2016 American Samoa Community College Combined Research and Extension Annual Report of Accomplishments and Results

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I. Report Overview

1. Executive Summary

Executive Summary for 2016 Annual Report
Planned Programs for 2016:
1. Families, Youth & Communities
2. Food Security
3. Human Health & Wellness
4. Ecosystem

Major Accomplishments in 2016:
ACNR continued to serve its clientele through its research and extension programs in partnership with government agencies and non-government organizations at the local, territorial, regional, and national levels.

1. Families, Youth & Communities

• 4-H Youth Agents served more than 3,000 clients through 4-H projects, camps, meetings, after school programs, and educational workshops and demonstrations in the areas of youth at risk, agriculture, health, nutrition, food safety, childhood obesity, farm safety, baking, literacy, sewing, resource management, entrepreneurship, parenting, arts and crafts, Samoan culture and language, STEM (Science, Technology, Engineering, & Math),volunteer development and retention, and others.

• **2. Food Security**

• Agriculture Extension Agents served more than 1,600 clients through farm visitations, workshops and training in farm safety and pesticides safety; vegetable, taro & banana production; aquaculture (tilapia) & hydroponics; and livestock (swine & poultry) production. Moreover, Extension Agents distributed more than 1,500 planting materials of disease resistant cultivars; and produced and distributed more than 3,000 pounds of tilapia feed. Researchers provided 18 plant clinic diagnoses and recommendations, and evaluated more than 1,000 progenies of advanced taro cultivar crosses.

• **3. Human Health & Wellness**

• FCS & EFNEP Agents served more than 6,000 clients through extension programs in nutrition, exercise, childhood & adult obesity, food safety, healthy lifestyles and environment, health communications, and sewing and traditional arts. More than 500 clients increased their knowledge leading to a healthier lifestyle by eating more fruits and vegetables; more than 400 clients prepared healthier foods utilizing locally grown & harvested food; and more than 400 clients participated in physical activities and exercises

• The Health Communications Research program provided technical assistance in developing healthy behaviors communications strategies to the Department of Human and Social Services WIC program, to the local department of health and CDC for vector-borne disease prevention messaging, and to the American Samoa Medicaid Simulated State Model design team to identify delivery models to improve the territory's health care systems. The entomology program remains an important contributor in the department of health's mosquito control planning, implementation, and public messaging for prevention of dengue, chikungunya, and Zika viruses. More than 20,000 people were exposed to ASCC ACNR

generated mosquito-borne disease prevention messages.

- **4. Ecosystem**
  - Forestry staff served more than 1,500 clients through advisory council meetings, projects, site visitations, management plans, and workshops and trainings. They propagated and distributed more than 1,500 trees to protect the forest ecosystems (watersheds, forests, agroforestry), alleviate the negative impacts of climate change (invasive species, flooding, soil erosion, water contamination), and sustain energy resources.

Major Challenges in 2016 were:

1. Retirement of ASCC President and ACNR Dean & Director
2. ASCC Accreditation Status renewal
3. Budget Constraints
4. Shortage of professional (scientists) and qualified staff (with Bachelors & Masters degrees)
5. Limited sea and air transportation to the Manu'a islands
6. Department of Health shut down farming businesses due to poor sanitation and use of illegal pesticides
7. Rejection of local produce by the School Lunch Program

Total Actual Amount of professional FTEs/SYs for this State

Year: 2016	Extension		Research	
	1862	1890	1862	1890
Plan	21.5	0.0	14.2	0.0
Actual	12.5	0.0	9.6	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

Research and extension initiatives are client-driven, that is, based upon the latest stakeholder inputs. Owing to our limited number of staff, which serves a population of over 55,000, each Researcher and Extension Agent tries to match his/her knowledge skills and expertise to high priority client concerns according to federal grant requirements. All Researchers have joint research-extension responsibilities, which also helps ensure research remains focused on addressing important community needs. An investigator proposing a new research project is required to submit a project outline detailing the justification, objectives, procedures, and other pertinent information that would allow someone with relevant experience to adequately evaluate the proposal. The Research Coordinator then distributes this project outline to three or more appropriate scientists, extension professionals, or other staff within the college and to scientists and others with suitable expertise in other agencies. A cover letter explains the necessity for a merit review, lists three criteria by which to judge the proposal, and gives an assurance of anonymity. The three criteria are: 1. How important is the proposed activity to advancing knowledge and understanding of agricultural or health-related issues in American Samoa and other Pacific islands? 2. Is the project based on sound scientific principles? Are the proposal's arguments supported by verifiable facts? 3. Are sufficient resources available to bring the project to a successful conclusion? How well

qualified is the individual or team to conduct the project? Are sufficient funds, facilities, equipment, and assistance available? The Research Coordinator collects the reviews and returns them to the investigator. The investigator may then choose to modify the proposal, based on the reviews, before resubmitting it to the Research Coordinator. The Research Coordinator accepts or rejects the proposal. If the latter, the investigator may appeal to the Director, who makes the ultimate decision. If the Research Coordinator accepts the proposal, it is forwarded to the Director for final approval or rejection. Merit review of extension programs is an ongoing process. As described in the Stakeholder Input section, formal and informal solicitation of feedback is a part of extension workshops, activities, meetings, trainings, and farm visits. These inputs help Extension Agents and Program Managers assess the effectiveness of programs and identify ways to improve them. The Agriculture, Forestry, Family and Consumer Sciences, and 4-H Extension Program Managers oversee ongoing programs and evaluate new initiatives to ensure they are effectively addressing client needs. Annual performance reviews provide additional opportunities for Program Managers to evaluate programs and provide useful feedback to the Extension Agents. Ongoing programs and new initiatives must be approved by the Extension Coordinator and responsibility for final approval of all proposed extension activities rests with the Director.

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 of selected individuals from the general public
- Other (Focus groups)

Brief explanation.

Similar to 2015, stakeholders' participation is encouraged through media announcements (TV, radio, newspaper) and social media (facebook); targeted invitations to traditional and non-traditional individuals; surveys of general public and of select group; and focus group and evaluation sessions at
workshops, meetings, and activities.
Agriculture Extension Program (AEP): AEP used six (6) TV news spots, four (4) radio talk shows, and four (4) Samoa News (newspaper) articles, photos with captions, and PSAs to announce (4) public meetings (100 participants); two (2) farm safety days with 328 participants; seven (7) pesticides workshops (123 participants); eight (8) vegetable workshops (123 participants); two (2) swine workshops (30 participants); meeting with the Governor, four (4) department directors (DOA, DOH, DOE, ASEPA), and 100 farmers. Stakeholders' participation in focus group and evaluation sessions at 14 tours/field trips (532 students) and aforementioned workshops, and farm visitations to 466 commercial and subsistence farmers also seek stakeholder input and encourage stakeholders' participation.
Forestry Program: Forestry Program used two (2) TV news spots, four (4) Samoa News (newspaper) articles, photos with captions, PSAs, and social media (facebook page) to announce

(2) Advisory Council meetings (30 participants); 23 workshops (940 participants) on conservation education, climate change, invasive species, and land management activities at fourteen (14) schools
and nine (9) villages. Stakeholders' participation in focus group and evaluation sessions at 27 schools tours (532 students) to forestry greenhouses and demonstration projects also seek stakeholder input and encourage stakeholders' participation.
Family Consumer Science Program (FCS): FCS staff used 12 TV news spots, 2 radio programs, 24 Samoa News (newspaper) articles, photos with captions, PSAs, and social media (facebook page) to announce: one public meeting in the Manu'a islands; 29 basic nutrition workshops (893 participants) at 19 different community organizations; 12 basic nutrition workshops at Food Stamp Program (4873 participants); and 10 sewing workshops (201 participants). Stakeholders' participation in focus group and evaluation sessions at 14 school tours (532 students) and aforementioned workshops also seek stakeholder input and encourage stakeholders' participation. Participation of 750 stakeholders in completing the needs assessments, survey, family enrollment form, 24-hour food recall, and behavior checklist instruments seek stakeholder input and encourage stakeholders' participation.
4-H Program: 4-H staff used four TV news spots, two radio programs, 20 newspaper (Samoa News) articles, photos with captions, PSAs, and social media (facebook page) to publicize: 2 youth camps (70 participants); youth summer employment program, 27 volunteer leaders meetings (300 participants); Farm Fair (280 participants); Coast Weeks (300 participants); and 30 4-H workshops (520 participants). Stakeholders' participation in focus group and evaluation sessions at 14 tours (532 participants); four (4) First Friday's at the Fagatogo Market (210 participants); and above mentioned workshops also seek stakeholder input and encourage stakeholders' participation.

