Program students exposed VI youth to science-based education and possible career opportunities related to the VI natural environment and technically trained some elementary students.

Results

CES helped supervise the planting of over 530 trees at Magens Bay (STT) Territorial Park in an effort primarily funded by Royal Caribbean Cruise Line to restore the park after the hurricanes as an ecotourism destination. The VI Taxi Association also contributed to this effort; as a result, cruise ship tours were able to resume in a relatively short time, providing a needed post-storm boost to the VI economy. CES's planting recommendations also were used in other coastal ecotourism destinations on St. Thomas. VI tour and other websites continued to recommend CES publications about VI native plant ecosystems. The State Historic Preservation Office (SHIPO), local businesses, and a VI arborist continued to incorporate CES recommendations into plans to restore natural landscapes in VI historic urban areas to enhance ecotourism. The VI BigTree.net website, that CES assisted developing, provides tour businesses with locations of 'Remarkable big trees'. With CES assistance, UVI students identified traditional VI medicinal plants for their independent chemistry research projects. Students in CES's Water Ambassadors on exploring St. Thomas and St. Croix guts increased their awareness about watershed hydrology and runoff, the water cycle, riparian buffers and the importance protecting these natural areas.

4. Associated Knowledge Areas

KA Code Knowledge Area

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Government Regulations

Brief Explanation

Hurricanes Irma and Maria challenged UVI-CES to develop post-hurricane environmental restoration strategies working closely with long-time partners (local VI government divisions, businesses, VI teachers/students, and other UVI outreach departments) and newer partners (Army Corps of Engineers, FEMA, federal contractors, and the cruise ship industry).

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Clients responded favorably to the informal evaluation methods used by CES, especially in-person, one-on-one conversations. Clients and viewers verbally indicated interest and approval after attending NREM presentations or media appearances. Standard evaluation forms are used during workshops and training programs, and Research project reports and publications were peer-reviewed. CES's Water Ambassador Program favored using pre and post testing methods with over 600 elementary students to evaluate the program's effectiveness. UVI students and faculty involved with CES in environmental research projects have indicated that they value CES's guidance and technical assistance; they also indicate that they want to continue partnering with CES on new projects.

Key Items of Evaluation

All key items of evaluation were used.

V(A). Planned Program (Summary)

Program # 14

1. Name of the Planned Program

Aquaculture

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
205	Plant Management Systems	0%		50%	
307	Animal Management Systems	0%		10%	
403	Waste Disposal, Recycling, and Reuse	0%		40%	
	Total	0%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2018	Extension		Research	
	1862	1890	1862	1890
Plan	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
Actual Paid	0.0	0.0	3.0	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	54903	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	27042	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	81945	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Due to storm damage to the facilities there was no research activity in this program.

2. Brief description of the target audience

Local farmers and backyard gardeners on island and the Caribbean that are socially disadvantaged and low income.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2018	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: 2018
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2018	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Virgin Islanders trained in Aquaponics,
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	Increase in number of stakeholders using Aquaponics

Outcome #1

1. Outcome Measures

Increase in number of stakeholders using Aquaponics

Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)

Brief Explanation

Category 5 hurricane in September 2017 destroyed several fish tanks, aquaponic systems, hydroponic systems, greenhouses and damaged the nursery.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

None because of damage to facilities

Key Items of Evaluation

N/A

V(A). Planned Program (Summary)

Program # 15

1. Name of the Planned Program

Agronomy - Evaluation of Integrated Tropical Cover Crop System

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
101	Appraisal of Soil Resources	0%		10%	
204	Plant Product Quality and Utility (Preharvest)	0%		30%	
205	Plant Management Systems	0%		40%	
307	Animal Management Systems	0%		20%	
	Total	0%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2018	Extension		Research	
	1862	1890	1862	1890
Plan	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
Actual Paid	0.0	0.0	3.0	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	103334	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	50896	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	154230	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Due to storm damage from category 5 hurricane in September 2017 to field plots and facilities no research was conducted.

2. Brief description of the target audience

The greater target audience consists of crop farmers in the tropics, greater Caribbean, and the southern USA. The program's general target audience will consist of crop and livestock producers, outreach professionals from government and academic institutions, and students. The primary audience will be 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

2018	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: 2018
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2018	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Soil conservation

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	Increase in growers utilizing conservation techniques.

Outcome #1

1. Outcome Measures

Increase in growers utilizing conservation techniques.

Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)

Brief Explanation

Category 5 hurricane in September 2017 damaged field facilities and research plots preventing any research progress.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

None

Key Items of Evaluation

None

V(A). Planned Program (Summary)

Program # 16

1. Name of the Planned Program

Biotechnology - Plant Breeding

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
202	Plant Genetic Resources	0%		50%	
204	Plant Product Quality and Utility (Preharvest)	0%		30%	
206	Basic Plant Biology	0%		20%	
	Total	0%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2018	Extension		Research	
	1862	1890	1862	1890
Plan	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
Actual Paid	0.0	0.0	3.0	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	32940	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	16224	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	49164	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Due to storm damage to field lots and facilities, no research was conducted during this time period. Seed germplasm was lost due to hurricane-caused damage to seed storage facilities.

2. Brief description of the target audience

Backyard gardeners, VI Dept of Agriculture and botanical gardens. Field crop producers in the USVI and greater Caribbean

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2018	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: 2018
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2018	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of growers using new varieties
 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	Increase use of new varieties

Outcome #1

1. Outcome Measures

Increase use of new varieties

Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)

Brief Explanation

Category 5 hurricane in September 2017 destroyed field plots, greenhouses and other field facilities making any research progress difficult.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

None

Key Items of Evaluation

None

VI. National Outcomes and Indicators

1. NIFA Selected Outcomes and Indicators

Childhood Obesity (Outcome 1, Indicator 1.c)	
3325	Number of children and youth who reported eating more of healthy foods.
Climate Change (Outcome 1, Indicator 4)	
0	Number of new crop varieties, animal breeds, and genotypes with climate adaptive traits.
Global Food Security and Hunger (Outcome 1, Indicator 4.a)	
30	Number of participants adopting best practices and technologies resulting in increased yield, reduced inputs, increased efficiency, increased economic return, and/or conservation of resources.
Global Food Security and Hunger (Outcome 2, Indicator 1)	
0	Number of new or improved innovations developed for food enterprises.
Food Safety (Outcome 1, Indicator 1)	
0	Number of viable technologies developed or modified for the detection and
Sustainable Energy (Outcome 3, Indicator 2)	
0	Number of farmers who adopted a dedicated bioenergy crop
Sustainable Energy (Outcome 3, Indicator 4)	
0	Tons of feedstocks delivered.