

FY 2020 Annual Report of Accomplishments and Results

AMERICAN SAMOA
AMERICAN SAMOA COMMUNITY COLLEGE (ASCC)
AGRICULTURE, COMMUNITY AND NATURAL RESOURCES (ACNR) DIVISION

I. Report Overview

The NIFA reviewer will refer to the executive summary submitted in your FY 2020 Plan of Work located in the Institutional Profile. Use this space to provide updates if needed.

1. Executive Summary (Optional)

ASCC ACNR is reporting on its Planned Programs listed in the 2020 Plan of Work: Agricultural Sustainability and Food Security, Ecosystem, Family and Community Resiliency, Health and Wellness, and Youth Development.

Factors that affected program/project implementation in 2020 include:

1. The COVID-19 pandemic
2. A regional measles epidemic
3. Shortage of academically and professionally qualified local personnel to fill ACNR scientists, specialists, research assistants, extension agents and technician positions.
4. Territory-wide shortage of professionals in STEAM areas (science, technology, engineering, art, mathematics) and medicine
5. Delays in the ASCC procurement process, especially when most of the needed materials, supplies, equipment, scientific apparatus, and related resources must be ordered from the United States. Also, more and more U.S. companies are prohibiting sales of their products to entities in American Samoa.
6. Limited air and sea transportation services delayed the delivery of ACNR's programs and services to the Manu'a islands
7. Delay in settling the ASCC Land Grant Experiment Station land boundary disputes resulted in limited access for research and extension personnel to land for demonstration and research plots given the encroachment of unauthorized people
8. Lack of qualified translators to conduct workshops and translate materials into Tongan, Filipino, Chinese, and other Asian and Pacific Island languages as the local populations of these ethnic groups increase.

II. Merit and Scientific Peer Review Processes

The NIFA reviewer will refer to your 2020 Plan of Work. Use this space to provide updates as needed or activities that you would like to bring to NIFA's attention.

Process	Updates ONLY
1. The <u>Merit Review Process</u>	No change in the merit review process. Please refer to the 2021 Plan of Work.
2. The <u>Scientific Peer Review Process</u>	No change in the scientific review process. Please refer to the 2021 Plan of Work.

III. Stakeholder Input

The NIFA reviewer will refer to your 2020 Plan of Work. Use this space to provide updates as needed or activities that you would like to bring to NIFA's attention.

Stakeholder Input Aspects	Updates ONLY
1. Actions taken to seek stakeholder input that encouraged their participation with a brief explanation	Please refer to the 2021 Plan of Work.
2. Methods to identify individuals and groups and brief explanation.	Please refer to the 2021 Plan of Work.
3. Methods for collecting stakeholder input and brief explanation.	Please refer to the 2021 Plan of Work.
4. A statement of how the input will be considered and brief explanation of what you learned from your stakeholders.	<p>In FY2020, the Agriculture Extension Program (AEP) Agents served 911 clients, conducted 180 farm visits, three farm safety days, six pesticides workshops, and hosted one tour for 20 visitors. The Center for Sustainable, Integrated Agriculture and Aquaculture (CSIAA) served 266 clients, conducted three farm visits, and two outreach workshops for 13 participants. The 4-H program staff conducted 4 workshops attended by 106 youth members and six in-school club activities for 465 members. The Family and Consumer Science (FCS) program conducted 28 nutrition workshops and six basic sewing classes attended by 4,587 participants. The Forestry program conducted 14 workshops for 669 clients and participants. The Wellness Center staff conducted 8 workshops and activities for 495 participants.</p> <p>Similar to 2019, 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. Some of the priority issues learned from stakeholders include: continue to extend and deliver research and extension programs to the outer islands of Manu'a and Aunu'u; integrate more Science, Technology,</p>