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 (formative and summative evaluations of workshops)

Brief explanation.

Agriculture Extension Program (AEP): AEP used focus group and evaluation sessions, surveys, and meeting minutes to identify individuals and groups at: two public meetings (100 participants); two farm safety days with 328 participants; seven pesticides workshops (123 participants); farm visitations to 117 commercial and subsistence farmers; eight vegetable workshops (403 participants); two swine workshops (30 participants); 27 tours/field trips (532 students); and meeting with the Governor, four department directors (DOA, DOH, DOE, ASEPA), and 466 farmers.
Forestry Program: Forestry Program used focus group and evaluation sessions, surveys, and meeting minutes to identify individuals and groups at: two Advisory Council meetings (30 participants); 23 workshops (940 participants) on conservation education, climate change, invasive species, and land management activities at 14 schools and nine villages; and 27 schools tours (1450 students) to forestry greenhouses and demonstration projects.
Family & Consumer Science Program: FCS used focus group and evaluation sessions, bilingual surveys instruments, two needs assessments, and testimonies to identify individuals and groups at: 29 Basic Nutrition workshops (893 participants) at 19 community organizations; 12 Basic

Nutrition workshops at Food Stamp Program (4,873 participants); ten sewing workshops (201 participants); and 27 school tours (523 students). Information from the 750 completed surveys, Family Enrollment Form, 24-hour Food Recall, and Behavior Checklist instruments were used to identify individuals and groups.
4-H Program: 4-H staff used focus group and evaluation sessions, bilingual survey instruments, meeting minutes, and direct communication to identify individuals and groups at: 30 4-H workshops (520 participants); ten 4-H club with 977 participants; two camps (70 participants); 4 volunteer leaders
meetings (40 participants); Farm Fair (280 participants); Coast Weeks (300 participants); and four First Friday's at the Fagatogo Market (210 participants).

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
- Meeting specifically with non-traditional groups
- Survey specifically with non-traditional groups
- Meeting specifically with non-traditional individuals
- Survey specifically with non-traditional individuals
- Meeting with invited selected individuals from the general public
- Survey of selected individuals from the general public
- Other (Focus group sessions)

Brief explanation.

Agriculture Extension Program: Collected inputs from 2,042 stakeholders through focus group and
evaluation sessions, and meeting minutes at: two public meetings (30 participants); two farm safety days with 328 participants; seven pesticides workshops (123 participants); farm visitations to 117 commercial and subsistence farmers; eight vegetable workshops (403 participants); two swine workshops (30 participants); 27 tours/field trips (532 students); a meeting with the Governor, four (4) department directors (DOA, DOH,DOE, ASEPA), and 466 farmers.
Forestry Program: Collected inputs from 1472 stakeholders through focus group and evaluation sessions, and meeting minutes at: two Advisory Council meetings (30 participants); 23 workshops (940 participants) on conservation education, climate change, invasive species, and land management activities at fourteen schools and nine villages; and 27 schools tours (532 students) to forestry greenhouses and demonstration projects.
Family & Consumer Science Program: Collected inputs from 4000 stakeholders through focus group and evaluation sessions, focus groups, bilingual surveys instruments, and testimonies at: 29 Basic Nutrition workshops (893 participants) at 19 community organizations; 12 Basic Nutrition workshops at Food Stamp Program (4,873 participants); 10 sewing workshops (201 participants); and 27 school tours (523 students). Inputs were collected from 750 clients through survey, Family

Enrollment Form, 24-hour Food Recall, and Behavior Checklist instruments.
4-H Program: Collected inputs from 1340 stakeholders through focus group and evaluation sessions at: 30 4-H workshops (520 participants); 27 tours (523 participants); 2 camps (70 participants); 4 volunteer leaders meetings (40 participants); Farm Fair (280 participants); Coast Weeks (300 participants); and 4 First Friday's at the Fagatogo Market (210 participants). Moreover, the 4-H Program used meeting minutes, focus groups, bilingual survey instruments, and direct communication to collect stakeholders' inputs.

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 Staff Hiring Process
- In the Action Plans
- To Set Priorities

Brief explanation.

Similar to 2015 stakeholders' inputs were used to identify emerging issues; redirect extension programs; hire staff; and to make changes, improvements, and/or to develop new programs for the community.
Agriculture Extension Program (AEP): The stakeholders' feedback identified common needs and issues that must be addressed. Some of these issues include
farmers' language and cultural barriers, lack of available farming supplies on island, high cost of feeds and pesticides, swine inbreeding, School Lunch Program, ban of produce by the local Department of Agriculture for food safety, and pesticide control on vegetables. AEP will need to hire two additional staff.
Forestry Program: Inputs from stakeholders were considered in making the needed program changes, program development, and to improve public awareness. Launched a conservation education campaign and awareness on the importance of protecting the forests, trees, watersheds, and control of invasive species. Continued to work with local and federal partners on developing policies and establishing a board to prevent tree cutting in public and government lands. The program will need to hire a Forestry Researcher and one additional staff.
Family & Consumer Science Program:
As a result of the stakeholders' inputs, the FCS program extended the sewing program from 12 weeks to 15 weeks of lessons. Due to lack of transportation, only one sewing workshop was conducted in the Manu'a islands. We received additional requests from the Manu'a islands for more sewing and textile printing workshops.
4-H Program: Stakeholders' inputs were used to identify the following emerging issues: include the local 4-H club members in the STEM (Science, Technology, Engineering, and Math) programs; implement the Health Rocks Program in after-school programs to address health and childhood obesity problems; develop a legal comprehensive liability form for minors and volunteers;
and need to revive the 4-H Foundation.

Brief Explanation of what you learned from your Stakeholders

Agriculture Extension Program (AEP): The priority areas/issues learned from the 2,042 AEP stakeholders include: need more Extension staff visibility in the community through program delivery and outreach services; need new swine breeds and artificial insemination demonstrations; need more improved/resistant taro and banana varieties; need new fruit tree varieties; need to assist

clients by providing wood chipping service for manure management for swine farmers; need pesticide residue testing equipment; and need for more qualified staff including field agents, and more vehicles and equipment to effectively deliver the programs to the community.

Forestry Program: The priority areas/issues learned from the 1472 Forestry Program stakeholders include: the need to control invasive species (flora & fauna); program staff should be more visible in the community to assist and encourage landowners to protect the environment, and become better environmental stewards by planting more native trees to address climate change; continue to work with village councils to manage watersheds and coastal areas; extend program services to the Manu'a islands; continue and sustain existing collaboration and partnerships with other government agencies and non-government organizations, including partners such as the Office of Samoan Affairs and the Department of Parks and Recreation; establish new forestry-related projects for conservation purposes in highly urbanized areas; provide new and updated forestry documents including brochures and pamphlets; provide more services in reducing critically polluted and eroded areas; provide more outreach activities to increase environmental and forest awareness towards the youth; and hire more professional staff with the necessary qualifications in improving the Forestry Program.

Family & Consumer Science Program (FCS): The priority areas/issues learned from the 4,000 FCS Program stakeholders include: more nutritional recipes; need federal government approval for Food Stamp Program recipients to purchase produce from local roadside markets and food stalls; request for FCS to offer nutrition education workshops after hours and weekends; request for FCS to extend nutrition education workshops to Aunu'u and Manu'a islands; and need to offer nutrition, food safety, and physical activity workshops to government agencies and non-government organizations. Moreover, the stakeholders' inputs priority areas/issues collected from more than 320 FCS sewing program clients include: need to repeat the basic sewing workshops for beginners; need to offer advanced level sewing; need to provide enough sewing machines for clients during workshops; need to organize a fair to display and exhibit sewing products/outfits; need to conduct traditional and non-traditional handicrafts and arts workshops; and need assistance with starting sewing businesses.

4-H Youth Program: Stakeholders' inputs from 1,340 4-H Program participants/clients include: more
youth educational programs in the community; need to provide resources/supplies for activities; adults, parents, and volunteers need to understand the 4-H experiential model; extend 4-H programs into the villages and churches; need to revive the 4-H Foundation; and extend the STEM (Science, Technology, Engineering, & Math) program to 4-H school and village clubs.

Overall, the stakeholders are asking for more new programs, services, and resources. ASCC-ACNR Education, Research, and Extension programs are addressing many of the aforementioned needs and issues given the available human, financial, and physical resources. This explains the need for more staff, professionals, and resources.

