2013 American Samoa Community College Combined Research and Extension Annual Report of Accomplishments and Results

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I. Report Overview

1. Executive Summary

2013 Annual Report Executive Summary

Fiscal Year 2013 was the final year of relating "Planned Programs" to NIFA's national priorities.

One of the key areas needing improvement was in the systematic gathering and documenting of stakeholder input. There is a unique challenge because Samoan language is the native language of most of the clients but our extension agents are Samoan, know the language well and know English fairly well. However technical and scientific concepts need a modernized/contemporized Samoan vocabulary. Continuing training and development is needed gathering and using stakeholder input.

Planned Program #1: Families, Youth, & Communities:

Youth development and family resource management were two of the key knowledge areas used in this planned program. One highlight accomplishment was in the number of home-based "businesses" started. This are not like businesses in the US mainland. Many of these start-ups are simply road-side tables selling local produce. While enrichment output shows "0", enrichment nevertheless took place in the cultural workshops and other 4H activities aimed at teaching life-skills. The Samoan culture remains strong and is valuable resource for families.

We learned that a curriculum with clearly stated outcomes is needed for the 4H programs. The challenge is in making it an extension-oriented plan of learning which is very different from the conventional academic, classroom-based curriculum. We also saw in 2013 that increasing use of social media among the youth and saw a need for professional development in this area.

Planned Program #2: Climate Change

Instead of trying to apply mega-models used by climate change researchers, we looked at water quality and forestry management projects as indicators of climate change or climate variability. American Samoa is an island with lots of rain (120-160 inches per year) and steep mountains making soil erosion and mudslides a constant threat. Staff used natural coastal management methods for building resiliency on our shorelines. Commercial agricultural development aimed at export in a fragile ecosystem posed great challenges to building sustainable more organic systems.

Lastly, working with owners of communal property and village councils required excellent communication skills in the native language but our extension staff rose to the task.

Planned Program #3: Childhood Obesity

Childhood Obesity is one of the worst problems in American Samoa today. Strong baseline data on Body-Mass index has been established. Our on-going efforts were to teach and encourage responsible food behaviors and make exercise fun. However, the need for a broader framework which must include nutrition policy and investments in the physical infrastructure such as building more sidewalks, improving small parks, and installing showers in the schools for physical education programs.

Planned Program #4: Global Food Security and Hunger

That 35% of the knowledge areas were in Animal Science and 35% in Plant Pathology is an indication of the work made possible by the hiring of an Animal Scientist and the contract renewal of our Plant Pathologist. The continued work by our Research Horticulturalist and Agriculture Extension Manager is to be credited as well. Improved collaborations with the local Department of Agriculture and the University of Hawaii Sea Grant program allowed us to further explore the aqua-ponics and aquaculture farming.

No new fruit tree varieties were introduced from off-island but, because of our "Fruits of Life Greenhouse", more fruit trees are now available for families and local farmers. Instead of bringing in new varieties, the staff took the advice of propagating and multiplying varieties that already resist local diseases. The development of new varieties of "Lau Pele" or sunset hibiscus has helped increase availability of vegetables.

Stakeholder feedback from pig farmers indicated that the pig waste was still a problem.

Because of suspicions that some farmers were using pesticides not approved by EPA, CNR began looking at spectrometer to identify pesticide use beyond un-safe levels.

Planned Program #5: Sustainable Energy

The local land grant program does not have sufficient expertise to conduct research in alternative energies at this time. There was an attempt to see if coconuts could provide an adequate alternative energy source but all of the staff decided it was better for the island to save the coconuts for food.

The emphasis was placed on conservation energy projects.

Planned Program #6: Food Safety

We reported "0" for Output #8 (number of schools with safe drinking water and facilities for washing hands).

This is the similar to Outcome #6 (number of schools with safe drinking water) and Outcome #7 (number of schools with hand washing facilities). This is because the schools are not under our control. However, the Governor shut down all public schools in August 2013 because of the poor state of public school facilities including the rest rooms, cafeterias, and drinking fountains. There is marked improvement in this area.