Engineering, Art, Mathematics (STEAM) focused activities in the classroom and after-school programs; establish community garden plots to provide access to clients who do not have land to start their own vegetable gardens; increase diversity in the programs by including all races and ethnic groups in workshops, activities, and public and council meetings; due to the COVID-19 pandemic, a need for both ACNR staff and clients to increase use of the Internet for virtual meetings to exchange information and conduct meetings and outreach; continue with the control of invasive species such as the little fire ant (*Wasmannia auropunctata*) and Mexican rubber tree (*Castilla elastica*); identify and/or develop crop varieties with tolerance to heat, salinity, and local diseases and pests; develop plans and programs to help clients prepare before, during, and after disasters (natural or man-made) and outbreaks of diseases such as measles, COVID-19, and dengue; and increase opportunities for education in the natural sciences, especially lab and field experience, for local elementary and high school students and teachers.

Similar to 2019, stakeholders are asking for more and new programs, services, and resources (human & capital) to meet clients' needs. ACNR research and extension programs are addressing many of the aforementioned needs and issues given the available human, financial, and physical resources and despite the impacts of the measles epidemic and the COVID-19 pandemic.

IV. Critical Issues Table of Contents

No.	Critical Issues in order of appearance in Table V. Activities and Accomplishments
1.	Agricultural Sustainability and Food Security
2.	Ecosystem
3.	Family and Community Resiliency
4.	Health and Wellness
5.	Youth Development

V. Activities and Accomplishments

Please provide information for activities that represent the best work of your institution(s). In your outcome or impact statement, please include the following elements (in any order): 1) the issue and its significance (e.g., who cares and why); 2) a brief description of key activities undertaken to achieve the goals and objectives; 3) changes in knowledge, behavior, or condition resulting from the project or program's activities; 4) who benefited and how. Please weave supporting data into the narrative.

No.	Project or Program Title	Outcome/Impact Statement	Critical Issue Name or No.
1.	Taro crop improvement through conventional breeding	<p>Issue (Who cares and why): Production of taro, the main traditional staple food crop in American Samoa, has been negatively affected by changes in local conditions such as the introduction of new plant pests and diseases. Changes in soil salinity, temperature and rain patterns due to changing climate also affect taro production. Development of varieties with tolerance to heat, salinity, diseases and pests is important as conditions change.</p> <p>What has been done: A taro breeding program and rapid multiplication of selected varieties through micropropagation has allowed the development of new taro varieties that are currently being evaluated for disease resistance, yield and eating quality.</p> <p>Results: Two trials of nine ASCC-ACNR developed taro varieties were conducted. One of the new varieties showed yield and taro leaf blight disease resistance equal to, and eating quality superior to, the variety most commonly grown by local farmers. Approximately 300 new varieties are currently being grown out for initial evaluation of eating quality and disease resistance. Tolerance to salinity will also be assessed in these new varieties, as some of our coastal wetlands, where taro is</p>	1. Agricultural Sustainability and Food Security

		traditionally grown, are suffering from high salinity, possibly due to subsurface sea water intrusion. Some of these areas are already not suitable for growing currently available taro varieties.	
2.	Crop Education and Distribution	<p>Issue (Who cares and Why): Production of taro, the main traditional staple food crop in American Samoa, has been negatively affected by changes in local conditions such as the introduction of new plant pests and diseases. Farmers and consumers are all interested in the disease resistance, high yield and superior eating quality of the taro being produced in the taro breeding and multiplication program in Samoa and other countries in the region. These varieties are being evaluated for their performance under local conditions, and the best ones multiplied and distributed to farmers. Taro is the main food crop (staple) of American Samoa.</p> <p>What has been done: A taro improvement program has been in progress at ACNR for approximately eight years. Germplasm has been introduced from the collection held at the Secretariat of the Pacific Community in Fiji and from independent Samoa through less formal channels. The Extension Program Agents collected consumers' and farmers' feedback on different varieties that are being grown on island, sold by different markets, and consumed by the people. Several varieties have been selected because of their superior quality and are being propagated in the field to be distributed to the community and new farmers.</p> <p>Results: The Agriculture Extension staff identified improved cultivars that perform well in the tropics and are disease resistant. Agriculture Extension Agents distributed 1,862 taro and 70 banana setts to 235 interested farmers. Ten Farmers indicated that they have increased their production by at least 10% from planting improved varieties of traditional crops (taro and bananas).</p>	1. Agricultural Sustainability and Food Security
3.	Vegetable crop variety trials	<p>Issue (Who cares and why): Most produce consumed in American Samoa is imported. Vegetable production is difficult because hot, humid conditions make plant pests and diseases common. Identifying heat tolerant vegetable crops and varieties that perform well in our local conditions can increase local produce production, improve food security and community health, and reduce the use of pesticides.</p> <p>What has been done:</p>	1. Agricultural Sustainability and Food Security 4. Health and Wellness