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
1267749	0	1210972	0

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	436589	0	347493	0
Actual Matching	436589	0	347493	0
Actual All Other	0	0	0	0
Total Actual Expended	873178	0	694986	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

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

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
724	Healthy Lifestyle	25%		0%	
801	Individual and Family Resource Management	10%		0%	
802	Human Development and Family Well-Being	10%		0%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	5%		0%	
806	Youth Development	50%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2016	Extension		Research	
	1862	1890	1862	1890
Plan	6.0	0.0	5.0	0.0
Actual Paid	2.3	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
84267	0	0	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
84267	0	0	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Extension Programs worked with families and youth in the community through school and after-school programs, camps and summer sessions, site visits, presentations, workshops and training. Workshops and activities included Arts & Crafts, Games, Nutrition, Healthy Food Demo, Healthy Lifestyle, and Sewing. Workshops also included topics on Citizenship, Parenting, Home Economics, Samoan Culture, Textile Design, Survival Skills Training (First Aid/CPR), Volunteering, Partnership Collaboration, Wellness and Healthy Lifestyle Education, Physical Education, Animal Farm/Livestock, Entrepreneurship, GIS mapping, Farm Safety workshop, Food Security, STEM, and Forestry.

2. Brief description of the target audience

The targeted audiences are the residents of American Samoa, including families, parents, children, youth, homemakers, youth organizations, farmers, students, and any interested individual in American Samoa.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2016	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	500	5500	2600	12000

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

Patent Applications Submitted

Year:	2016
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2016	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of group educational workshops and program activities conducted.

Year	Actual
2016	39

Output #2

Output Measure

- Number of youth that participated in educational workshops and program activities.

Year	Actual
2016	2600

Output #3

Output Measure

- Number of adults that participated in educational workshops and program activities.

Year	Actual

2016	475

Output #4

Output Measure

- Number of volunteers that participate in professional development workshop.

Year	Actual
2016	39

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	% of youth who increase knowledge of life skills concepts and practices.
2	% of youth who were able to acquire knowledge for positive self-development.
3	% of participants who developed new life skills due to all the Program activities.
4	% of program participants who have improved parent and children relationship through educational and recreational activities.

Outcome #1

1. Outcome Measures

% of youth who increase knowledge of life skills concepts and practices.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	80

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Resource management (poverty), parenting, culture, and youth at risk issues continued to be major areas of concern in American Samoa. According to the Statiscal yearbook by the ASDOC, 54.5%(2010) of American Samoa families are considered poor and below the US poverty level. The DOE Standard base assessment indicates that more than 50% of public school students fall below the basic level of reading and math (SY 2015-16 AS Report Card). According to the 2011 CDC American Samoa YRBBS, 15.2% of high school students smoked marijuana one or more times during their life. Also in 2011, 28.8% were offered, sold, or given an illegal drug on school property compared to 14.3% in 1993. 38.1% were ,never taught about HIV or AIDS. School enrollment dropped in SY2015 from 17337 in SY14 to 16648.

What has been done
In 2016, the FCS, Forestry Program, Agriculture Extension Program, and 4-H conducted 73 in-school workshops, after-school, program tours, community workshops and 3 camps.

Results
About 80% of 977 youth participants acquired knowledge of life skills concepts and practices.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle
801	Individual and Family Resource Management
802	Human Development and Family Well-Being
803	Sociological and Technological Change Affecting Individuals, Families, and Communities

806 Youth Development

Outcome #2

1. Outcome Measures

% of youth who were able to acquire knowledge for positive self-development.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	80

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
According to the statistical yearbook by the ASDOC, school enrollment decreased in SY15 to 16,648 from SY14 17,337. Also in 2015, college enrollment decreased from 1,488 in SY14 to 1,276 in SY15. The DOE Standard base assessment indicates that more than 50% of public school students fall below the basic level of reading and math (SY 2015-16 AS Report Card). According to the 2011 CDC American Samoa YRBBS, 15.2% of high school students smoked marijuana one or more times during their life. Also in 2011, 28.8% were offered, sold, or given an illegal drug on school property compared to 14.3% in 1993. 38.1% were never taught about HIV or AIDS.

What has been done
In 2016, FCS and the 4-H Program conducted 30 workshops for the youth and FCS conducted 10 workshops for families. The goals of the programs are to teach skills and empower the participants (youth)and parents to make the right choices.

Results
About 80% (781) of the 977 workshop participants acquired knowledge for positive self-development.

4. Associated Knowledge Areas

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

803	Sociological and Technological Change Affecting Individuals, Families, and Communities
806	Youth Development

Outcome #3

1. Outcome Measures

% of participants who developed new life skills due to all the Program activities.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	70

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Resource management (poverty), parenting, culture, and youth at risk issues continued to be major areas of concern in American Samoa. According to the ASDOC yearbook, 54.5% (2010)of American Samoa families are considered poor and below the US poverty level. The per capita income was $6,311. The DOE Standard base assessment indicates that more than 50% of public school students fall below the basic level of reading and math (SY 2015-16 AS Report Card). According to the 2011 CDC American Samoa YRBBS, 15.2% of high school students smoked marijuana one or more times during their life. Also in 2011, 28.8% were offered, sold, or given an illegal drug on school property compared to 14.3% in 1993. 38.1% were never taught about HIV or AID.

What has been done
In 2016, FCS conducted 10 sewing workshops and 10 parenting workshops for adults. The Agriculture Extension staff conducted 8 vegetable garden workshops and helped establish 38 vegetable gardens. The 4-H program conducted 30 workshops to enhance hands-on skills, decision making skills, develop positive leadership skills, and increase knowledge of entrepreneurship. The Forestry program conducted 23 workshops.

Results
In 2016, 150 participants received certificates of completion in the sewing program. The participants were able to tailor and sew their own clothes. About 70% of participating youth and adults in the programs acquired knowledge and developed skills in resource management, nutrition, food safety, and youth at risk issues.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle
801	Individual and Family Resource Management
802	Human Development and Family Well-Being
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
806	Youth Development

Outcome #4

1. Outcome Measures

% of program participants who have improved parent and children relationship through educational and recreational activities.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	70

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Resource management (poverty), parenting, culture, and youth at risk issues continued to be major areas of concern in American Samoa. 54.5% of American Samoa families are considered poor and below the US poverty level. The per capita income in American Samoa is $6,311.

What has been done
Extension Programs conducted workshops and provided resources to empower youth to make the right choices and to help parents become better parents. The 4-H program conducted 30 workshops and 2 camps to enhance hands-on skills, decision making skills, develop leadership skills,and increase knowledge of entrepreneurship. In addition, the FCS conducted 10 parenting workshops (150 participants), Forestry conducted 23 workshops and the Agriculture Extension program conducted 8 gardening workshops.

Results
1,100 program participants improved parent-child relationships through educational and recreational activities. 150 participants completed parenting workshops. About 70% of the program participants acquired knowledge and developed skills in resource management, Samoan

culture, and youth at risk issues.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle
801	Individual and Family Resource Management
802	Human Development and Family Well-Being
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
806	Youth Development

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
- Other (Staff Recruitment, Culture)

Brief Explanation

The Planned Programs are being conducted at the college campus and in the community, including the villages. In FY2016, The programs could only visit the Manu'a islands once because of the lack of transportation by sea and air. Some issues (premarital sex, teenage pregnancy, sexually transmitted disease) are considered taboo because of cultural and religious beliefs.
In FY 2016, the 4-H and FCS were able to reach more than 5,000 participants in all the programs that were conducted. For the first time the 4-H partnered with American Samoa Government (ASG) Human Resources (HR) to employ fifteen (15) youth in the Summer Youth Employment program. The participants were able to learn work skills and other new skills through different programs within the Land Grant areas, for example, Samoan culture, the military lifestyle, arts & crafts, energy-saving activities, technology/electronics, healthy lifestyle, and vegetable gardening.
Participants reported the Basic Sewing Program as a useful program for families in the community. Most participants are saving money from doing their own sewing. About 10% of the participants bought their own sewing machine and started their own businesses at home.
As of now, programs can only provide services to the island of Tutuila but not to Manu'a islands due to lack of transportation. The program agents need to be more visible in order for the community to understand and know more about the programs. The Programs need to provide services to Aunu'u and the Manu'a islands. There is also a need for more

qualified staff. Additional agents, vehicles, and equipment are needed to effectively deliver the programs to the clients.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Evaluation results indicated that participants have increased knowledge due to the planned program activities. Positive feedback and critical comments were used to assess the program and determine what is working and what is not. In 2016, 201 participants received certificates of completion in the sewing program. About 75% (1,005) of the 1,340 program participants acquired knowledge and developed skills in resource management, Samoan culture and youth-at-risk issues. Taking the program to the villages makes a difference in the number of participants. Most families do not have the time or means of transportation to attend programs after work or school.

