2018 American Samoa Community College Combined Research and Extension Annual Report of Accomplishments and Results

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I. Report Overview

1. Executive Summary

Report Overview
1. Executive Summary
Executive Summary for 2018 Annual Report
Planned Programs for 2018:
1. Families, Youth & Communities
2. Food Security
3. Human Health & Wellness
4. Ecosystem
Major Accomplishments in 2018:
ACNR continued to serve its clientele through its research, education, and extension programs in partnership with government agencies and non-government organizations at the local, territorial, regional, and national levels.

1. Families, Youth & Communities

ACNR staff, FCS Agents, 4-H Youth Agents, and volunteers served more than 8,327 clients through more than 91 FCS and 4-H projects, camps, meetings, a youth conference and a youth summit, after-school programs, site visits, presentations, trainings, demonstrations, and workshops in the areas of youth at risk, agriculture, vegetable gardening, health, nutrition, cooking, food safety, childhood obesity, farm safety, baking, literacy, sewing, textile design, resource management, entrepreneurship, parenting, home economics, arts and crafts, Samoan culture and language, Samoan reading, singing, and dancing, swimming and water safety, hiking, fishing, community service, carpentry, computers and Internet, STEM, volunteer development and retention, healthy food demonstrations, healthy lifestyle & wellness, physical activity, citizenship, survival skills training (First Aid/CPR), livestock (poultry & swine), GIS mapping, food security, and forestry. More than 85% of 1,580 youth participants acquired knowledge of life skills concepts and practices; about 85% of FCS and 4-H participants acquired knowledge for positive self-development; about 80% of youth and adults participating in the extension programs acquired knowledge and developed skills in resource management, nutrition, food safety, and youth at risk issues; about 70% of program participants improved parent-child relationships through educational and recreational activities; 144 participants completed parenting workshops and about 70% of the program participants acquired knowledge and developed skills in resource management, Samoan culture, and youth at risk issues; 144 participants received certificates of completion from the sewing program and about 10% of the participants saved money by sewing their own clothes, bought their own sewing machine, or started their own business at home.

2. Food Security

ACNR Research and Extension staff served more than 1,514 clients through farm visitations and workshops and training in farm safety and pesticides safety; vegetable, taro & banana production; aquaculture (tilapia), hydroponics; and livestock (swine & poultry) production. Staff also conducted vegetable and taro cultivar trials and research on locally produced soilless growing media to replace imported peat-based media. The entomology program continued to partner with the American Samoa Department of Agriculture on the exotic fruit flies surveillance trapping program, and the exotic invasive ants detection survey, and with the US Forest Service and ACNR Forestry program in the territory's first

exotic ambrosia beetle detection trapping survey. ACNR staff conducted six pesticide applicator safety trainings with 80% of the participants (79) being certified; five Farm Safety days (649 participants) with 90% of the participants acquiring knowledge; received a Pesticides Safety Training grant; developed a Produce Safety Training Manual that was translated into Samoan, Chinese, and Vietnamese; distributed 5,927 vegetable seedlings to 310 gardeners to promote home gardening; evaluated 14 vegetable cultivars; recommended seven improved vegetable cultivars that perform well in the tropics and are disease resistant; helped establish 24 vegetable gardens; distributed 485 improved taro setts and sweet potatoes slips; performed 200 crosses of taro and evaluated the progeny; assisted 25 pig farmers improve their stocks through artificial insemination and subsequent breeding program; helped hydroponics farmers reduce operating costs by switching from commercial growing medium to locally produced soilless medium; and assisted 14 tilapia farmers produce 1,680 pounds of tilapia feed at no cost. ACNR diagnosticians assisted farmers in the Manu'a islands by diagnosing and providing management options for a harmful taro disease and collaborated with National Plant Diagnostic Network colleagues at and the University of Hawai'i to help resolve a taro disease question that had disrupted trade between the two Samoas

3. Human Health & Wellness

ACNR Research and Extension staff served more than 6,893 clients through more than 89 extension and research programs and workshops in nutrition; exercise & physical activity; child & adult obesity; food safety; healthy lifestyles and environment; vegetable gardening; health communications; and balanced, safe, and nutritious meals preparation using local produce. The entomology program continued to collaborate with the Department of Health, providing technical assistance on mosquito control planning, implementation, and public messaging for prevention of dengue, chikungunya, and Zika viruses. The ACNR Health Communications program completed "Trial Testing of a Household Based Health Promotion Intervention" for American Samoa's WIC Program, and in collaboration with Yale University and LBJ Hospital co-principle investigators, completed a gestational diabetes intervention study at the hospital's prenatal clinic. The health communications researcher convened the session "Healthy Islands: Examining Health Promotion Programs and Non-Communicable Diseases in Oceania" at the Association of Social Anthropologists of Oceania 2018 Meetings in New Orleans and presented a paper on the Hatch-funded research project, 'The Weight of the Nation in American Samoa'. More than 65% of the participants in extension 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 increasing consumption of fruits and vegetables to more than one serving a day. Altogether than 900 workshop participants prepared, learned about, and consumed healthy food; and about 90% of the participants who participated in health and wellness programs acquired knowledge, developed skills, and adopted some of the recommended practices. Research-based information from ASCC ACNR played an important role throughout the course of the 2017-18 dengue outbreak in focusing public health and community efforts on eliminating the water-holding container breeding sites that produce the dengue vector mosquitoes. Filariasis elimination PSAs produced by the ASCC ACNR media unit helped mobilize the community for a successful first round of the triple drug mass treatment program aimed at eliminating this disfiguring disease.

4. Ecosystem

ACNR and Forestry staff served 2,772 clients through advisory council meetings; site visits; invasive species control; management plan development; tree planting and pruning demonstrations; watershed management; outreach presentations at schools, churches, and village councils; rain garden projects; school tours/field trips; science fair projects; Arbor Week celebration; research projects; workshops; conservation education and urban and community forestry projects; GIS map development; and environmental camps. ACNR staff continued partnerships and collaboration with local and federal environmental agencies to provide outreach services for the community. More than 90% of 1,751 participants in 21 workshops on conservation education, climate change, invasive species, and land management acquired knowledge and skills. The Forestry program and eight local environmental agencies successfully hosted a summer camp serving 50 youth participants; assisted 580 students in tours from 14 schools; provided technical assistance to ten public and private landowners; and established one rain

garden with 15 participants. Forestry program staff propagated and distributed 4,132 trees to protect forest ecosystems (watersheds, native forests, agroforestry); alleviate the negative impacts of invasive species, flooding, soil erosion, and water contamination; improved six watersheds and five coastal areas in 11 villages; established one rain garden at Leone High School; developed forest lands management plans with eleven landowners; and restored two watersheds and four streams in Nu'uuli village. ACNR staff conducted a survey to identify natural enemies of the urbicola scale insect attacking an important native littoral tree species on Rose Atoll. ASCC ACNR collaborated with the US Forest Service to create five up-to-date vegetation maps through the use of an unmanned aerial vehicle, high-resolution multispectral cameras,, and image analysis software.

5. Tropical Cyclone Gita:

Tropical Cyclone Gita struck American Samoa on February 8-11, 2018, causing an estimated $7 million in damage to local government infrastructure-including ASCC facilities and research and extension plots. Moreover, Gita affected farmers and forest landowners by destroying crops and downing trees.

The ASCC President designated the ASCC ACNR (Land Grant Program) Director to represent ASCC at the joint FEMA and American Samoa Government (ASG) daily briefings for four weeks after Gita.