		<p>Vegetable crops not commonly grown locally but that are grown in other tropical areas are being grown in trials and demonstrations to identify and promote the types of vegetables and the varieties that will grow well in American Samoa.</p> <p>Results: Four quick-growing leafy green vegetable crops that were not previously grown by local farmers—collard greens, turnip greens, kale and Malabar spinach—have been found to grow well in local conditions with relatively few disease and pest problems. Locally produced hydroponic collard greens and kale can now be found in local markets. Variety trials of Chinese cabbage, which is a common local commercial crop, are ongoing and have identified varieties with improved yield and disease resistance. Edamame, immature soybean eaten as a vegetable, has been found to grow easily in local conditions and is ideal as a healthy snack. All of these crops and specific varieties have excellent potential for local commercial and subsistence production. The identification of these easy-to-grow crops, can help increase the availability and variety of locally produced, nutritious vegetables in a population where diet related diseases are common and where availability of imported vegetables is often intermittent due to shipping delays.</p>	
4.	Vegetable Gardening	<p>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 diseases. Farmers continued to farm vegetable varieties that are beneficial for their health, providing food and generating an income for the family.</p> <p>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 other producers. The Extension office continues to sell seeds of improved vegetable varieties at an affordable price to the public to encourage vegetable farming.</p> <p>Results: The Agriculture Extension Agents distributed 14,457 seedlings to 911 farmers at no cost. They also assisted in establishing 47 new vegetable gardens. Farmers and gardeners acquired knowledge and developed skills in vegetable gardening, pest and disease control, harvesting, and marketing. Participants also reported preparing healthy and balanced meals, improving family diet, and generating revenue from vegetable sales.</p>	1.Agricultural Sustainability and Food Security 4.Health and Wellness

5.	Plant clinic service	<p>Issue (Who cares and why): Effective management of plant health— whether on the farm, in the home garden, or in urban and native forests— requires accurate identification of the pests, pathogens, and abiotic factors that can harm plants. When problems arise, access to specialized knowledge may be needed to diagnose the problems and recommend solutions.</p> <p>What has been done: Since 2000 ASCC-ACNR scientists have provided plant clinic services to the community, making diagnoses and recommending control measures to manage plant pests. Extension agents, government agencies, farmers, and home gardeners bring in samples or send photos of affected plants or request site visits to troubleshoot problems. Accurate identification of the problem can help ensure effective, environmentally sound management.</p> <p>Results: As in past years, the majority (62%) of plant clinic cases this year were on vegetable crops. Unlike the familiar local traditional crops, such as taro, banana, and breadfruit, there is still much to be learned by local farmers, gardeners, and extension agents about identification and management of pests affecting vegetables in American Samoa. The Hatch research project titled “Identification of vegetable crops, varieties and production methods for American Samoa” is addressing the knowledge gap by evaluating vegetable varieties and cultural practices more suitable to local conditions that will help growers prevent pest problems in the first place.</p>	1. Agricultural Sustainability and Food Security
6.	Invasive Ants detection and control	<p>Issue (Who cares and why): Nonnative invasive ant species represent a grave threat to island ecosystems, economies, and ways of life. In American Samoa all six of the ant species that commonly invade houses and other structures are nonnative species accidentally introduced to the territory. The stinging tropical fire ant, <i>Solenopsis geminata</i>, first detected in 2002, now dominates most of the low elevation village lands on Tutuila and Aunu’u islands and has established populations on the three Manu’a islands as well. Enduring the stings of this ant has become a routine daily experience for American Samoa’s farmers and gardeners. In 2018 an even greater invasive ant threat arose when little fire ants (<i>Wasmannia auropunctata</i>) were detected for the first time. These ants, with their painful and itchy stings and their ability to establish extremely dense populations, have caused major ecological and economic disruption on many tropical islands. Preserving American Samoa’s unique ecosystems, agricultural production, and traditional way of life requires effective biosecurity measures to prevent entry and suppress incursions</p>	1. Agricultural Sustainability and Food Security 2. Ecosystem