As we are the only agricultural research station in the territory, schools frequently bring students to the campus for visual and hands-on experience. In 2016, school tours decreased due to lack of public transportation for public schools, but there was an increase in requests for agents to provide workshops at the schools. Tours ranged from 15 to 130 students/adults per visit. The tour requests from schools are based on the school curriculum.

All Extension Programs are well received by the public and community, and will continue to provide the services as requested by the schools and communities. There is still a need for more qualified staff including field agents, and more vehicles and equipment to effectively deliver the programs to the community. Overall, clients and participants reported that Extension programs are doing a good job, and they are grateful that the staff members are able to travel out to the villages and schools to conduct the programs.

To provide better services to the community, about 90% of the activities are carried out at the villages by the 4-H and FCS agents. The 4-H and FCS Program must continue to deliver the programs to the villages in order to reach the women, youth and families in American Samoa. For the FCS program, most of the participants are women or homemakers. Most of these women do not have any means of transportation, and having the FCS within walking distance makes it easier to complete the 12-week program. The 4-H program also makes it easier for the youth to attend the programs because the parents are either working, or have no transportation or are too busy with other tasks.

The 4-H program clubs and in-school program leaders are grateful for all the activities for the youth to learn culture, resource management, entrepreneurship, arts & crafts, dealing with peer pressure, pregnancy, and developing life skills. Extension programs need to:

- Deliver programs for the youth in the community
- Conduct more camps for the youth and families.
- Conduct more workshops on family strengthening and the Samoan Culture.
- Secure and acquire more resources to assist with the activities and programs
- With so many curricula/projects available from the national level, there is a need for more qualified staff and resources to deliver these curricula.

For better connection with youth in American Samoa, we have partnered with the DOE, American Boy Scouts, US Army Reserve, Department of Youth and Women, Water and Conservation Board, DPS Juvenile Center, and DOH Family Planning Program. There's a need for more staff as the demand for activities and programs, both after-hours and in-school, increases.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Food Security

☑ Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	5%		20%	
111	Conservation and Efficient Use of Water	5%		0%	
202	Plant Genetic Resources	5%		15%	
205	Plant Management Systems	10%		10%	
211	Insects, Mites, and Other Arthropods Affecting Plants	5%		10%	
212	Pathogens and Nematodes Affecting Plants	5%		10%	
306	Environmental Stress in Animals	5%		0%	
307	Animal Management Systems	10%		0%	
308	Improved Animal Products (Before Harvest)	5%		0%	
315	Animal Welfare/Well-Being and Protection	5%		0%	
401	Structures, Facilities, and General Purpose Farm Supplies	5%		0%	
403	Waste Disposal, Recycling, and Reuse	5%		0%	
601	Economics of Agricultural Production and Farm Management	5%		0%	
604	Marketing and Distribution Practices	5%		0%	
703	Nutrition Education and Behavior	10%		15%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	1%		0%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	4%		0%	
903	Communication, Education, and Information Delivery	5%		20%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2016	Extension		Research	
	1862	1890	1862	1890
Plan	8.0	0.0	5.0	0.0
Actual Paid	3.5	0.0	4.3	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**
135808	0	170519	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
135808	0	170519	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Extension agents conducted community workshops, school programs and farm visits to provide educational information, demonstration and activities on the program developments. Listed are the planned projects, activities and workshops for the planned program:

1. Import, micropropagate (tissue culture), multiply, evaluate, and distribute improved taro and vegetable cultivars to farmers.
2. Identify vegetables and varieties that perform well in American Samoa.
3. Conduct field trials to evaluate for disease/pest resistance, heat/rain tolerance and yield.
4. Perform crosses of elite taro cultivars and evaluate progenies for yield, disease resistance, and taste. Collect or import, multiply, and distribute improved fruit tree varieties.
5. Conduct vegetable and fruit tree workshops.
6. Provide plant clinic diagnoses and recommendations for plant health management.
7. Conduct surveys of isolates of Phytophthora colocasiae.
8. Conduct pest surveys
9. Test reduced-risk pesticides
10. Conduct biological control studies of economically important pests
11. Provide technical support with nuisance bee problems and apiculture
12. Develop food safety policies & procedures
13. Implement food safety, sanitation, and protection practices.
14. Conduct pesticide safety and farm safety trainings.
15. Conduct farm visitations and demonstrations
16. Develop public awareness.
17. Produce and evaluate growing media made from locally sourced materials as alternatives to imported peat mixes and mined top soil.
18. Conduct workshops to present locally produced growing media to farmers.

19. Maintain Center for Sustainable Integrated Agriculture and Aquaculture
20. Provide technical assistance on production, disease, and nutrition issues to aquaculture farmers
21. Conduct workshops on aquaculture, including integrated practices such as aquaponics and tilapia-cum-pig systems.
22. Reduce inbreeding of farmers' animal operations - buying/selling or trading of stock, boar services, artificial insemination, training in feeding management, mange control and improvement in facilities.

2. Brief description of the target audience

Targeted audiences include small and resource-limited farmers, commercial farmers, aquaculture farmers, forestry clients, hobby farmers, potential farmers, general public, school students, 4-H members, church youth and other community group members.

All residents of American Samoa are served, including students, teachers, food handlers, food vendors, homemakers, cooks, farmers, village residents, church members, children and youth program participants.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2016	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	2500	6000	3000	10000

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

Patent Applications Submitted

Year:	2016
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2016	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of cultivars of disease resistant taro and improved varieties of sweet potato multiplied and released.

Year	Actual
2016	5

Output #2

Output Measure

- Number of improved taro sets and/or sweet potato slips disseminated.

Year	Actual
2016	1936

Output #3

Output Measure

- Number of plant clinic diagnoses and recommendations made to assist clients.

Year	Actual
2016	18

Output #4

Output Measure

- Number of vegetable variety demonstrations completed.

Year	Actual
2016	8

Output #5

Output Measure

- Number of new fruit tree varieties introduced.

Year	Actual
2016	2

Output #6

Output Measure

- Number of Tilapia released from breeding program.

Year	Actual

2016	240

Output #7

Output Measure

- Pounds of Tilapia feed produced at ASCC feeds lab.

Year	Actual
2016	3401

Output #8

Output Measure

- Number of farmers participating in the small scale chicken farms program/project

Year	Actual
2016	0

Output #9

Output Measure

- Number of isolates of Phytophthora colocasiae collected and tested for virulence.
  Not reporting on this Output for this Annual Report

Output #10

Output Measure

- Number of crosses of taro cultivars performed and number of new cultivars evaluated.

Year	Actual
2016	1000

Output #11

Output Measure

- Number of group educational sessions conducted.

Year	Actual
2016	19

Output #12

Output Measure

- Number of research-related projects

Year	Actual
2016	0

Output #13

Output Measure

- Number of one-on-one technical assistance/consultations.

Year	Actual
2016	117

Output #14

Output Measure

- Number of local conferences held for partners, community groups and clients.

Year	Actual
2016	11

Output #15

Output Measure

- Number of pesticide efficacy tests completed.
  Not reporting on this Output for this Annual Report

Output #16

Output Measure

- Number of pest surveys completed in collaboration with local Department of Agriculture.

Year	Actual
2016	3

Output #17

Output Measure

- Number of farmers that participated in locally produced growing media workshops.
  Not reporting on this Output for this Annual Report

Output #18

Output Measure

- Number of vegetable cultivars evaluated.

Year	Actual
2016	43

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of clients targeting problems according to recommendations on plant clinic form.
2	Number of farmers/clients growing improved varieties of crops, fruit tree, genetic stocks, or upgrading livestock.
3	Number of farmers/clients who gain knowledge in Farm Safety and Pesticide while attending workshops and trainings.
4	Number of farmers making their own tilapia feeds.
5	Number of farmers switching from use of peat or mined topsoil to locally produced soilless growing media.
6	Percent of participants who acquired knowledge of food safety and followed safe food handling guidelines
7	Number of pest species for which presence or absence in American Samoa was determined
8	Number of virulence groups identified among isolates of Phytophthora colocasiae and number of isolates in the most virulent group.
9	Number of high-yielding, disease-resistant, and good-tasting hybrid taro cultivars/lines released to farmers.
10	Number of farmers that report increased knowledge of best management practices to improved quality and profitability.
11	Number of crop cultivars appropriate for American Samoa's conditions that are adopted by farmers.