We reported "0" for Outcome #5 (number of food handlers who are certified and receive health

permits). This problem is being addressed in FY 2014.

Although land grant does collaborate with the Department of Public, we were not able during 2013 able to establish a Food Code for American Samoa that would meet federal standards. We did receive Food Code documents from FDA. However, we reported "0" for Output #11 (review of USDA Food Codes).

We were unable to accomplish planned outcomes in food safety audits nor get new policy made in food safety. Again, the local Department of Health did "up" step in 2013 and started shutting down restaurants with un-safe foods. They closed down stores that sold expired goods. A new political will emerged in 2013.

Planned Program #7: Human Health and Well-Being

For output #2, we reported "0" for the number of discussions held on stress as we did not have local expertise in this area and were unable to contract anyone in stress management.

Needs:

The deterioration of vehicles was caused by the poor condition of the roads, the difficulty and ordering parts from off-island, and improper maintenance. We need more training for our to auto-mechanic.

Staff continued to complain about orders. The College has a financial management system that is audited every year and there have been great strides in accountability and effectiveness. However, ordering was still a problem.

Total Actual Amount of professional FTEs/SYs for this State

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	21.5	0.0	14.2	0.0
Actual	13.9	0.0	8.7	0.0

II. Merit Review Process

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

- Combined External and Internal University External Non-University Panel

2. Brief Explanation

Research and Extension initiatives are client-driven, that is, based upon the latest stakeholder input survey. Owing to our limited number of staff, each researcher and Cooperative Extension Service agent tries to match his or her knowledge and skills to a high priority client concern that also addresses USDA NIFA goals. The proposal is presented to either the Research Coordinator or the Extension Coordinator for

an initial review. The Coordinator then distributes the proposal to knowledgeable professionals both within and outside of our institution. The Director then gives ultimate approval before the proposal is submitted to the USDA. Reviewers are asked to judge the proposal based on three criteria: 1. Does the proposal meet a high priority need? 2. Is the time and effort to conduct the initiative reasonable? 3. Is the PI qualified to conduct the initiative with the resources available?

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

Brief explanation.

Whenever stakeholders gather for programs, they are asked to evaluate the program. Evaluations include seeking suggestions for new or follow-up programs. Stakeholder participation is encouraged through media announcements(TV, radio, newspaper); targeted invitations (letters, phone calls, personal visits) to traditional and non-traditional groups and individuals; and surveys of the general public and of select groups.

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.

{NO DATA ENTERED}

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.

4-H Youth Program used a survey, English and Samoan version, to secure feedback from the stakeholders. For age group 12 and under, surveys are conducted orally. This program focuses on issues related to life skills development. The 4-H staff and agents are trained to support and conduct monthly educational programs for youth in schools and out in the community. The 4-H staff are also trained to develop and support opportunities including individual learning and summer camps.

Agriculture Extension Program continued to address stakeholders need as determined by direct communications and questioning of local farmers. At the Pesticide training, farmers have to pass a test and complete a feedback survey before issuing the certificate. At the farm safety workshops, information are obtained from the stakeholders through a focus group session before certificate of completion were awarded.

Family Consumer Science Program continued to provide nutrition and food safety outreach to schools and the community. For every workshop and outreach, a sign in sheet was provided for the stakeholders. A survey, Samoan and English, were distributed to the stakeholders for feedback. In addition to the survey, a focus group session was conducted so stakeholders can clearly define their thoughts on the positive and needs of the program.

The Forestry Program contined to address stakeholders need as determined by direct communications and questioning of clients. A Forestry council meeting was conducted quarterly to address the needs of the stakeholders. Besides a sign-in sheet, a survey was distributed after workshops and trainings.

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.

Input by stakeholders were being used to make changes improvement or to develop new programs for the community. In addition, inputs clarifies where the needs are within the programs. The stakeholders input also made an impact during meetings with partners and agencies. It also identified common needs throughout different programs in the community.