ACNR staff participated in the joint FEMA and ASG task force meetings, providing technical assistance and programs and services to people affected by Gita.

ACNR staff worked with ASG and FEMA officials in providing information on available agriculture technical assistance programs and services to more than 130 senior citizens at the Territorial Administration on Aging and 260 farmers at the Department of Agriculture; joined USDA Farm Services Administration staff on a television program (KVZK TV) coordinated by the Governor's Office and FEMA to share the available programs and services to the people of American Samoa; provided information and recommendations to address the iodine deficiency in young people & special needs populations as requested by the task force; provided crop information (days from planting to harvest) for vegetables, root crops, fruit trees, and other crops as requested by the task force; provided watershed maps as requested by the task force; and conducted two TV (KVZK) programs on assistance available at ACNR. As part of the Gita response, ACNR programs distributed 1,192 vegetable seedlings to 58 clients; 350 taro planting materials to 11 farmers; 50 banana planting materials to eight farmers; sold 73 vegetable seed packages to 44 clients; sold 13 weaner gilts/boars to 11 pig farmers; assisted 14 aquaculture farmers with fish feed production; propagated 800 native tree species; distributed more than 30 tree seedlings to 20 clients; delivered one pesticide applicator safety training for 12 applicators; and worked with the Nu'uuli village council on watershed restoration in partnership with church ministers,140 youth, and 26 partner agency representatives from the American Samoa Environmental Protection Agency, the National Park, and the Coral Reef Advisory Group.

Major Challenges in 2018 were:

1. Damage caused by Tropical Cyclone Gita
2. Closure of Samoa Tuna Processors plant resulted in challenges affecting the local government and economy
3. ASCC cost containment measures continued and resulted in freeze on salary step annual increments, travel, and hiring
4. Delays in the ASCC procurement process
5. Shortage of professional (scientists & specialists) and qualified Research Assistants and Extension Agents (with Bachelors & Masters degrees)
6. Recruitment of local qualified people to fill ACNR positions
7. Department of Health shut down farming businesses due to poor sanitation and use of illegal pesticides
8. Rejection of local produce by the School Lunch Program
9. Entry of Illegal non-EPA registered pesticides
10. Need for translators to conduct workshops and translate materials in Tongan, Filipino, Chinese, other Asian and Pacific Island languages as the population of these ethnic groups increase
11. Need to develop programs to assist clients prepare before, during, and after a disaster (natural or man-made) hits

12. Need to work with the local government on the transportation issue (air & sea) to enable ACNR to deliver programs and services to the Manu'a islands
13.Need federal government approval for Food Stamp and WIC Program recipients to purchase local produce (fruits, vegetables, traditional crops, and meat)

Total Actual Amount of professional FTEs/SYs for this State

Year: 2018	Extension		Research	
	1862	1890	1862	1890
Plan	22.5	0.0	17.2	0.0
Actual	13.8	0.0	9.5	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 2017, stakeholders' participation was encouraged through media announcements (TV, radio, newspaper) and social media (Facebook); targeted invitations to traditional and non-traditional individuals; surveys of the general public and of select groups; and focus groups and evaluation sessions at workshops, meetings, and activities.

Agriculture Extension Program (AEP): AEP used eleven (11) TV news spots, two (2) radio talk shows, and seven (7) Samoa News (newspaper) articles, photos with captions, and PSAs to announce two (2) public meetings and seven (7) trainings (256 participants); five (5) farm safety days with 649 participants; six (6) pesticides workshops (79 participants); three (3) vegetable workshops (24 new gardens); and eight (8)meetings with local government officials and FEMA on the work done to support farmers and the community after Hurricane Gita. Stakeholders' participation in focus groups and evaluation sessions at 7 tours/field trips (378 students) and aforementioned workshops, and farm visitations to 152 commercial and subsistence farmers also resulted in stakeholder input and participation.

Forestry Program: The Forestry Program used three (3) 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); 26 workshops (1,751 participants) on conservation education, climate change, invasive species, and land management activities at ten (10) schools and eleven (11) villages. Stakeholders' participation in focus groups and evaluation sessions at 15 schools tours (580 students) to forestry greenhouses and demonstration projects also provided stakeholder input and active participation.

Family Consumer Science Program (FCS): FCS staff used ten (10) TV news spots, two (2) radio programs, 10 Samoa News (newspaper) articles, photos with captions, PSAs, and social media (Facebook page) to announce and to provide information on program activities and trainings. FCS Agents traveled twice to the Manu'a islands and conducted two (2) meetings and three (3) workshops (60 participants). In addition, stakeholder input was solicited at 36 basic nutrition workshops (1,400 participants) at 30 different community organizations, 12 basic nutrition workshops at the Food Stamp Program, 12 outreach demonstration at local stores (4,180 participants); and ten (10) sewing workshops (144 participants). Stakeholders' participation in focus

groups and evaluation sessions at 12 school tours (509 students) and the aforementioned workshops also provided stakeholder input and stakeholders participation. Participation of 600 stakeholders in completing the needs assessments, survey, family enrollment form, 24-hour food recall, and behavior checklist instruments provided additional input and encouraged stakeholders' participation.

4-H Program: 4-H staff used two (2) TV news spots, two (2) radio programs, five (5) newspaper (Samoa News) articles, photos with captions, PSAs, and social media (Facebook page) to publicize information about two (2) camps (one in Ofu, Manu'a (20 participants) and one in Tutuila (30 participants), workshops and activities: In collaboration with the American Samoa Government, the Summer Youth Summit was a five-day event for youth civic engagement on the "Political Status" of American Samoa (300 participants); In partnership with the American Samoa Department of Education, about 700 attended the youth summer STEM program. Stakeholder input was also solicited at two volunteer leaders meetings (50 participants) and 53 4-H workshops (420 participants), and at in-school, after-school, and community outreach. Stakeholders' participation in focus groups and evaluation sessions at 9 tours (379 participants) and the above mentioned workshops also provided stakeholder input and 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 direct invitation, farm visitation, office visits, and media advertisement responses to identify individuals and groups at: five farm safety days with 649 participants; six pesticides workshops (79 participants); farm visitations to 152 commercial and subsistence farmers; three vegetable workshops (24 new gardens); and 7 tours/field trips (378 students). AEP targeted 100 farmers for visitation, but the agents visited 152 farmers in FY2018. Of the 152 farmers, 140 (92%) were commercial farmers and 12 (8%) were subsistence farmers. The list was a compilation from the Farmers' visitation forms in which 145 (95%) of farm operators are males and 7 (5%) are females. Pesticides Safety trainings were conducted for 79 farmers whom 69 (87%) are commercial farmers and 10 (13%) are subsistence farmers. Participants attended the pesticides training through direct invitation and contact with the AEP. The training participants and clients' compositions are 65% Pacific Islanders and 35% Asians. The farmers lists were compiled through training records and applications. The farm safety days participants (649) from schools and youth groups comprise of 55.5% female and 44.5% males with 99% Pacific Islanders and 1% are consists of "other".