		<p>of these ants as well as methods to manage those species that are already established.</p> <p>What has been done: Delimitation surveys completed in 2019 indicated the little fire ants were not yet widespread, and after interagency consultations it was decided to launch aggressive measures to contain and eradicate the ants while enlisting public help in identifying and reporting any new infestations outside the known ones. With support from the U.S. Forest Service and the U.S. Fish and Wildlife Service as well as NIFA, a control effort was launched using methods developed by the University of Hawai'i's Hawai'i Ant Lab. In 2020, insecticidal bait applications continued on all six known little fire ant infested sites. Despite COVID-19 related local government restrictions on working hours and public outreach during much of the year, public education efforts continued and 17 additional sites were intensively surveyed after reports from the public of possible little fire ant infestations.</p> <p>Results: Fortunately, no additional little fire ant infestations were discovered in 2020. Applications of insecticidal baits were made every 5-6 weeks throughout the year (weather permitting) at all six known infestations following the procedures developed by the Hawai'i Ant lab. Efficacy assessments indicated substantial reductions of little fire ants at all six sites. By September 2020, little fire ants were no longer being detected at five of the six sites, and prevalence at the sixth site had declined by 96%. Treatments have been suspended at two of the sites after intensive surveys failed to detect any little fire ants. Similar intensive surveys will be undertaken at the other four sites and will be repeated quarterly at all sites to watch out for recovery of any nests that remained but were not detected after the treatment program.</p>	
7.	Biological control for wildlife conservation	<p>Issue (Who cares and why): The Rose Atoll National Wildlife Refuge contains the easternmost island of American Samoa and hosts the largest seabird colony in the region, providing critical nesting habitat for 12 seabird species. Trees on the island are threatened by an invasive scale insect associated with several species of invasive ants. Only a few individual trees remain of the <i>Pisonia grandis</i> forest that once dominated the island. Restoration of that forest may require sustained control of the scale insects. The same scale insect species and ant species also occur on the other islands of American Samoa, but at low densities, likely due to the presence on those islands of natural enemies of the scales, including predatory lady beetles and parasitic wasps, that are absent from Rose Island. Research on those natural</p>	2. Ecosystem