Outcome #1

1. Outcome Measures

Number of clients targeting problems according to recommendations on plant clinic form.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	18

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Accurate diagnosis is the first essential step in addressing plant health problems. Home gardeners, subsistence and commercial farmers, as well as extension agents sometimes require expert assistance to make a correct diagnosis. In addition, if a pest or disease problem is new to the area, expert assistance can help ensure a timely diagnosis and response and possibly prevent establishment and spread of a new pest or disease. Expert advice on management can help ensure that plant health problems are resolved in an efficient, environmentally sound manner.

What has been done
The ASCC-ACNR Plant Clinic combines the expertise of ASCC-ACNR's Entomology, Plant Pathology, and Horticulture labs to provide timely plant health diagnoses and recommendations to clients, including farmers, gardeners, and extension agents. As a member of the National Plant Diagnostic Network, the ASCC-ACNR Plant Clinic has access to regional and national diagnostic expertise when required.

Results
The ASCC-ACNR Plant Clinic continued to provide assistance to extension agents, the department of agriculture, farmers, and others through plant health diagnosis and management recommendations. In most cases recognizing the causes of their production problems helped clients deal with them effectively or to be better prepared to prevent or manage problems in future crops.

4. Associated Knowledge Areas

KA Code	Knowledge Area

205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources

Outcome #2

1. Outcome Measures

Number of farmers/clients growing improved varieties of crops, fruit tree, genetic stocks, or upgrading livestock.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	466

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
There is a great need in American Samoa to increase consumption of fruits and vegetables to help address the issue of obesity and non-communicable disease. Farmers continued to farm vegetable varieties that are beneficial for their health, providing food, and generating an income for the family. Inbreeding is still an issue with the piggery farmers.

What has been done
The Agriculture Extension outreach programs continued to provide seeds/seedlings to the community, schools and 4-H clubs for vegetable gardening. The agents also conducted follow-up visits to farmers, schools, and producers. The Extension office continues to sell seeds of improved vegetable varieties at an affordable price to the public to encourage vegetable farming. The Ag. Extension program conducted a AI workshop that helped farmers improve their stocks.

Results
The Agriculture Extension program sold more than 128 vegetable seed packages to 86 farmers. The Agriculture Extension staff identified improved cultivars that perform well in the tropics and are disease resistant. In 2016, 63 farmers improved stock through the ACNR Extension Servicesd and 25 of them improved their stocks from the AI project.

4. Associated Knowledge Areas

KA Code	Knowledge Area
202	Plant Genetic Resources
205	Plant Management Systems
308	Improved Animal Products (Before Harvest)
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices

Outcome #3

1. Outcome Measures

Number of farmers/clients who gain knowledge in Farm Safety and Pesticide while attending workshops and trainings.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	451

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The continued usage of illegal pesticides in American Samoa is still an issue. Importation and entry of pesticides into American Samoa are also challenging. Another issue is the improper handling of pesticides before, during, and after usage.

What has been done
During FY 2016, ASCC-ACNR conducted 7 Pesticide Applicator workshops and 2 Farm Safety Days.

Results
In FY 2016, Extension professionals trained and certified 123 participants. The EPA pesticide officer was present to certify the participants. The certification allows the participants to buy pesticides from the local Department of Agriculture and non-government vendors. As a result of the 7 pesticides workshops and 2 farm safety days, farmers, clients and applicators increased awareness of Integrated Pest Management strategies and biological control programs.

4. Associated Knowledge Areas

KA Code	Knowledge Area
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
903	Communication, Education, and Information Delivery

Outcome #4

1. Outcome Measures

Number of farmers making their own tilapia feeds.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	12

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The main issue is the high cost and availability of commercial feeds for the farmers.

What has been done
The Center for Sustainable Integrated Agriculture and Aquaculture (CSIAA) continues to maintain equipment for the production of fish feeds that is available to local fish farmers with no charge.

Results
Farmers continued to make use of feeds facilities to produce feed for the farm. In 2016, the CSIAA produced 3401 pounds of tilapia feeds.

4. Associated Knowledge Areas

KA Code	Knowledge Area
306	Environmental Stress in Animals
307	Animal Management Systems
308	Improved Animal Products (Before Harvest)

315	Animal Welfare/Well-Being and Protection
401	Structures, Facilities, and General Purpose Farm Supplies
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices

Outcome #5

1. Outcome Measures

Number of farmers switching from use of peat or mined topsoil to locally produced soilless growing media.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Use of peat based media and mined topsoil in vegetable seedling, container plant, and hydroponic production is a non-sustainable practice. Locally sourced organic materials should be evaluated as replacements for peat and topsoil.

What has been done
Locally sourced organic materials have been identified, appropriate equipment for processing have been obtained and media produced from combinations of coconut husk, dry litter piggery compost and fishmeal have been evaluated for chemical and physical properties and for effects on plant growth.

Results
Media from locally sourced organic materials have been found to be acceptable as replacement for peat based media. The next step will be to hold workshops for public education.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water

205	Plant Management Systems
403	Waste Disposal, Recycling, and Reuse

Outcome #6

1. Outcome Measures

Percent of participants who acquired knowledge of food safety and followed safe food handling guidelines

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	90

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Obesity, overweight, poor nutrition, and food safety issues continued to be major problems for both adults and youth in American Samoa. There is a need for more nutritional, educational, and vegetable garden workshops to educate the community about healthy lifestyles.

What has been done
The FCS program conducted 29 workshops in nutrition and food safety for 300 plus participants per month. The Agriculture Extension staff conducted 8 workshops on vegetable gardening in the schools and seven pesticides safety training workshops.

Results
About 90% of the participants in the workshops prepared and consumed healthy meals/food. Moreover, 90% of the participants acquired knowledge and followed safe food handling guidelines.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #7

1. Outcome Measures

Number of pest species for which presence or absence in American Samoa was determined

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
American Samoa's managed and unmanaged ecosystems are highly susceptible to disruptions by accidentally introduced exotic plant pests. Exotic pest detection surveys may allow for early detection of such pests so that they can be eradicated before they spread and become established in the territory.

What has been done
ASCC ACNR and the American Samoa Department of Agriculture work together to implement exotic pest detection surveys under the USDA APHIS Cooperative Agricultural Pests Survey program. The partners maintain a trapping network for exotic fruit flies and deploy bait stations to monitor for exotic invasive ant species. In addition, citrus and related species are surveyed for evidence of harmful citrus greening disease.

Results
The fruit fly trapping network did not detect any non-native fruit flies among the 26,928 flies trapped and identified during the reporting period, and citrus greening disease was also not detected at any of the 50 sites sampled in that survey. The exotic ant survey did not find imported fire ant or little fire ant or any other species new to the territory in any of the 2,254 bait stations placed at 43 locations considered at high risk for accidental introduction of exotic ants. The implementation of these ongoing pest surveys provides American Samoa's residents, farmers, and decision-makers up-to-date information on American Samoa's status with respect to these worldwide plant pests and diseases.

4. Associated Knowledge Areas

KA Code	Knowledge Area

211 Insects, Mites, and Other Arthropods Affecting Plants

212 Pathogens and Nematodes Affecting Plants

Outcome #8

1. Outcome Measures

Number of virulence groups identified among isolates of Phytophthora colocasiae and number of isolates in the most virulent group.

Not Reporting on this Outcome Measure

Outcome #9

1. Outcome Measures

Number of high-yielding, disease-resistant, and good-tasting hybrid taro cultivars/lines released to farmers.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The potential for taro production to be negatively affected by pests, diseases, changes in climate (salinity, drought) can be lessened if cultivars with tolerance or resistance to these problems are available. A breeding program to produce cultivars ideal for our environment is important to local food security.

What has been done
Several disease resistant taro cultivars have been introduced as parent material for a taro improvement program. Two generations of crosses and field evaluation (1st generation) of hundreds of cultivars for yield, taste, and taro leaf blight resistance have been conducted.

Results
The results from the 1st generation of cultivars showed acceptable yield and taro leaf blight resistance. Taste needs improvement. Field evaluation of 2nd generation of crosses is ongoing.

This is a long term project. No exceptional cultivars have yet been identified or released to the public.