Forestry Program: The Forestry Program used direct invitation, landowners visitations, clients requests, outreach, and environmental agency requests to identify individuals and groups at: two Forestry Advisory Council meetings (30 participants) through direct invitation; 21 workshops (1751 participants) through direct invitation and environmental agency requests on conservation education, climate change, invasive species, and land management activities at 10 schools and 11 villages; and 15 school tours (580 students) through direct requests, outreach, and applications. The

Forestry Stewardship Program targeted 40 landowners and farmers on the islands of Tutuila (90%) and Manu'a (10%). There are 47 landowners in the FSP system, consist only of Pacific Islanders (100%), and consist of 42 males and 5 females. The landowner lists were compiled through visitations records, direct requests forms, applications, and outreach presentations attendance records. Ninety (90%) percent of the workshops are conducted at the schools and village youth programs which consist of Pacific Islanders (99%), Asians (0.7%), and Whites (0.3). The lists were compiled using contracts, management plans, and applications records. The Forestry Advisory council consists of ten (10) members, who are all directly invited. The council list was compiled by sign-in attendance sheets and meeting minutes. The council consists of Pacific Islanders (90%) and Whites (10%), with a total of 7 males and 3 females. Overall, 80% of program participants are youth and 20% are adults.

Family & Consumer Science Program (FCS): FCS used direct invitation, group visitation and requests, outreach, surveys, Family Enrollment Form, Behavior instruments, and responses to media advertisements to identify individuals and groups at: 36 Basic Nutrition workshops (1400 participants) at 30 community organizations; 12 Basic Nutrition workshops at Food Stamp Program and 12 outreach demonstration at local vendors (4,180 participants); ten sewing workshops (144 participants); and 12 school tours (509 students). Moreover, 600 completed surveys, Family Enrollment Form, 24-hour Food Recall, and Behavioral Checklist instruments were used to identify individuals and groups. The FCS sewing program targeted 120 participants but in FY2018 FCS graduated 144 participants in the Basic Sewing Workshops. For the sewing program, 99% are adults and 1% are youth with 90% females and 10% males. The age group ranges from 19 to 80, with 97% are between the ages 25 and 60. The lists and individual information were compiled by the community class leader who requested the sewing class. Overall, 98% are Samoan and 2% are Tongan, Asian and Fijian as noted by each class leader. Each Basic Sewing class participant is required to evaluate the course and the instructor before the end of the course. For the Nutrition and Food Safety Workshops, about 21% of the participants are from community organizations, 62% from Food Stamp clients, and 17% are students in schools. This program targeted 1000 participants in FY2018, but numbers are very high because of the demand and request from the community, schools, and community partners. Every outreach and workshops are required to have a sign-in sheet which includes a list of names and age. Overall, 95% of participants are Samoan, 1% Asian, 2% Filipino and 2% Tongan as noted in the Food recall enrollment forms.

4-H Program: 4-H staff used direct invitation, 4-H club visitation, school requests, surveys, and 4-H enrollment records, evaluation sessions, bilingual survey instruments, meeting minutes, and direct communication to identify individuals and groups at: 53 4-H workshops (420 participants) with the participants list compiled through sign in sheets; twelve 4-H club with 1100 participants, the participants list was compiled through registration and sign-in sheet; two (2) volunteer leaders meetings (50 participants) with the participants list compiled by attendance records and meeting minutes; Summer Youth Summit (300 participants) with the participants list compiled through the Summer Youth Employment Program applications and registration forms; and the Summer STEM Event (700 participants) in which the participants' lists were compiled through online and on-site registration. The annual target for the 4-H program is 500 but numbers are usually high because the program is trying to assist and accommodate requests from schools, government agencies, partners and the community pertaining to youth development. Based on the demographic data, 79% of participants are Pacific Islanders, about 20% indicates more than on race, and less than 1% are Asians and Whites. In every outreach activity, there is a sign-in sheet for all participants including the volunteers. Twelve percent (12%) of youth live on farms while 88% live in rural non-farm areas. Of the 30 Program volunteers, about 80% are adults and 20% are youth. Program participants' overall composition is 43% males and 57% females.

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 1,348 stakeholders through focus group and evaluation sessions, surveys, and meeting minutes at two public meetings (30 participants), 5 farm safety days with 649 participants, 6 pesticides workshops (79 participants), farm visitations to 152 commercial and subsistence farmers, 3 vegetable workshops (60 participants), and 7 tours/field trips (378 students).
Forestry Program: Collected inputs from 2,361 stakeholders through focus group and evaluation sessions, surveys, and meeting minutes at two Advisory Council meetings (30 participants); 26 workshops (1,751 participants) on conservation education, climate change, invasive species, and land management activities at fourteen schools and nine villages; and 15 schools tours (580 students) to forestry greenhouses and demonstration projects.
Family & Consumer Science Program: Collected inputs from 6,893 stakeholders through focus group and evaluation sessions, bilingual survey instruments, and testimonies at 36 basic nutrition workshops (1,400 participants) at 30 community organizations; 12 basic nutrition workshops at the Food Stamp Program and 12 outreach demonstration in local stores (4180 participants); 10 sewing workshops (144 participants); and 12 school tours (509 students). Inputs were collected from 600 clients through the family enrollment form, 24-hour food recall, and behavior checklist instruments.
4-H Program: Collected inputs from 1,580 stakeholders through focus group and evaluation sessions, and minutes at 53 4-H workshops at twelve (12) 4-H clubs with 480 participants; two (2) camps (50 participants), two (2) volunteer leaders meetings (50 participants); the Summer Youth Summit (300 participants); and the Summer STEM Event (700 participants). Moreover, the 4-H Program used meeting minutes, focus groups, bilingual survey instruments, and direct communication to collect additional 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 2017, 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 use on vegetables. AEP will need to hire three additional staff as more staff retired or are planning to retire in the near future.

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, and watersheds, and controlling 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.

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 air transportation, the program was only able to conduct one sewing workshop 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; 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 1,378 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; need for more professional (Fruit Tree Specialist, Marketing Specialist) staff and qualified Extension Agents; and more vehicles and equipment to effectively deliver the programs to the community. Hurricane Gita affected all the farmers on the island of Tutuila. The majority of farmers did not know what to do or where they could get assistance after the hurricane.

Forestry Program: The priority areas/issues learned from the 2,361 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 more program services to the Manu'a islands; continue and sustain existing collaborations 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 among the youth; and hire more professional staff (Forestry Researcher, Forest Health Specialist, others) with the necessary qualifications in improving the Forestry Program.

Family & Consumer Science Program (FCS): The priority areas/issues learned from the 6,893 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 FCS to offer nutrition education workshops after-hours and on weekends; request for FCS to extend more 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 144 FCS sewing program clients included: 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 1,580 4-H Program participants/clients included: more youth educational programs in the community; need to provide resources/supplies for activities; adults, parents, and volunteers need to understand the 4-H theory and 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
{No Data Entered}	{No Data Entered}	{No Data Entered}	{No Data Entered}

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	1128989	0	1042290	0
Actual Matching	0	0	0	0
Actual All Other	0	0	0	0
Total Actual Expended	1128989	0	1042290	0

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

V. Planned Program Table of Content

S. No.	PROGRAM NAME
1	Families, Youth and Communities
2	Food Security
3	Health and Wellness
4	Ecosystem

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: 2018	Extension		Research	
	1862	1890	1862	1890
Plan	6.0	0.0	5.0	0.0
Actual Paid	3.4	0.0	0.0	0.0
Actual Volunteer	30.0	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**
419646	0	0	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
0	0	0	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Extension Programs continued to work with families and youth in the community through school and after-school programs, camps, summer sessions, site visits, presentations, workshops and trainings. Some of the activities included vegetable gardening, cooking, exercising, playing games, teamwork, ice-breakers, youth conferences and meetings, animal farm, pets, swimming, hiking, fishing, community service, carpentry, baking, computer, ipad and online activities and usage, Arts & Crafts, Games, Nutrition, Healthy Food Demonstration, Healthy Lifestyle, Internet Monitoring, Farm Safety, Water Safety, Sewing, Designing, Camp planning and set-up, Traditional reading, singing, and dancing. Workshops included topics on Citizenship, Parenting, Home Economics, Samoan Culture, Textile Design, Survival Skills Training (First Aid/CPR), Volunteer development and retention, Partnership Collaboration, Wellness and Healthy Lifestyle Education, Physical Education, Animal Farm/Livestock, Entrepreneurship, Farm Safety workshop, Food Security, STEM, and Forestry.