		<p>enemies may help identify species that are sufficiently host/prey specific to control the scale insects on Rose Island without harming other species present there.</p> <p>What has been done: Research on Rose Island by the U.S. Geological Survey, U.S. Fish and Wildlife Service, and ASCC-ACNR in 2012-2013 found sustained heavy scale insect infestation of the <i>Pisonia</i> trees and no evidence of natural enemies present that could help control the scales. No other scale insects or related taxa were found, suggesting that sufficiently host-specific natural enemies that might be introduced to the island would not likely directly affect any nontarget species occurring there. Subsequent work at ASCC-ACNR identified several natural enemies present on other American Samoa islands that could potentially provide safe, effective biological control of the scale insects on Rose Island, and methods are under development for laboratory rearing of those natural enemies to facilitate further study. In 2020 ASCC joined U.S. Fish and Wildlife Service staff in a follow up survey of Rose Island to check on current status of the scale insect infestation, ant fauna, and presence of any natural enemies of the scales.</p> <p>Results: Although additional insects not found in the previous survey were discovered—including two additional ant species—no other scale insect species were found, again suggesting that adverse nontarget impacts from introduction of a scale insect predator or parasitoid to the island may be unlikely. A predatory lacewing was abundant in association with the scale insects, but apparently having little effect as scale densities remained very high. In summary, our 2020 work provided additional evidence suggesting a locally implemented biological control effort may provide a safe and effective solution to the scale insect problem on Rose Island. The research is ongoing.</p>	
8.	Discovering and mitigating new threats to American Samoa's forests and farms	<p>Issue (Who cares and why): Bark and ambrosia beetles are among the greatest threats to the nation's forests and tree crops. Native species, including mountain pine beetle and Douglas-fir beetle, kill trees across thousands of acres of U.S. forest lands, while exotic invasive species such as the coffee berry borer, redbay ambrosia beetle, and polyphagous shothole borer attack urban forests and fruit orchards. Knowing what species of bark and ambrosia beetles occur in an area is an essential prerequisite to support plant diagnostics and management of these pests as well</p>	1. Agricultural Sustainability and Food Security 2. Ecosystem

		<p>as biosecurity import and export risk assessments and surveillance for early detection and response to exotic species incursions.</p> <p>What has been done: With support from the U.S. Forest Service, NIFA, and taxon experts from around the world, for the past several years ASCC-ACNR conducted extensive trapping across the territory's islands, collecting and sorting over 5,000 beetles from over 2,800 trap-days of effort. Specimens from this major trapping effort, along with additional specimens from the ASCC-ACNR insect reference collection, were sent to taxon experts for identification.</p> <p>Results: Taxonomist colleagues from the U.S. Forest Service, University of Florida, Michigan State University, and Chiang Mai, Thailand completed identifications of the beetles and published the results, documenting a total of 15 species previously not known to occur in American Samoa. The resulting updated list, along with clarifications of taxonomic nomenclature and a reference collection to be housed at ASCC-ACNR, provides the taxonomic foundation for future work to improve understanding of these beetles' roles in local forests, farms, and gardens; to facilitate plant health diagnostics; and to enable import and export biosecurity risk assessments as well as improved exotic pest surveillance and early response.</p>	
9.	Science mentoring	<p>Issue (Who cares and why): American Samoa suffers from a chronic shortage of professionals in science, engineering, and medicine in part due to a lack of young people from the islands choosing to enter these fields. Better opportunities for education in the natural sciences, especially lab and field experience, for local elementary and high school students and teachers is sorely needed in American Samoa.</p> <p>What has been done: ASCC-ACNR scientists serve as mentors for numerous elementary and high school students conducting science symposium and science fair projects and for high school students interning in the NIH's summer STEP-UP program for those interested in research careers. The Division also hosts local teachers for hands-on training on an ad hoc basis.</p> <p>Results:</p>	5. Youth Development