Brief Explanation of what you learned from your Stakeholders

Stakeholders are seeking a greater partnership with the Extension Programs, and the need to learn more about the different programs. The stakeholders are also seeking more than what the programs can offer, and this explains the need to recruit more staff and professionals.

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
853258	0	832293	0

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	418051	0	362983	0
Actual Matching	418051	0	362983	0
Actual All Other	0	0	0	0
Total Actual Expended	836102	0	725966	0

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

V. Planned Program Table of Content

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Families, Youth and Communities

☑ Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
801	Individual and Family Resource Management	40%		40%	
802	Human Development and Family Well-Being	10%		15%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	10%		15%	
806	Youth Development	40%		30%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	3.0	0.0	3.0	0.0
Actual Paid Professional	2.0	0.0	0.7	0.0
Actual Volunteer	2.0	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
61124	0	25186	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
61124	0	25186	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

Entrepreneurial and job readiness workshops.
Apprenticeship and career shadowing programs.
Sewing and arts and crafts workshops and demonstrations.
Vegetable gardening and marketing projects.
Parenting and character counts workshops.
Samoan cultural and language workshops and demonstrations
4-H fairs, camps, and summer programs.
Youth at risk issues workshops, conferences, forums, and seminars.
Public awareness media (radio, TV, newspaper) programs.
Development, translation, and distribution of posters, brochures, and other educational materials.
Communicate results via accomplishment reports, brochures, presentations, seminars, TV, and individual
contacts with other agencies.

2. Brief description of the target audience

The target audience are the residents of American Samoa including parents, youth, village,church, women, youth organizations, homemakers, farmers, students, or any interested individuals.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	300	2000	2186	6000

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

Patent Applications Submitted

Year:	2013
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of sewing workshops and demonstrations

Year	Actual
2013	17

Output #2

Output Measure

- Number of Samoan cultural workshops and demonstrations

Year	Actual
2013	16

Output #3

Output Measure

- Number of 4-H fairs, camps and summer programs

Year	Actual
2013	4

Output #4

Output Measure

- Number of youth-at-risk issues workshops, conferences, forums and seminars

Year	Actual
2013	12

Output #5

Output Measure

- Number of new 4-H Youth village clubs

Year	Actual
2013	1

Output #6

Output Measure

- Number of new 4-H Youth School clubs/enrichment programs.

Year	Actual
2013	0

Output #7

Output Measure

- Number of new 4-H leaders and volunteers.

Year	Actual
2013	10

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of program participants that acquired knowledge and developed skills in resources management (poverty), parenting, Samoan culture, and youth at risk issues
2	Number of participants starting home-based and small businesses
3	Number of program participants that improved parent and children relationship

Outcome #1

1. Outcome Measures

Number of program participants that acquired knowledge and developed skills in resources management (poverty), parenting, Samoan culture, and youth at risk issues

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1858

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
As reported in 2011, resource management (poverty), parenting, culture, and youth at risk issues continued to be the major areas of concern in American Samoa. More than 58.3% of American Samoa families are considered poor and below the US poverty level.

What has been done
In 2013, the FCS and 4-H conducted 47 workshops including activities in sewing, arts & crafts, Samoan cultural,nutrition demonstrations, and 2 OMK and 2 4-H summer camps.

Results
About 85% (1858) of the 2186 program participants acquired knowledge and developed skills in resource management, Samoan culture, and youth at risk issues.

4. Associated Knowledge Areas

KA Code	Knowledge Area
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

Number of participants starting home-based and small businesses

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	15

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
As reported in 2011, more than 58.3% of American Samoan families are considered poor and below the US poverty level. Moreover, unemployment is about 18% with a high cost of living in which 50% of average spending goes to food and housing.

What has been done
In 2013, FCS conducted 15 sewing workshops for adults and 2 for the youth. The Ag. Extension conducted 2 vegetable garden workshop and established 15 vegetable gardens. The 4-H program conducted 32 workshops that can enhance hands-on skills, decision making skills,develop positive leadership skills, and increase knowledge of entrepreneurship.