4. Associated Knowledge Areas

KA Code	Knowledge Area
202	Plant Genetic Resources
212	Pathogens and Nematodes Affecting Plants

Outcome #10

1. Outcome Measures

Number of farmers that report increased knowledge of best management practices to improved quality and profitability.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	125

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
In FY2016, there were still questions on the quality of the produce sold to the public, especially the School Lunch Program. The Department of Health cited or shut down farming businesses due to poor sanitation or use of illegal pesticides. Local produce has been rejected by the School Lunch Program because of poor quality due to lack of knowledge of better farming practices to ensure good quality produce.

What has been done
The Agriculture Extension program conducted 3 farm safety workshops and 2 pesticide trainings with farmers, schools and partners. The FCS program conducted 12 food safety workshops.

Results
Farmers acquired knowledge from farm safety workshops and pesticide safety training. The Agriculture Extension program assisted farmers and local government agencies with issues concerning farm safety and produce quality.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
205	Plant Management Systems
307	Animal Management Systems
601	Economics of Agricultural Production and Farm Management
703	Nutrition Education and Behavior
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources

Outcome #11

1. Outcome Measures

Number of crop cultivars appropriate for American Samoa's conditions that are adopted by farmers.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Disease, pest, heat, extreme rain, and other conditions associated with a tropical climate make vegetable production difficult in American Samoa. Evaluation of a variety of vegetable crops and different cultivars for resistance and tolerance to these conditions will improve food security and reduce reliance on pesticides and other inputs.

What has been done
RCBD trials of head cabbage, tropical squash, zucchini, tomato, chili pepper and eggplant as rootstock for grafted tomato production have been conducted.

Results
One eggplant with bacterial wilt resistance for grafted tomato production, 2 head cabbage, 1 tomato, 1 zucchini, 1 chili pepper and 2 tropical squash cultivars that grow well in our environment have been identified. Tomato cultivar Tyrex has been recommended to farmers.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
202	Plant Genetic Resources

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
- Other (Lack of staff; procurement process, transportation challenges)

Brief Explanation

Unreliable boat transportation to Manu'a islands prevented transport of equipment, forcing postponement of pest surveys there.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

In addition to the outputs and outcomes above, the value of our research programs to our stakeholders is evidenced by the numerous requests for assistance in providing research-based guidance which we receive from other local agencies, nonprofits, schools, and others in the community. During the reporting period our horticulture research program provided technical assistance to the local department of agriculture on food and farm safety, to the Pacific Youth and Community Development NGO for their community hydroponics development project, to the American Samoa Alliance Against Domestic and Sexual Violence in leading two two-week workshops on vegetable gardening and hydroponics, to schools in helping establish demonstration hydroponic vegetable production systems, and as a member of the steering committee for the American Samoa Community Cancer Coalition. The entomology program continued providing technical support to the local department of agriculture's biosecurity division with pest identifications and advising and through the Cooperative Agricultural Pest Surveys, and the entomology, plant pathology, and horticulture programs worked together to provide plant health diagnostic services through the plant clinic.
By the end of the FY 2016, the Agriculture Extension Program conducted 7 pesticide training with 80% of the participants being certified. The program also conducted 2 Farm Safety days with 90% of the participants acquiring knowledge. Based on focus groups and feedback, there are still needs for:
1. Improved varieties (Traditional crops)
2. Vegetable gardening workshops/demonstrations
3. Pesticide Safety Education program
4. Progressive Agriculture Safety Days
5. Piggery waste management workshops
6. Farm visitations

7. Fruit trees propagation workshops

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Health and Wellness

☑ 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	50%		0%	
721	Insects and Other Pests Affecting Humans	10%		50%	
724	Healthy Lifestyle	30%		0%	
903	Communication, Education, and Information Delivery	10%		50%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2016	Extension		Research	
	1862	1890	1862	1890
Plan	4.0	0.0	3.0	0.0
Actual Paid	2.4	0.0	1.9	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**
84267	0	70808	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
84267	0	70808	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Extension Programs collected inputs from stakeholders through 24 Basic Nutrition workshops in the community, schools and at the Food Stamp Program. Moreover, inputs were collected from clients through surveys, the family enrollment form, 24-hour food recall, and behavior checklist instruments. The 4-H Program conducted 30 workshops with school agencies, community clubs, and after-school programs in physical and healthy activities to educate youth in health and wellness. The Forestry program conducted workshops on how forest health relates to healthy living. The Agriculture Extension program, EFNEP and the Family and Consumer Sciences Program continued to provide workshops and demonstrations on healthy living through farming and healthy eating. ASCC ANCR continued research on the biology and control of disease-carrying mosquitoes and communicated results via research reports, brochures, seminars, TV, and individual contacts with other agencies, students, and the general public. ACNR's Health Communications and Media Research (HCRM) Program completed analysis of data collected for the SAM-044 Project, Media Reach and Effects of the TWOTN (The Weight of the Nation" documentary) broadcast and American Samoan audience segmentation study. The HCRM Program worked with the American Samoa Department of Human and Social Services' Women, Infants and Children (WIC) program for the third phase of the placemat intervention project to improve nutritional and physical activity behavior among overweight and obese children. HCRM program also collected the baseline data for the Gestational Diabetes Health Communications Intervention Study at LBJ Tropical Medical Center in American Samoa working with collaborators at LBJ Hospital, Yale University, and the University of North Carolina supported by a grant from the Send Hope, Not Flowers Organization.

2. Brief description of the target audience

All residents of American Samoa

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2016	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	3127	4980	673	2480

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

Patent Applications Submitted

Year:	2016
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2016	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Healthy Food Educational sessions/workshops conducted.

Year	Actual
2016	65

Output #2

Output Measure

- Number of Exercise and Physical Activity Workshops

Year	Actual
2016	50

Output #3

Output Measure

- Number of research-related projects

Year	Actual
2016	0

Output #4

Output Measure

- Estimated number of persons exposed to ASCC CNR generated mosquito-borne disease prevention messages

Year	Actual
2016	20000

Output #5

Output Measure

- Number of one-on-one technical assistance/consultations.

Year	Actual
2016	62

Output #6

Output Measure

- Number of people exposed to Healthy Lifestyle and choices media messages produced by CNR, including Newspaper releases, or adds, text messages, bill boards, posters, placemats, television programs, etc.

Year	Actual
2016	240

Output #7

Output Measure

- Number of participants in gestational diabetes intervention study

Year	Actual
2016	162

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of participants who report increased knowledge leading to a healthier lifestyle by eating more fruits and vegetables.
2	Number of participants that prepared healthier foods utilizing locally grown & harvested food
3	Number of participants that increased participation in physical activities and exercises
4	Number of cases of mosquito-borne illnesses at local hospital
5	Number of participants who have improved understanding of the health causes and consequences of obesity in American Samoa, and are making personal and public efforts to model and teach healthier behavior choices to their families, or in other arenas of the society, e.g. at work, at school, etc
6	Reduced rates of overweight and obesity in the American Samoan population, both for adults and minors.
7	Number of women who increased their knowledge of gestational diabetes and who received gestational diabetes screening at 24-28 weeks.

Outcome #1

1. Outcome Measures

Number of participants who report increased knowledge leading to a healthier lifestyle by eating more fruits and vegetables.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	571

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Obesity, overweight, poor nutrition, non-communicable disease, and food safety continued to be major issues for both adults and youth in American Samoa. There is a continued need for more nutrition, vegetable garden and healthy living workshops to educate the community about healthier lifestyles.

What has been done
The FCS, EFNEP, Agriculture, Forestry and 4-H Programs conducted 85 workshops in nutrition, vegetable gardening and healthy living in the schools and the community. Given the prevalence of obesity and nutrition related problems in American Samoa, nutrition education is clearly "key" and definitely a top priority in changing cultural attitudes, norms and practices related to food and nutrition.

Results
About 65% of the participants in the workshops acquired knowledge and developed skills in preparing nutritious, balanced, and safe meals; vegetable gardening; food safety; physical activity and exercise; and wellness. Participants also reported consumption of more than one serving of fruits and vegetables a day.

4. Associated Knowledge Areas

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

Outcome #2

1. Outcome Measures

Number of participants that prepared healthier foods utilizing locally grown & harvested food

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	429

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Obesity, overweight, poor nutrition, non-communicable disease, and food safety continued to be major issues for both youth and adults in American Samoa. There is a continued need for more nutrition, vegetable gardening, and healthy living workshops to educate the community for healthy living.