		<p>In the past year, one high school agriculture teacher completed a two-month summer internship with the horticulture research program. Skills and knowledge obtained from the internship were used in the designing of her curriculum, and ASCC-ACNR scientists gave presentations and joined hands-on activities at the school. ASCC-ACNR research horticulture staff also mentored 18 elementary and high school students in science symposium and science fair projects. Most projects were on topics of local agricultural importance such as evaluating taro varieties for salinity tolerance and testing locally produced organic fertilizers. Each year, several of these students go on to present their projects in local island-wide or mainland US science fairs and symposiums. These experiences provide a positive influence on a student's desire to continue their education and to consider a career in the STEM fields</p>	
10.	STEAM & Youth at Risk Issues	<p>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 American Samoa Department of Commerce, 54.5% (2010) of American Samoa families are considered poor and below the US poverty level. The DOE Standard Base Assessment indicates that more than 50% of public-school students fall below the basic level of reading and math (SY 2015-16 AS Report Card). According to the 2011 CDC American Samoa Youth Risk Behavior Survey, 15.2% of high school students smoked marijuana one or more times during their life. Also, in 2011, 28.8% were offered, sold, or given an illegal drug on school property compared to 14.3% in 1993. School enrollment dropped in SY2015 from 17,337 in SY14 to 16,648.</p> <p>What has been done? In 2020, the 4-H youth development program staff conducted six school outreach activities linked to STEAM subjects and career opportunities. Activities such as Agriculture in the Classroom, Environmental Education, Drones, GIS/GPS, Robotics, Expressive Arts, and Foods and Nutrition were conducted for 465 students between the ages of 7 to 18 at three in-school clubs. Four community outreach activities on topics such Animal Science, Expressive Arts, Plant Science, Health, and Foods and Nutrition were conducted for 106 participants during the after-school programs. In addition, the 4-H program hosted four tours at ACNR for 126 students, 19 teachers and 11 parents. Participants had the opportunity to learn and engage in STEM area activities such as Animal Science, Agriculture, Food Safety, Nutrition, Aquaculture, and Plant Science. Due to COVID-19, the annual STEAM summer program was cancelled.</p> <p>Results:</p>	5. Youth Development

		<p>About 90%, or 628, of 4-H members and participants acquired knowledge and developed skills in STEAM related fields, positive self-development, and life skills concepts and practices. Due to the measles outbreak and COVID-19 pandemic, for a time a curfew was set for the whole territory, meaning most after hour outreach programs were put on hold.</p>	
11.	Basic Sewing Workshop	<p>Issue: Similar to 2019, resource management (poverty), parenting, culture, and youth at risk issues continued to be major areas of concern in American Samoa. As reported in the American Samoa Department of Commerce Statistical Yearbook (2010), 54.5% of American Samoa families are considered poor and below the US poverty level.</p> <p>What has been done? In 2020, ACNR FCS conducted eight sewing workshops for 106 adults and all participants received certificates of completion in the basic sewing program.</p> <p>Results: In 2020, 106 participants received certificates of completion in the sewing program. Participants in the sewing programs acquired knowledge and developed skills in sewing and resource management. Also, all participants were able to tailor and sew their children's, their spouses', and their own clothes. Five participants (5%) reported that they started their own sewing business and 22 participants (21%) who are homemakers purchased their own sewing machines. More than 60% (64) of homemakers reported that they are saving money and 7% (7) are making money from their small business selling outfits and <i>e/lei</i> (cultural pattern) printing fabrics. Impressed by the program's impact, the legislative House Representative of Fofu county donated 42 sewing machines to sewing program participants.</p>	<p>3. Family and Community Resiliency</p>
12.	Farm Safety and Pesticide Training	<p>Issue: In FY2020, 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. Also, improper handling of pesticides before, during, and after usage continues to be an issue for the safety of applicators. The impacts of farm accidents on children are another issue. 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.</p>	<p>1. Agricultural Sustainability and Food Security 2. Ecosystem 4. Health and Wellness 5. Youth Development</p>

		<p>What has been done? The Agriculture Extension program staff conducted three Farm Safety workshops for 94 participants. The purpose of farm safety workshops is to educate children about safety issues in and around farms and homes. Moreover, Extension program staff conducted six pesticides safety trainings for 58 farmers.</p> <p>Results: About 90% of participants gained knowledge and developed skills in farm safety concepts, procedures, and practices. Also, about 90% of participants acquired knowledge and developed skills in pesticides application and calibration, storage, and laws. About 85% of participants reported that they adopted the recommended procedures, safety, and practices in pesticides calibration and application. At the completion of the pesticide safety workshops, about 10% of participants decided not to use pesticides in the farming operation. The Agriculture Extension program staff continue to assist farmers and local government agencies with issues concerning farm safety and produce quality.</p>	
13.	Aquaculture Feed Facility	<p>Issue: The main issue for tilapia fish farmers in 2020 continues to be the high cost and limited availability of commercial feeds for the farmers.</p> <p>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.</p> <p>Results: Farmers continued to make use of feeds facilities to produce feed for the farm. In 2020, the CSIAA produced 600 pounds of tilapia feeds. In 2020, the number of farmers coming in to make use of the feed facility dropped dramatically due to COVID-19 pandemic restrictions. As a result, many farmers used other sources of feeds.</p>	1. Agricultural Sustainability and Food Security
14.	Healthy Living	<p>Issue: In FY 2020, obesity, overweight, poor nutrition, non-communicable diseases, 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 gardening, physical activity, and healthy living workshops and activities to promote healthier lifestyles in the community.</p>	1. Agricultural Sustainability and Food Security 4. Health and Wellness