2. Brief description of the target audience

The targeted audiences are families and youth in American Samoa.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2018	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	6893	20000	1580	5000

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

Patent Applications Submitted

Year:	2018
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2018	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of group educational workshops and program activities conducted.

Year	Actual
2018	55

Output #2

Output Measure

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

Year	Actual
2018	1580

Output #3

Output Measure

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

Year	Actual

2018	6893

Output #4

Output Measure

- Number of volunteers that participate in professional development workshop.

Year	Actual
2018	30

Output #5

Output Measure

- Number of camps

Year	Actual
2018	2

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
2018	85

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 Statistical 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).

What has been done
In 2018, the FCS, Forestry Program, Agriculture Extension Program, and 4-H conducted 91 in-school workshops, after-school, program tours, community workshops, 2 camps, and 2 summer programs.The 4-H Program provided workshops, educational competitions, informational booths, and hands-on activities to the youth during the STEM Summit. Some of the workshops conducted included: GIS Mapping, Food Safety, Entomology, Agriculture: Livestock, 4-H LEGO, and 4-H Math Challenge: Know Your ?X? Tables.

Results
About 85% of 1,580 youth participants acquired knowledge of life skills concepts and practices such as decision making and problem-solving, creative thinking and critical thinking, communication and interpersonal, intellectual curiosity, flexibility, and decision-making using data. The STEM partnership workshop supported school curriculums in the schools and it provided students with the knowledge in STEM literate, STEM college, STEM Career and STEM Trades Ready.

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
2018	85

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).

What has been done
In 2018, FCS and the 4-H Program conducted 53 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 85% of FCS and 4-H 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
2018	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 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).

What has been done
In 2018, FCS conducted 10 sewing workshops and 10 parenting workshops for 144 adults. The 4-H program conducted 53 workshops to enhance hands-on skills, decision making skills, develop positive leadership skills, and increase knowledge of entrepreneurship. The Forestry program conducted 26 workshops at the schools and the villages.

Results
In 2018, 144 participants received certificates of completion in the sewing program. The participants were able to tailor and sew their own clothes. About 80% of participating youth and adults in the extension programs acquired knowledge and developed skills in resource management, entrepreneurship, decision-making, problem solving, creative thinking, employability,nutrition, food safety, Samoan culture and oratory, and self-esteem building. Three (3%) percent of homemakers reported that they had started their own sewing business; 20% of homemakers purchased their own sewing machines; before participants used to do hand sewing which takes more time, but now they know how to use the sewing machine "thanks to the FCS Basic Sewing Program and the assistance of the FCS Instructor" said one participant. 53% of

homemakers reported that with the skills and knowledge taught by the FCS agent, they are saving and making money from their small business selling outfits and Elei (cultural pattern) printing fabrics.

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
2018	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.

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 53 workshops, 2 summer programs 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 (144 participants), Forestry conducted 26 workshops and the Agriculture Extension program conducted 5 farm safety days.

Results
About 70% of program participants improved parent-child relationships through educational and recreational activities. 144 participants completed parenting workshops. About 70% of the program participants acquired knowledge and developed skills in resource management, parenting, entrepreneurship, communication and decision making skills, problem solving and creative thinking, Samoan culture, and handling and coping with 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
- Populations changes (immigration, new cultural groupings, etc.)
- Other (Staff Recruitment, Culture, language barrier)

Brief Explanation

The Planned Programs are being conducted at the college campus and in the community, including the villages. In FY2018, 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 2018, the Cooperative Extension Programs 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) in conducting the Summer Youth Summit of 300 participants. 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 need for translators to conduct workshops and translate materials in Tongan, Filipino, Chinese, other Asian languages as the population of these ethnic groups increases. There is also a need for more professional (FCS Specialist, Textile Specialist,) and qualified FCS Agents. 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 2018, 144 participants received certificates of completion in the sewing program. About 85% of program participants acquired knowledge and developed skills in resource management, and 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 2018, school tours decreased due to lack of public transportation for public schools and Hurricane Gita. However, 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 implementation of 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, ASPA. NOAA, American Boy Scouts, Department of Youth and Women, Water and Conservation Board, and Village Youth

Organizations. 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

- Need to continue developing and delivering Extension programs and services in the areas of youth development, youth at risk issues, Samoan culture and language, parenting, resource management and entrepreneurship, arts and crafts, sewing, nutrition, obesity, health and wellness, food safety, food security, agriculture production (crops and livestock), environment, and others to all clients in all villages and islands of American Samoa
- Need to recruit professional (specialists) staff and qualified Extension Agents
- Need to develop programs to assist youth and families prepare before, during, and after a disaster (natural or man made) hits
- Need for translators to conduct workshops and translate materials in Tongan, Filipino, Chinese, other Asian languages as the population of these ethnic groups increase
- Need to work with the local government on the transportation issue (air & sea) to enable ACNR to deliver programs and services to the Manu'a islands.
- Need to offer more school and after school enrichment programs in the STEAM areas
- Need federal government approval for Food Stamp Program recipients to purchase local produce (fruits, vegetables, traditional crops, and meat)

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	2%		5%	
111	Conservation and Efficient Use of Water	2%		20%	
202	Plant Genetic Resources	2%		15%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	2%		5%	
205	Plant Management Systems	2%		10%	
211	Insects, Mites, and Other Arthropods Affecting Plants	2%		15%	
215	Biological Control of Pests Affecting Plants	2%		5%	
306	Environmental Stress in Animals	2%		0%	
307	Animal Management Systems	2%		0%	
308	Improved Animal Products (Before Harvest)	2%		0%	
315	Animal Welfare/Well-Being and Protection	2%		0%	
401	Structures, Facilities, and General Purpose Farm Supplies	10%		0%	
403	Waste Disposal, Recycling, and Reuse	4%		5%	
601	Economics of Agricultural Production and Farm Management	10%		0%	
604	Marketing and Distribution Practices	10%		0%	
703	Nutrition Education and Behavior	10%		10%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	2%		0%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	2%		0%	
903	Communication, Education, and Information Delivery	30%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2018	Extension		Research	
	1862	1890	1862	1890
Plan	8.0	0.0	5.0	0.0
Actual Paid	3.4	0.0	3.1	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
229747	0	347430	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

1. Imported, micropropagated (tissue culture), multiplied, evaluated, and distributed improved taro, banana, and vegetable cultivars to farmers.
2. Identified vegetables and varieties that have potential to perform well in American Samoa.
3. Conducted RCBD field trials to evaluate for disease/pest resistance, heat/rain tolerance and yield.
4. Evaluated progenies from crosses of elite taro cultivars for yield, disease resistance, and taste.
5. Collected or imported, multiplied, and distributed improved fruit tree varieties.
6. Conducted vegetable and fruit tree workshops.
7. Provided plant clinic diagnoses and recommendations for diseases/pests management.
8. Conducted pest surveys
9. Conducted biological control studies of important pests
10. Provided technical support for nuisance bee problems and apiculture
11. Demonstrated food safety, sanitation, and protection practices.
12. Conducted pesticides safety and farm safety trainings.
13. Conducted farm visitations and demonstrations.
14. Developed public awareness programs and materials.
15. Produced and evaluated growing media of locally sourced materials as alternatives to peat and mined top soil.
16. Conducted workshops to present locally produced growing media to farmers.
17. Maintained Center for Sustainable Integrated Agriculture and Aquaculture.
18. Provided technical assistance on production, disease, and nutrition issues to aquaculture farmers.
19. Conducted workshops on aquaculture, including integrated practices such as aquaponics and tilapia-cum-pig systems.
20. Reduced 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, the general public, 4-H members, church youth and other community group members, students, teachers, food handlers, food vendors, homemakers, cooks, village residents, church members, children and other youth program participants.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2018	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	1782	5000	600	2000

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

Patent Applications Submitted

Year:	2018
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2018	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

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

Year	Actual

2018	5

Output #2

Output Measure

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

Year	Actual
2018	485

Output #3

Output Measure

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

Year	Actual
2018	4

Output #4

Output Measure

- Number of vegetable variety demonstrations completed.