What has been done
The FCS program conducted 48 workshops in nutrition and food safety for 300 plus participants every month. The Agriculture Extension program conducted 4 vegetable gardening and 14 farm safety workshops in the schools and community.

Results
1,200 workshop participants prepared, learned about, and consumed healthy food through workshops and activities conducted by the FCS, EFNEP, and Agriculture Extension Programs.

4. Associated Knowledge Areas

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

Outcome #3

1. Outcome Measures

Number of participants that increased participation in physical activities and exercises

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	429

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Obesity, overweight, poor nutrition, non-communicable disease, and food safety continued to be major issues for both youth and adults in American Samoa. There is a continued need for more nutrition, vegetable gardening, and healthy living workshops to educate the community for healthy living.

What has been done
The FCS program conducted 48 workshops in nutrition and food safety for 300 plus participants every month. The Agriculture Extension program conducted 4 vegetable gardening and 14 farm safety workshops in the schools and community.

Results
1,200 workshop participants prepared, learned about, and consumed healthy food through workshops and activities conducted by the FCS, EFNEP, and Agriculture Extension Programs.

4. Associated Knowledge Areas

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

Outcome #4

1. Outcome Measures

Number of cases of mosquito-borne illnesses at local hospital

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	146

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
In American Samoa mosquitoes are carriers of several important human diseases, including dengue, chikungunya, Zika, and filariasis. Research on these mosquitoes in the local context is essential to identifying ways to reduce their numbers and prevent transmission of these diseases. The results of this research must be made available to local decision-makers and provided to the general public to guide and promote effective disease prevention efforts.

What has been done
In 2016 American Samoa experienced its first recorded Zika outbreak. The ASCC entomology lab provided research-based information on local vectors to the DoH and CDC teams for production of informational brochures, TV programs, and billboards. ASCC personnel joined DoH and CDC personnel at Zika Action Days and Preparedness Fair events in the community. Mosquitoes were trapped for virus testing in areas of active transmission, and breeding site surveys were conducted to help in targeting control measures on all inhabited islands.

Results
By the end of the reporting period, Zika cases had declined, with the last PCR-positive case reported from June. It is not possible to quantify the effect of ASCC's contributions, but the interagency collaborative effort against Zika clearly benefited from the research-based information on local mosquito vectors provided by ASCC.

4. Associated Knowledge Areas

KA Code	Knowledge Area
721	Insects and Other Pests Affecting Humans

Outcome #5

1. Outcome Measures

Number of participants who have improved understanding of the health causes and consequences of obesity in American Samoa, and are making personal and public efforts to model and teach healthier behavior choices to their families, or in other arenas of the society, e.g. at work, at school, etc

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	15

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
American Samoa suffers epidemic levels of obesity. Prevalence in adults is over 68% and children over 20%. As a result, chronic lifestyle diseases are a major problem. Prevention can occur through improving the social and physical environment to promote more healthy daily habits.

What has been done
In our healthy living placemat and film intervention study we conducted phone-based follow-up surveys with households who received the placemats to evaluate efficacy and worked with the Department of Human & Social Services WIC program to further test the intervention. Baseline data for the gestational diabetes film intervention project with the local prenatal clinic was collected and a report produced and disseminated to all partners.

Results
The majority of those contacted demonstrated solid knowledge of the six obesity prevention behavioral daily targets, and described the benefits derived from using the placemats, especially with their young children to learn the healthy behaviors. The results were best with householders who had not only received placemats but also attended a placemat intervention workshop. The rest of the intervention materials will be used in the WIC-based intervention to be conducted in 2017.

4. Associated Knowledge Areas

KA Code	Knowledge Area

703	Nutrition Education and Behavior
724	Healthy Lifestyle

Outcome #6

1. Outcome Measures

Reduced rates of overweight and obesity in the American Samoan population, both for adults and minors.

Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

Number of women who increased their knowledge of gestational diabetes and who received gestational diabetes screening at 24-28 weeks.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The adverse effects of gestational diabetes are well recognized. Mothers are at risk of pregnancy and labor complications, while fetuses may demonstrate high birth weight (complicating delivery) and hypoglycemia requiring neonatal intensive care. In addition, both have increased risk of developing type 2 diabetes post partum. Despite these risks and the presence of a well-established screening protocol, few women are receiving appropriate screening.

What has been done
ASCC worked with Yale University and the local hospital prenatal clinic to design and test an intervention to increase screening and treatment for gestational diabetes in American Samoa. Baseline data has been collected through questionnaires, interviews and focus groups, and the intervention will soon take place.

Results

The baseline data indicate that prenatal patients have little knowledge about gestational diabetes, including its causes, consequences and treatment. These data will inform the upcoming health communications intervention, which will take the form of a film to be shown in the waiting area of the prenatal clinic.

4. Associated Knowledge Areas

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

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
- Competing Programmatic Challenges
- Other (Lack of staff, procurement process)

Brief Explanation

Limited program capacity due to staff shortage, and lack of transportation so the program can provide services to the Manu'a islands.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

According to the surveys and focus groups, about 90% of the participants indicated that they acquired knowledge, developed skills, and adopted the recommended practices as a result of participating in programs provided by ASCC-ACNR.
The ACNR research programs are valued by the community for the ongoing research-based technical assistance they provide. The Health Communications Research program provided technical assistance in developing healthy behaviors communications strategies to the Department of Human and Social Services WIC program, the local department of health and CDC for vector-borne disease prevention messaging, and the American Samoa Medicaid Simulated State Model design team to identify delivery models to improve the territory's health care systems. The entomology program remains an important contributor in the department of health's mosquito control planning, implementation, and public messaging for prevention of dengue, chikungunya, and Zika viruses.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Ecosystem

☑ 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	10%		0%	
123	Management and Sustainability of Forest Resources	10%		0%	
124	Urban Forestry	25%		0%	
125	Agroforestry	25%		0%	
132	Weather and Climate	10%		0%	
135	Aquatic and Terrestrial Wildlife	10%		0%	
136	Conservation of Biological Diversity	10%		100%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2016	Extension		Research	
	1862	1890	1862	1890
Plan	3.5	0.0	1.2	0.0
Actual Paid	4.4	0.0	3.4	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**
132247	0	106166	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
132247	0	106166	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The ASCC Forestry Program conducted site visits on private/communal/public land, met with landowners, and prepared multi-year stewardship plans (including proper urban tree care) for each site. The Extension personnel worked together for site visits, meeting with stakeholders and completing a comprehensive management plan specific for each site. ASCC held community outreach events (e.g., in schools and villages) to teach church and village youth about the importance of ecosystem health, urban trees, etc. Forestry Extension personnel propagated and distributed fruit tree and native tree seedlings for agroforestry plots and the general public. Extension personnel propagated and cared for the plants and promoted their use for land owners.
The ASCC Forestry Program conducted site visits on private/communal land with invasive species concerns and wrote up management plans for specific sites and for specific invasive plant species. Extension personnel disseminated information and demonstrated the proper techniques for effectively managing invasive plant species to the landowners. ASCC ACNR continued research with the local Department of Marine and Wildlife Resources to assess the conservation status of the Samoan swallowtail butterfly and threats to its survival and to increase local public awareness of the value of this and other species that are unique to the Samoan Islands.

2. Brief description of the target audience

Scientists involved in environmental resources protection.
Policymakers in the executive and legislative branches of local government.
Students.
Farmers.
Forestry clients.
General public.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2016	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	1500	5000	2500	10000

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

Patent Applications Submitted

Year:	2016
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2016	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of trees propagated and distributed.

Year	Actual
2016	1545

Output #2

Output Measure

- Number of group educational sessions conducted.

Year	Actual
2016	23

Output #3

Output Measure

- Number of one-on-one technical assistance/consultations

Year	Actual

2016	80

Output #4

Output Measure

- Numbers of GIS Maps/Posters

Year	Actual
2016	7

Output #5

Output Measure

- Number of research-related projects

Year	Actual
2016	11

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of improved watersheds and coastal areas
2	Number of Forest Stewardship Plans
3	Number of Invasive plant management plans
4	Number of people who become aware of the Samoan swallowtail butterfly.
5	Establishment of local capacity to create accurate and up-to-date vegetation maps more quickly and cost-effectively will improve planning and evaluation capabilities of managers and researchers in and outside ASCC CNR.
6	% of Participants reporting an increased knowledge of the planned program through educational workshop and activities.