		<p>What has been done?</p> <p>The FCS and EFNEP educators conducted 28 workshops in Nutrition – Food Safety and Healthy Living for 223 students at two elementary schools (Levels 3 -5) and 319 students at two high schools (freshmen - senior classes). A total of 742 DHSS-ASNAF Food Stamp recipients participated in EFNEP outreach programs.</p> <p>In addition, sugary drink and added sugar educational posters and materials were displayed at the ASCC Library, the Feleti Barstow Public Library, the American Samoa Women, Infants and Children (WIC) clinics in Pava’ia’i, Tafuna, and Utulei villages, and The Territorial Bank of American Samoa employee break rooms at the Tafuna village branch location and the Utulei village branch location.</p> <p>The Health and Wellness Program collaborated with the ASWIC Program to create a small refrigerator magnet to highlight the amount of added sugar contained in various sugary drinks. Magnets were distributed by ASWIC to its clients. The Health and Wellness Program also provided 23 Children’s Healthy Living (CHL) Program healthy target behavior educational placemats to the ASWIC Program. These placemats highlight six important healthy behaviors that are imperative for young children and their families to learn and practice, given the high prevalence of obesity and nutrition related problems in American Samoa.</p> <p>The Health and Wellness Program collaborated with the ASCC Fine Arts Department to have students complete a class project, which included painting multiple motivational quotes on the foyer walls at the entrance to the ACNR Wellness Center. From October 2019 through September 2020, a total of 826 people visited ACNRs Wellness Center Exercise Lab and used the facility to increase their physical activity. ACNR administrative staff and Extension staff continued to work closely with the American Samoa Department of Education Division of Early Childhood Education (ECE) Program’s health team and measured the height and weight of 319 children enrolled at various ECE schools on Tutuila Island as part of the CHL Program’s Integrated Monitoring for Pohnpei, American Samoa, and Commonwealth of the Northern Mariana Islands (CHL-IMPAC).</p> <p>Results:</p> <p>About 80% or 1,027 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 reported the consumption of more than one serving of fruits and vegetables a day. Participants have also reported that now they are aware of the importance of food safety. More participants have reported handwashing, and proper food safety, food storage and sanitation are being practiced much more than ever before.</p>	
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15.	<p>Invasive Mexican rubber tree, <i>Pulumamoe (Castilla elastica)</i> Control</p>	<p>Issue: As indicated in the 2020 American Samoa Forest Action Plan, <i>Castilla elastica</i> (Mexican rubber tree) has been a major issue in American Samoa's forest ecosystems. The invasive tree is known for its widespread and rapid growth, dominating native tree species in competition for space, nutrients, and sunlight. In addition, this invasive tree contributes to soil erosion, harms native trees, and reduces wildlife food sources. Intensive control efforts are needed to prevent this tree from spreading all over the island. Intense labor, time, and funding are needed in order to control this species.</p> <p>What has been done? The ACNR Forestry Program continued to work closely with village mayors and landowners in conducting outreach presentations and forest management activities in addressing invasive species. Every month the Forestry Program staff visited the rubber tree infested sites and implemented control measures.</p>	<p>1. Agricultural Sustainability and Food Security 2. Ecosystem</p>