Year	Actual
2018	5

Output #5

Output Measure

- Number of Tilapia released from breeding program.

Year	Actual
2018	77

Output #6

Output Measure

- Pounds of Tilapia feed produced at ASCC feeds lab.

Year	Actual
2018	1680

Output #7

Output Measure

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

Year	Actual
2018	2

Output #8

Output Measure

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

Output #9

Output Measure

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

Year	Actual
2018	200

Output #10

Output Measure

- Number of group educational sessions conducted.

Year	Actual
2018	55

Output #11

Output Measure

- Number of research-related projects

Year	Actual
2018	2

Output #12

Output Measure

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

Year	Actual
2018	32

Output #13

Output Measure

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

Year	Actual
2018	2

Output #14

Output Measure

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

Output #15

Output Measure

- Number of vegetable cultivars evaluated.

Year	Actual
2018	14

Output #16

Output Measure

- Number of produce/pesticide training materials produced.

Year	Actual
2018	1

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	Number of pest species for which presence or absence in American Samoa was determined
7	Number of virulence groups identified among isolates of Phytophthora colocasiae and number of isolates in the most virulent group.
8	Number of high-yielding, disease-resistant, and good-tasting hybrid taro cultivars/lines released to farmers.
9	Number of farmers that report increased knowledge of best management practices to improved quality and profitability.
10	Number of recommended vegetable cultivars 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
2018	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
American Samoa's farmers and gardeners face a wide range of plant pest and disease problems, almost all of which are caused by species not native to the territory. A proper diagnosis and appropriate control recommendation based on locally available resources can make the difference between success and failure in both commercial and subsistence settings. Unfamiliar pests and diseases may be new incursions that require larger scale response to prevent spread and establishment.

What has been done
The ASCC ACNR plant clinic service draws on expertise of ACNR professionals to help farmers and gardeners protect their crops with environmentally sound, effective integrated management. It also provides a place to turn when new pests appear. As a member of the National Plant Diagnostic Network, ASCC ACNR can access regional and national diagnostics expertise if required. All records are entered into the NPDN national database.

Results
The ASCC ACNR plant clinic provides to extension agents and community members access to diagnostic expertise and pest management know-how to overcome both common and unfamiliar production problems. In November for example, diagnosticians traveled to the Manu'a islands to assist with a harmful disease of taro, the main staple crop. They were able to verify and reassure the community that the problem was not a new one and recommend suitable measures for sustainable management. When detection of a previously unreported taro virus disrupted trade between American Samoa and independent Samoa, diagnostic assistance from NPDN colleagues at the University of Hawaii was instrumental in resolving the issue and restoring trade.

4. Associated Knowledge Areas

KA Code	Knowledge Area
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
215	Biological Control of Pests 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
2018	310

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 helped farmers improve their stocks.

Results
The Agriculture Extension program distributed 5927 seedlings to 310 farmers at no cost. The Agriculture Extension staff identified improved cultivars that perform well in the tropics and are disease resistant. In 2018, 25 pig farmers improved their stocks from the breeding program.

4. Associated Knowledge Areas

KA Code	Knowledge Area
202	Plant Genetic Resources
205	Plant Management Systems
215	Biological Control of Pests Affecting Plants
306	Environmental Stress in Animals
307	Animal Management Systems
308	Improved Animal Products (Before Harvest)
315	Animal Welfare/Well-Being and Protection
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices
703	Nutrition Education and Behavior
903	Communication, Education, and Information Delivery

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

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	79

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
American Samoa has a growing immigrant farming community unfamiliar with Produce Safety Alliance/FSMA rules, or USEPA pesticide regulations. American Samoa Dept. of Health and the American Samoa Dept. of Agriculture do not yet have education programs for produce safety, certified produce safety/pesticide safety inspectors or pesticide residue testing capabilities. The local community is concerned about the safety of locally produced vegetables.

What has been done
An American Samoa Produce Safety Training Manual targeting local concerns and practices has

been developed. It is currently in English, Samoan, Chinese and is in translation to Vietnamese. This manual has been shared with the American Samoa Dept. of Agriculture and the American Samoa EPA (ASEPA), with the goal of it being used by their on-farm inspectors in a program to help educate local vegetable farmers in produce safety/pesticide safety.

Results
In the effort to provide farm/produce/pesticide safety training to local farmers, a partnership between ASCC-ACNR and the American Samoa Dept. of Agriculture (ASDoA) has resulted in ASDoA receiving a FSMA Produce Safety grant to assist in becoming compliant with the new FSMA rules. ASCC-ACNR has also formed a relationship with Hawaii State Dept. of Agriculture, Pesticide Branch, who will be providing training to ASDoA and ASEPA inspectors on conducting on farm produce/ pesticide safety inspections. They will also be trained in protocols for collecting plant tissue samples for pesticide residue testing.

4. Associated Knowledge Areas

KA Code	Knowledge Area
211	Insects, Mites, and Other Arthropods Affecting Plants
215	Biological Control of Pests Affecting Plants
403	Waste Disposal, Recycling, and Reuse
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
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

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	14

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 2018, the CSIAA produced 1680 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
2018	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Hydroponic and nursery farmers are interested in locally sourced coir to reduce costs due to imported media.

What has been done
Trials evaluating locally sourced coconut coir in NFT hydroponic lettuce seedling production have been started and are ongoing. Evaluation of coir as a medium for drip system hydroponic tomato production is ongoing.

Results
Many hydroponic farmers are using local coir in their systems. On a small local NFT hydroponic lettuce farm that produces 200,000 heads of lettuce per year, the use of locally sourced coir equates to a savings of $7,200 per year on seedling media costs when switching from Oasis Root Cubes, and a savings of $2,800 when switching from Metro Mix peat based medium. In drip hydroponic systems, where growing medium use is much greater than in NFT systems, the switch from perlite and peat based media to local coir results in a significant decrease in operating costs.

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

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
2018	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Island environments are particularly vulnerable to invasion by exotic pests and diseases. Agricultural and environmental biosecurity is a multilevel process, and pest surveillance is an important component that helps detect pest incursions that evade pre-border and border controls.

What has been done
With some support from the APHIS Cooperative Agricultural Pest Survey (CAPS) program, the ASCC ACNR has worked with the local department of agriculture to carry out pest surveillance targeting key biosecurity threats to the islands' environment and agricultural production.