Outcome #1

1. Outcome Measures

Number of improved watersheds and coastal areas

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	10

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Stream pollution from pig wastes, trash, sedimentation, invasive species, soil erosion, and human activities are major threats to fresh water quality in American Samoa. These threats also affected fresh water fish, mangroves, marine life and coral reefs. American Samoa's wetlands, including coastal mangroves and fresh water marshes, are threatened by filling for development and by sedimentation and nutrient overload from agro-forestry.

What has been done
Forestry staff conducted 23 workshops on conservation, climate change, land management planning, and how to be good stewards. Technical assistance was also provided to 10 villages on watershed development and coastal areas. The program continues collaboration with villages, landowners, and local and federal agencies to build strong partnerships.

Results
Improved ten watersheds and coastal areas. Established four rain gardens: two in villages, one at a government agency (ASCC), and one at Lions Park. Ten villages were able to continue watershed monthly cleanups. Continued partnership and collaboration with local and federal environmental agencies to provide outreach services for the community.

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 #2

1. Outcome Measures

Number of Forest Stewardship Plans

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	44

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
American Samoa continues to depend on the forest to provide food and sustainable resources. With climate change bringing sea level rises and rising temperature in the ocean and on land, the inhabitants of American Samoa continue to recognize the importance of being good stewards of the land by restoring native forests and reforesting barren lands. Invasive plant species have invaded the forests, affecting the native flora and fauna by altering the habitats of native plants and animals.

What has been done
The Forestry program provided natural resources assistance to landowners, including technical and educational support. The program also conducted workshops and hands-on activities with landowners to maintain good care of their forestland and helped with identifying invasive species.

Results
Forty-four landowners and farmers are working cooperatively with the program on managing their forestland and related issues. The forestry program has helped develop management plans for all 44 landowners. Of these 44, 23 received technical assistance from the program for using vetiver grass in their agro-forestry projects. Nine of the 23 landowners have successfully planted vetiver grass on their sloped agro-forest lands for soil stabilization. Forest Stewardship staff continue to work closely with the GIS specialist in documenting client land uses and plans.

4. Associated Knowledge Areas

KA Code	Knowledge Area

112	Watershed Protection and Management
123	Management and Sustainability of Forest Resources
124	Urban Forestry
125	Agroforestry
132	Weather and Climate
136	Conservation of Biological Diversity

Outcome #3

1. Outcome Measures

Number of Invasive plant management plans

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	7

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
In 2012, a State-wide Assessment and Resource Strategy for Forest Resources (SWARS) pointed out the rapid growth and spread of exotic invasive plants in American Samoa rainforest. Invasive species are displacing native plants, and constitute the greatest threat to American Samoa's rainforest.

What has been done
The Cooperative Forest Health Protection and Invasive Plants Management Program focused on selected infested invasive species sites. Staff collected data, applied herbicide, and mechanically removed unwanted plants. The field agents continued to conduct maintenance work on the seven affected sites (Maloata - 2 sites, Manu'a - 2 sites, Nuuuli - 1 site, Alega - 1 site, and Auto - 1 site).

Results
Forestry program staff and the GIS Specialist surveyed the seven sites which totalled 32 acres. Of the 32 acres, 21 are from Maloata site 1 and 2; 1 from Auto; 1 from Alega; 1 from Nuuuli, and 1 from each of the Manu'a sites. With the 32 acres surveyed, 11 acres were treated. As part of this process, Forestry staff conducted follow-up visits with management activities such as removing invasive plants; reforestation with native and traditional/cultural plants, including Intsia bijuga

(ifilele), Terminalia cattappa (talie), and Flueggea flexuosa (poumuli); and providing follow-up management recommendations. Invasive plants that were removed from these sites included Castilla elastica (Panama rubber tree), Merremia peltata (fue lautetele), and Falcataria moluccana (tamaligi palagi).

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
123	Management and Sustainability of Forest Resources
124	Urban Forestry
125	Agroforestry
132	Weather and Climate
136	Conservation of Biological Diversity

Outcome #4

1. Outcome Measures

Number of people who become aware of the Samoan swallowtail butterfly.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	30

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
As the only US territory south of the equator, American Samoa is home to flora and fauna found nowhere else in the US and its territories. It includes a number of species that occur nowhere else in the word, including the now single-island endemic Samoan swallowtail butterfly. In the past several decades, this magnificent species has disappeared from the larger islands of the archipelago and is now restricted to Tutuila. Research is urgently needed to assess its current status and possible threats to its survival there.

What has been done

ASCC is continuing to work with the American Samoa Department of Marine and Wildlife Resources and the National Park of American Samoa to develop monitoring protocols and rearing procedures and assess factors affecting populations of the butterfly.

Results

Information about the butterfly and its habitat and host requirements are integrated into presentations by ACNR staff to students and the general public during tours, school visits and other community programs to ensure that the public learns to recognize, value, and conserve this and other unique treasures of American Samoa?s natural heritage.

4. Associated Knowledge Areas

KA Code	Knowledge Area
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity

Outcome #5

1. Outcome Measures

Establishment of local capacity to create accurate and up-to-date vegetation maps more quickly and cost-effectively will improve planning and evaluation capabilities of managers and researchers in and outside ASCC CNR.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	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
112	Watershed Protection and Management
123	Management and Sustainability of Forest Resources
124	Urban Forestry
125	Agroforestry
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity

Outcome #6

1. Outcome Measures

% of Participants reporting an increased knowledge of the planned program through educational workshop and activities.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2016	90

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Native trees are central to our unique ecosystems in American Samoa, including the cloud forests of Manu'a, the mangrove forests, Pala Lagoon, wetlands and coastal forests of Tutuila and the lowland forest. Trees remain as important to our survival today as they were to our ancestors thousands of years ago. Trees provide refuge to wildlife, as well as protecting our water resources and soil by slowing soil erosion. It is imperative to the work of Forestry program to conduct educational workshops and seminars in the community through church youth groups, public and private schools, and villages to share the knowledge of how important trees are to our daily lives. It is important to remind the community that tees can help mitigate the effects of climate change, providing coolness, shade and erosion prevention.

What has been done
All 3 Forestry programs (Forest Stewardship, Forest Health and Invasive Plants, and Urban and Community Forestry) combined to conduct 3 summer camps with 8 local environmental agencies; provided 14 school tours; served 57 landowners with technical assistance; and established 4 rain gardens. During all these activities, talks, trainings and workshops, the Forestry program

addressed areas pertaining to environmental and natural resources, the importance of being good stewards and landowners, forest health issues related to invasive species, and urban community.

Results
The Forestry program and 8 local environmental agencies successfully hosted three summer camps serving 105 participants; assisted and served 532 school participants from 14 school tours; provided technical assistance to 57 public and private landowners; and implemented 4 rain gardens with 27 participants. The Forestry program continued to provide information, demonstrations, and outreach to the community. A total of 940 program participants increased their knowledge in the program through these educational workshops and activities.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
123	Management and Sustainability of Forest Resources
124	Urban Forestry
125	Agroforestry
132	Weather and Climate

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Other (Staff and/or funding changes)

Brief Explanation

Loss of staff reduced program capacity.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

In FY2016, the Extension Forestry Program collected inputs from 2500 stakeholders through focus group and evaluation sessions, and meeting minutes at: (2) Advisory Council meetings (30 participants); 19 workshops (750 participants) on conservation education, climate change, invasive species, and land management activities at ten (10) schools and eight (8) villages; and 27 schools tours (1450 students) to forestry greenhouses and demonstration projects.The forestry staff together with participants planted trees for climate change and energy sustainability. Based on the feedback, clients are satisfied but there is still a need to understand more about climate change and sustainable energy. Program evaluation indicated the following:
• Program staff should be more visible in the community to assist and encourage

landowners to
plant more native trees to address climate change.
• Continue to work with village councils to manage watersheds and coastal areas.
• Extend the program to Aunu'u and Manu'a
• Hire more professional staff
The value of the ACNR research programs to local stakeholders was shown by their continuing requests for technical assistance, including horticultural and pest management advice for nursery production and urban- and agroforestry systems as well as development and implementation of a US Fish and Wildlife Service grant with the local Department of Marine and Wildlife Resources for conservation of the endemic Samoan swallowtail butterfly.

Key Items of Evaluation

VI. National Outcomes and Indicators

1. NIFA Selected Outcomes and Indicators

Childhood Obesity (Outcome 1, Indicator 1.c)	
0	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 whit climate adaptive traits.
Global Food Security and Hunger (Outcome 1, Indicator 4.a)	
0	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.