		<p>Results: The Forestry Program controlled 246 Mexican rubber trees, 808 saplings, and 885 seedlings in control project sites in Malota, Faga'alu, and Ili'ili villages. Methods of control varied between girdling or herbicide application (depending on the weather). The Forestry Program staff members were able to work closely with village mayors and landowners in controlling this species. The program aims to cover more areas of infestation across the island and will be conducting assessments in other villages such as Vaitogi. The removal of these invasive trees in the forested areas resulted in various environmental benefits such as an increase in native species, native wildlife, and reduced soil erosion. In addition, the landowners for these areas planted various ornamental shrubs, and fruit trees for agroforestry practices. Landowners have planted a total of 29 citrus, 17 Tahiti apple, 31 soursop trees, along with various other fruits and ornamental trees.</p>	
16.	Urban Forest Activities	<p>Issue Urban forests are essential for carbon sequestration, air quality, shade, wildlife habitat, beautification and more. Planting native trees in urban areas, especially in parks and other recreational sites, can help promote native species, biodiversity, and sustainability. Urban forests can also address environmental issues such as flooding and soil erosion. The islands' urban forests are threatened by land use change, infrastructure development, and poor tree management. It is crucial that our urban forests are treated with proper care and value.</p> <p>What has been done The Forestry Program assisted a total of three schools, more than 39 landowners, five churches, and two village communities in planting native trees in urban areas, especially along the coasts or areas in need of shade and soil erosion control. Native seedlings and saplings are also distributed to greenhouse clients, landowners, students, and more. This effort will help promote native species and good forest stewardship practices. The program overall collected 1,014 seeds, propagated 1,105 seeds, transplanted 761 seedlings, and distributed 559 saplings to more than 39 landowners and greenhouse customers.</p> <p>Results The Forestry Program conducted a total of 12 tree planting and eight outreach activities. One tree planting activity took place during Earth Day. The Forestry Program, in partnership with the Department of Parks and Recreation, planted a total of nine native trees at the Faga'alu Park. The event took place on April 22nd, 2020, which was also globally designated as Earth Day. The ASCC-ACNR Forestry</p>	2.Ecosystem 5.Youth Development

		<p>Program and fellow Extension staff members planted three flame trees, three Alexandrian laurel trees, and <i>Flueggea flexuosa</i> (poumuli) trees at the park. The trees were planted, covered with wood chips for moisture retention, and surrounded with a miniature fence for marking and protection. The Director and Deputy Director of Parks and Recreation visited the trees and gave their commendations and acknowledgements to ASCC-ACNR Forestry Program. Originally, high school students were supposed to participate and plant more trees; however, with the COVID-19 restrictions, the tree planting activity had to be downscaled. Regardless, the Forestry Program and fellow Extension staff members continued the activity for the purpose of celebrating Earth Day. As more tree planting and outreach activities are implemented, communities, especially students and youth groups, are understanding the value of urban forests along with the ASCC-ACNR Forestry Programs efforts in promoting conservation and restoration efforts.</p>	
17.	Animal Management	<p>Issue (Who cares and Why) Inbreeding in swine production continues to be a major issue faced by swine farmers in 2020. Inbreeding resulted in low productivity. There is still a need to introduce diversity in reference to the gene pool. In addition, there is also a need to improve the pig waste management problem.</p> <p>What has been done Agriculture Extension Agents distributed 52 piglets from the swine artificial insemination (AI) project to 26 farmers. The program continues to use the American Samoa Environmental Protection Agency (ASEPA) funded piggery to demonstrate recommended waste management systems.</p> <p>Results Agriculture Extension Agents conducted 180 farm visitations and distributed 26 AI (artificial disseminated) piglets to 26 swine farmers from the AI breeding program. The Agriculture Extension Agents also advised farmers on how to improve their stocks. Farmers reported improvement in production and stock as a result of the AI breeding program.</p>	1.Agricultural Sustainability and Food Security 2. Ecosystem