Results
From October through July, the exotic fruit flies surveillance trapping program collected and identified 11,526 fruit flies from the network of 33 traps maintained on Tutuila island. No exotic species were detected. After 18 years of continuous operation, the program had to be suspended in August and September due to insufficient personnel and lack of funds. The CAPS-supported invasive ants survey deployed 2,760 bait stations across 58 locations on four islands to check for presence of new exotic ants incursions. One previously unrecognized new invader, Solenopsis globularia, was found in the harbor area, but follow up survey found it to be already widespread making any eradication attempt unfeasible. Trapping and processing of specemens was completed for a US Forest Service-funded tree-killing ambrosia beetle survey on five islands. Over 5,000 beetles were collected in over 2,800 trap-days of effort. Taxonomists will soon complete identifications, but already several species previously unreported from the territory have been identified. A better knowledge of the islands' ambrosia beetle fauna will strengthen diagnostic capacity, improve management responses, and inform biosecurity risk assessments.

4. Associated Knowledge Areas

KA Code	Knowledge Area
211	Insects, Mites, and Other Arthropods Affecting Plants

Outcome #7

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 #8

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
2018	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Taro farmers and consumers are all interested in the disease resistance, yield and eating quality of the taro being produced in American Samoa. Taro is the main food crop of American Samoa.

What has been done
A taro improvement program has been in progress at ACNR for approximately 6 years. This is a long-term project where development and identification of varieties of a quality suitable to be released to farmers may take several years. Currently, several varieties that have been selected as varieties that have acceptable qualities are being propagated by tissue culture and in the field. Randomized complete block design trials will be conducted once numbers of planting material are sufficient.

Results
Evaluation and propagation of new ACNR varieties is ongoing. A partnership with ASDoA has allowed increased field space and personnel for variety evaluation and field propagation.

4. Associated Knowledge Areas

KA Code	Knowledge Area
202	Plant Genetic Resources

Outcome #9

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
2018	191

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
In FY2018, there were still questions on the quality of the produce sold to the public. 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 5 farm safety workshops and 6 pesticide trainings with farmers, schools and partners. The FCS program conducted 36 Basic Nutrition and food safety workshops.

Results
About 191 (80%) 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 #10

1. Outcome Measures

Number of recommended vegetable cultivars adopted by farmers.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual

2018 7

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.

What has been done
The Agriculture Extension outreach programs continued to conduct trials and provide seeds/seedlings of recommended vegetable cultivars to the farming community, schools and 4-H clubs for vegetable gardening. The Extension office continues to sell seeds of improved and recommended vegetable cultivars at an affordable price to the public to encourage vegetable farming.

Results
Seven (7) recommended vegetable cultivars were adopted by farmers and other clients.

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
- Populations changes (immigration, new cultural groupings, etc.)
- Other (Lack of staff; inefficient and slow procurement process)

Brief Explanation

Loss of staff forced cancellation of Phytophthora survey and palm health survey, and loss of funding from Cooperative Agricultural Pest Survey program resulted in cancellation of citrus greening detection survey this year.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Although few clients are taking advantage of the ACNR Plant Clinic service, those that do have found it useful and return to utilize the service again as they encounter new problems. The service should be promoted more so more people can benefit from it. The invasive exotic ants and fruit fly detection surveys conducted with the local department of agriculture continue to provide wide scale monitoring for possible accidental introductions of exotic ant and fruit fly pests. One new ant species was detected, but control efforts were not undertaken due to its relatively low risk and the fact that it was already fairly widespread. Additional hydroponics farmers continue to adopt the locally produced coir-based growing media and achieving substantial cost savings as a result. Taro growers continue to express a desire for more varieties suited to local tastes and environment. Vegetable variety trials with zucchini and tomatoes faced challenges with the irrigation systems and will need to be repeated. By the end of the FY 2018, the Agriculture Extension Program conducted 6 pesticide trainings with 80% of the participants being certified. The program also conducted 5 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 and vegetable crops)
2. Vegetable gardening workshops/demonstrations
3. Pesticide Safety Education program
4. Progressive Agriculture Safety Days
5. Piggery waste management workshops
6. Farm visitations

Hurricane Gita negatively impacted the farming community in American Samoa. Farmers were seeking help from the local and federal government. There was a lot of confusion and farmers were lost. The needs of farmers during disasters need to be addressed by conducting training and workshops.

Key Items of Evaluation

- Need to continue providing Research and Extension programs and services in the areas of Plant Clinic Diagnostics, vegetables and fruits production, vegetable and taro varieties trials, food safety, farm safety, food security, pests and diseases survey, biosecurity, waste management, aquaculture, hydroponics, livestock (swine & poultry) and others to all clients in all villages and islands of American Samoa
- Need to recruit professional (Food Scientist, Plant Pathologist, Fruit tree Specialist, Marketing Specialist, other) staff and qualified Research Assistants and Extension Agents
- Need to increase program visibility through farm visitations and media advertisements
- Need to continue with Pesticides Safety certification, Farm Safety programs, Waste Management workshops, and Plant Clinic service for clients
- Need for translators to conduct workshops and translate materials in Tongan, Filipino, Chinese, other Asian languages as the population of these ethnic groups increase
- Need to develop programs and provide services to assist farmers, homemakers, families and other clients prepare before, during, and after a disaster (natural or man made) hits
- Need to work with the local government on the transportation issue (air & sea) to enable ACNR to deliver programs and services to the Manu'a islands.
- Need federal government approval for Food Stamp Program recipients to purchase local produce (fruits, vegetables, traditional crops, and meat)

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	60%		35%	
721	Insects and Other Pests Affecting Humans	0%		30%	
724	Healthy Lifestyle	40%		35%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2018	Extension		Research	
	1862	1890	1862	1890
Plan	4.0	0.0	4.0	0.0
Actual Paid	3.4	0.0	3.1	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**
239798	0	347430	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
0	0	0	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

ASCC ACNR Extension agents continued to promote healthy living through outreach workshops and program activities in the schools and communities.

ACNR Health Communications program completed "Trial Testing of a Household Based Health Promotion Intervention" for American Samoa's WIC Program, and in collaboration with Yale University and LBJ Hospital co-principle investigators, completed the Gestational Diabetes Intervention Study at the hospital's prenatal clinic. The Health Communications researcher convened the session "Healthy Islands: Examining Health Promotion Programs and Non-Communicable Diseases in Oceania" at Association of Social Anthropologists of Oceania (ASAO) 2018 Meetings in New Orleans and presented a paper on SAM-044 research project, 'The Weight of the Nation in American Samoa', and continued to coordinate preparations for the Healthy Islands Session for ASAO 2019 Meetings in Auckland.
ASCC ACNR continued to research the biology and control of disease-carrying mosquitoes and communicate results via research reports, brochures, seminars, TV, and individual contacts with other agencies.
The Extension Programs collected inputs from stakeholders through 36 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 55 workshops with school agencies, community clubs, and afterschool 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.

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

2018	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	6893	20000	658	2000

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

Patent Applications Submitted

Year:	2018
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2018	Extension	Research	Total
Actual	0	1	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of health and wellness educational sessions/workshops conducted.

Year	Actual
2018	48

Output #2

Output Measure

- Number of research-related projects

Year	Actual
2018	3

Output #3

Output Measure

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

Year	Actual
2018	4650

Output #4

Output Measure

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

Year	Actual
2018	200

Output #5

Output Measure

- Number of people exposed to healthy lifestyle media messages produced by ACNR, including newspaper press releases or advertisements, text messages, billboards, posters, placemats,

television programs, etc.

Year	Actual
2018	800

Output #6

Output Measure

- Number of pregnant women who watch the gestational diabetes videos in the hospital prenatal clinic, look at the posters, and take the informational flyers.

Year	Actual
2018	162

Output #7

Output Measure

- Number of households that received the healthy behavior promotion placemats
  Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of participants who report increased knowledge leading to a healthier lifestyle.
2	Number of participants that prepared healthier foods utilizing locally grown & harvested food
3	Number of cases of mosquito-borne illnesses reported by local health department
4	Number of participants who have made or are making personal and public efforts to model and teach healthier behavior choices to their families or in other areas of society, e.g., at work, school, etc.
5	Number of pregnant women at the local hospital prenatal clinic who were screened for gestational diabetes, and if positive, made the lifestyle changes necessary to manage this condition for their own health and for the health of their expected baby.
6	Number of women who have increased their knowledge of gestational diabetes, how to prevent it and how to properly manage it

Outcome #1

1. Outcome Measures

Number of participants who report increased knowledge leading to a healthier lifestyle.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	600

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
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 89 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
2018	600

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 12 5-day workshops in nutrition and food safety for 300 plus participants every month. The Agriculture Extension program conducted 5 vegetable gardening and 5 farm safety workshops in the schools and community.

Results
900 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 cases of mosquito-borne illnesses reported by local health department

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	821

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The people of American Samoa are at risk for a number of mosquito borne diseases. Filariasis is endemic, and the frequency of arbovirus outbreaks has been increasing, with four major outbreaks in just the past five years. The dengue outbreak of 2017 continued into 2018 before finally subsiding.

What has been done
ASCC ACNR continued to provide technical assistance in vector control to the Department of Health through weekly meetings of the interagency Unified Health Command, vector surveys in Pago Pago, Vailoa, and Fagaalu villages, and a 10-village dengue cluster investigation collaboration between ASDoH, US CDC, and ASCC ACNR that continued from 2017. Information from ASCC ACNR mosquito research was shared with the community in a Mosquito Action Day activity held by the Department of Health in the central village of Fagatogo.

Results
The 2017-18 dengue outbreak ended in late 2018. Research-based information from ASCC ACNR played an important role throughout the course of the outbreak in focusing public health and community efforts on eliminating the water-holding container breeding sites that produce the dengue vector mosquitoes. Mosquito sampling in wetlands and impoundments at the request of community members provided evidence verifying the lack of dengue vector production from these habitats and the need to maintain focus on eliminating water holding containers such as used tires, drums, buckets, etc. in the villages. Filariasis elimination PSAs produced by the ASCC ACNR media unit helped mobilize the community for a successful first round of the triple drug mass treatment program aimed at eliminating this disfiguring disease.

4. Associated Knowledge Areas

KA Code	Knowledge Area
721	Insects and Other Pests Affecting Humans

Outcome #4

1. Outcome Measures

Number of participants who have made or are making personal and public efforts to model and teach healthier behavior choices to their families or in other areas of society, e.g., at work, school, etc.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	200

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% leading to an epidemic of NCDs such as Type 2 Diabetes (47%). Thus the Health Communications Research and Media program works at designing, developing and testing evidence based, theory informed, strategic and culturally appropriate health communication/social marketing interventions that will influence healthful changes in American Samoa's physical, social, and cultural environment and in the choices people make with the goal to reduce levels of obesity and NCDs in American Samoa.

What has been done
For the Trial Testing of a Household Based Health Promotion Intervention at the American Samoa WIC Program, ACNR's Health Communications Research and Media program completed the intervention and the post-intervention data collection. The research team conducted eight introductory workshops, plus the individual follow-up appointments and interviews of all the participants.

Results
While full analysis has yet to be completed, the preliminary assessment indicates positive outcomes for participants of the treatment group. The health promotion placemat is an effective tool for caregivers to engage, teach, and motivate young children about healthful behaviors, and the film helps promote use of the placemat.

4. Associated Knowledge Areas

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

Outcome #5

1. Outcome Measures

Number of pregnant women at the local hospital prenatal clinic who were screened for gestational diabetes, and if positive, made the lifestyle changes necessary to manage this condition for their own health and for the health of their expected baby.

Not Reporting on this Outcome Measure

Outcome #6

1. Outcome Measures

Number of women who have increased their knowledge of gestational diabetes, how to prevent it and how to properly manage it

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	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
A gestational diabetes educational video was produced which used a fictional narrative plot approach to communicate knowledge about gestational diabetes, the importance of GDM

screening, and making healthy lifestyle choices. The video was played continuously in the prenatal clinic waiting room over January and February, followed by the post-intervention GDM knowledge survey and the qualitative survey on intervention effectiveness.

Results
Preliminary analysis indicates the video increased knowledge and motivated behavioral change, and that the fictional narrative plot approach effectively held audience attention while delivering important motivational and informational messaging. Complete and full analysis of the intervention effects are still underway and being written up into final peer reviewed articles for publication. The video is available on YouTube and also will play on the local public TV station.

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, inefficient procurement processes)

Brief Explanation

Productivity in this area was affected by the delayed filling of the Health and Fitness Specialist position and the need for an extended leave of absence for the Health Communications Researcher. It was hard to find local produce for food demonstration after Hurricane Gita.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

ASCC ACNR mosquito research results provided the basis for the core messaging about eliminating and mitigating the water-holding container breeding sites of the mosquito species responsible for the 2017-18 dengue outbreak. ASCC ACNR personnel conducted field sampling with DoH staff confirming the lack of dengue vector breeding in surface waters which helped refocus community attention towards dealing with water-holding containers. Working with the American Samoa WIC program, ACNR demonstrated the efficacy of use of placemats and an educational video in promoting healthy behaviors aimed at reducing prevalence of overweight and related noncommunicable diseases in the community. Assessments of use over two months of an ACNR-produced educational video on gestational diabetes in the local hospital prenatal care facility indicated increased knowledge and positive behavioral changes among the participants. 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 health and wellness related extension programs provided by ASCC-ACNR.

Key Items of Evaluation

- Need to continue providing Research and Extension programs and services in the areas of Health Communications, Obesity (childhood and adult), Nutrition, Healthy Living, Vegetable Gardening, Food Safety, Physical Activity, Balanced Meals, Gestational Diabetes, Mosquito borne diseases control, and Non-Communicable Diseases (NCDs)
- Need to recruit professional (Health Communication Researcher, Food Scientist, others) staff and qualified Research Assistants and Extension Agents
- Need to communicate "core messaging about eliminating and mitigating the water-holding container breeding sites of the mosquito species responsible for the 2017-18 dengue outbreak"
- Need to increase program visibility and available services through mass media
- Need for translators to conduct workshops and translate materials in Tongan, Filipino, Chinese, other Asian languages as the population of these ethnic groups increase
- Need to develop programs and provide services to assist farmers, homemakers, families and other clients prepare before, during, and after a disaster (natural or man made) hits
- Need federal government approval for Food Stamp Program recipients to purchase local produce (fruits, vegetables, traditional crops, and meat)

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	20%		0%	
123	Management and Sustainability of Forest Resources	20%		0%	
124	Urban Forestry	30%		0%	
125	Agroforestry	30%		0%	
135	Aquatic and Terrestrial Wildlife	0%		50%	
136	Conservation of Biological Diversity	0%		50%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2018	Extension		Research	
	1862	1890	1862	1890
Plan	4.5	0.0	3.2	0.0
Actual Paid	3.4	0.0	3.1	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**
239798	0	347430	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
0	0	0	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

ASCC ACNR conducted site visits on private/communal/public lands, met with landowners/land managers, and helped prepare multi-year stewardship plans (including proper urban tree care) for each site. The Forestry Extension personnel visited the sites, met with stakeholders, and formed a comprehensive management plan specific for each site. ASCC ACNR held community outreach events (e.g., in schools and villages) to teach youth about the importance of ecosystem health, urban trees, etc.
Forestry Extension personnel continued to work with other environmental agencies through outreach conservation education to promote public awareness on environmental issues such as climate change, soil erosion, and invasive species. As a representative of ASCC, the Forestry Extension Program also continued to participate in environmental groups such as Le Tausagi, the Climate Change Task Force (CCTC), and the Forestry Advisory Council. ASCC ACNR provided expertise and support in advocating for drafting a policy or guideline for the management of urban and coastal native trees.
ASCC ACNR continued to propagate and distribute seedlings of agroforestry plants to the general public. The Forestry Extension personnel demonstrated the best propagation techniques, soil medium, etc., for each species, and propagated plants to promote their use by land owners and managers.
In addition, ASCC ACNR conducted site visits on private/communal land with invasive species concerns and helped prepare management plans for specific sites and for specific invasive plant species. The Forestry Extension personnel demonstrated the proper techniques for effectively managing invasive plant species, and the Extension personnel disseminated this knowledge to the landowners/land managers.
Survey were conducted for natural enemies of the urbicola scale insect attacking an important native littoral tree species.
ASCC ACNR collaborated with the US Forest Service to create up-to-date vegetation maps through the use of unmanned aerial vehicles, high-resolution multispectral cameras, remote sensing technology, and image analysis software. In addition, ASCC ACNR acquired promotional items (e.g., t-shirts, educational supplies, tools, and electronics) for clients and participants to be used for educational and tree management purposes.

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
Landowners
Federal and local agency land managers

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2018	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	930	3500	1431	6000

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

Patent Applications Submitted

Year:	2018
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2018	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of trees propagated and distributed.

Year	Actual
2018	4132

Output #2

Output Measure

- Number of group educational sessions conducted.

Year	Actual
2018	26

Output #3

Output Measure

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

Year	Actual

2018	62

Output #4

Output Measure

- Numbers of GIS Maps/Posters

Year	Actual
2018	5

Output #5

Output Measure

- Number of research-related projects

Year	Actual
2018	1

Output #6

Output Measure

- Number of participants in program activities and workshops.

Year	Actual
2018	2772

Output #7

Output Measure

- Number of sites surveyed for natural enemies of urbicola scale insect.

Year	Actual
2018	5

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	Establishment of local capacity to create accurate and up-to-date vegetation maps more quickly and cost-effectively resulting in improved planning and evaluation capabilities of managers and researchers in and outside ASCC ACNR.
5	% of participants reporting an increased knowledge of the planned program through educational workshop and activities.
6	Number of research projects completed
7	Number of species of natural enemies of urbicola scale insect discovered.

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
2018	6

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 farming operations.

What has been done
Forestry staff conducted 26 workshops on conservation, climate change, land management planning, and how to be good stewards. Technical assistance was also provided to 3 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 six (6) watersheds and five (5) coastal areas in 11 villages. Partnership with Leone high school in establishing a rain garden. Major clean-up project for two watersheds and four streams in Nu'uuli village. 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
2018	11

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 rise 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 management 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
Landowners and farmers are working cooperatively with the Forestry program on managing their forestland and related issues. The forestry program has helped develop management plans (11) for landowners. This includes technical assistance from the program for using vetiver grass in their agro-forestry projects in 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
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
2018	4

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
In 2012, the State-wide Assessment and Resource Strategy for Forest Resources (SWARS) pointed out the rapid growth and spread of exotic invasive plants in the 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 invasive species infested sites. Staff collected data, applied herbicide, and mechanically removed unwanted plants. The field agents continued to conduct maintenance work on the four affected sites (Maloata - 2 sites, Manu'a - 2 sites).

Results
Forestry program staff and the GIS Specialist surveyed the four sites which totaled 22 acres. With the 22 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
136	Conservation of Biological Diversity

Outcome #4

1. Outcome Measures

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

Not Reporting on this Outcome Measure

Outcome #5

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
2018	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 trees 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 a summer camp with 8 local environmental agencies; provided 15 school tours; served 10 landowners with technical assistance; and established 1 rain garden. 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 arboriculture.

Results
The Forestry program and 8 local environmental agencies successfully hosted a summer camp serving 50 participants; assisted and served 580 school participants from 14 school tours; provided technical assistance to 10 public and private landowners; and established 1 rain garden with 15 participants. The Forestry program continued to provide information, demonstrations, and outreach to the community. About 1,500 (90% participants increased their knowledge through 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

Outcome #6

1. Outcome Measures

Number of research projects completed

Not Reporting on this Outcome Measure

Outcome #7

1. Outcome Measures

Number of species of natural enemies of urbicola scale insect discovered.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2018	5

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
American Samoa's Rose Atoll National Wildlife Refuge serves as an important breeding site for 12 species of seabirds. In recent decades the island's vegetation has been severely disrupted by heavy infestations of a sap-sucking scale insect on the native trees. ASCC ACNR seeks to assist the US Fish and Wildlife Service by assessing the status of the scale insect on Tutuila island to determine if natural enemies there may be useful in controlling the scale on Rose Atoll.

What has been done
Scale insects were collected from four sites on Tutuila island and one site on Ta'u island and held in the lab for possible parasitoid emergence.

Results
In addition to the common predatory lady beetle Cryptolaemus montrouzieri, four parasitoid wasp species were found attacking the urbicola scale on Tutuila and Ta'u islands. Both Cryptolaemus and one of the parasitoid species have been used in successful biological control efforts against the urbicola scale elsewhere, so may be useful in the case of Rose Atoll. A careful risk-benefit analysis must be undertaken to inform any decision on whether to proceed with introduction of either species to the atoll.

4. Associated Knowledge Areas

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

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, Ch)

Brief Explanation

Butterfly research collaboration with local agency was halted due to inability to access external grant funds passing through the local government.
Hurricane Gita impacted the forest landowners and farmers in American Samoa. Acres of forestland were impacted by the storm. Need to address how extension programs can support landowners and farmers impacted by the hurricane during the Recovery stage.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

In response to a request from Fish and Wildlife Service staff managing the Rose Atoll National Wildlife Refuge, ASCC ACNR staff completed a survey on Tutuila and Ta'u islands which identified several natural enemies that may be of use in controlling a severe outbreak of scale insects devastating a native tree used by nesting seabirds on Rose Atoll. Next step will be a careful risk/benefit analysis prior to any decision on whether to proceed with a biological control effort on the atoll.
In FY2018, the Extension Forestry Program collected inputs from 2361 stakeholders through focus group and evaluation sessions, and meeting minutes at: (2) Advisory Council meetings (30 participants); 21 workshops (1751 participants) on conservation education, climate change, invasive species, and land management activities at ten (10) schools and eleven (11) villages; and 15 schools tours (580 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.

Key Items of Evaluation

- Need to continue providing Research and Extension programs and services in the areas of Conservation Education, Climate Change, Invasive Species control, Land Management, Forest Stewardship and Management Plans, Urban Community Forestry, Agroforestry, Sustainable Energy, GIS-GPS Mapping, and Watershed Management
- Need to recruit professional (Forestry Researcher, Forest Health Specialist, others) staff

and qualified Research Assistants and Forestry Agents

- Need training opportunities for staff
- Need funding assistance for construction and repairing of greenhouses damaged by Hurricane Gita
- Need to develop programs and provide services to assist farmers, landowners, families and other clients prepare before, during, and after a disaster (natural or man made) hits
- Need funding assistance for bucket truck for tree pruning, tree felling, and related activities

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.