Results
In 2013, 18 participants started home-based and small businesses such as sewing shop and roadside fruit/vegetable markets. 15 Clients were able to use the vegetable garden for food and sell it for profits.

4. Associated Knowledge Areas

KA Code	Knowledge Area
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

Number of program participants that improved parent and children relationship

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	60

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
As reported in 2011, resource management (poverty), parenting, culture, and youth at risk issues continued to be the major areas of concern in American Samoa. More specifically, parent and child relationship is a critical issue in American Samoa. According to the CDC, 32% of high school students in American Samoa had already had sexual intercourse. About 47% have already tried cigarette smoking.

What has been done
Providing programs and resources to empower the youth to make the right choices and program to help parents become better parents. The 4-H program conducted 32 workshops that can enhance hands-on skills, decision making skills,develop positive leadership skills, and increase knowledge of entrepreneurship.

Results
About 85% (1858) of the 2186 program participants acquired knowledge and developed skills in resource management, Samoan culture, and youth at risk issues.

4. Associated Knowledge Areas

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

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Other (Staff Recruitment, Culture)

Brief Explanation

The Planned Programs are being conducted in the villages for the youth participants, but there are certain topics that are still considered taboo: For instance, premarital sex, teen pregnancy and sexually transmitted disease. The 4-H program is in the process of hiring a new agent.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Based on surveys and focus groups, there is a need to provide more workshop and programs throughout the community. Being able to deliver the workshops within distance of the participants home makes a big difference. Most families do not have the time or means of transportation to attend workshops or activities. Overall, clients and participants reported that ASCC-CNR outreach programs are doing a good job and are grateful that the staff are able to travel out in the villages to conduct the programs.

In FY 2013, the 4-H and FCS were able to reach 2186 participants in all the programs that were conducted. A total of 98 youths attended the OMK camp, 15 for Energy Saving day camp, and 230 for the 4-H 4 day summer camp. All the participants were able to learn the Samoan culture, sewing, arts & crafts, energy-saving, technology and electronics, healthy lifestyle, and vegetable gardening.

The basic sewing program have saved money for families. About 10% of the participants bought their own sewing machine to tailor their own lavalavas and clothing. Even the clients requested an extension to the workshop from three months to five. The planned programs have also received request from neighboring islands of Aunu'u and Manua, but the lack of transportation had prevented the programs to reach out to these communities.

Key Items of Evaluation

American Samoa 4-H and FCS program is well received from the public and community. It will continue to provide American Samoa's families,youth, and community with valuable workshop and programs for a positive impact. There is still a need for more qualified staff, additional 4-H and FCS agents, vehicles, and equipments to effectively deliver the programs to the community.

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Climate Change

☑ 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	25%		30%	
123	Management and Sustainability of Forest Resources	15%		20%	
124	Urban Forestry	25%		15%	
125	Agroforestry	25%		15%	
132	Weather and Climate	10%		20%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	0.5	0.0	0.2	0.0
Actual Paid Professional	2.7	0.0	0.8	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
70799	0	27237	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
70799	0	27237	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

Coliform and E. coli monitoring will be done monthly on selected streams not currently monitored by the EPA. The Enzyme Substrate Coliform Test from Idexx Laboratories, Inc., will be used for determining the Most Probable Number (MPN) of bacteria per 100 ml of sample.

The Polymerase Chain Reaction (PCR), together with a unique membrane filtration technique developed by a colleague at the University of Nevada, Reno, will be used to detect presence or absence of leptospirochetes.

We will collaborate with partners at the local Department of Marine and Wildlife and the EPA for monitoring and reducing sedimentation on our fringing coral reef.

Conduct conservation and climate change workshops.
Propagate trees for agroforestry, watershed, and coastal stabilization projects.
Survey areas infested with invasive tree species.
Conduct control program for invasive tree species.
Develop GPS/GIS maps.
Develop FSP management plans.

2. Brief description of the target audience

Scientists involved in environmental resources protection.

Policymakers in the Executive and Legislative branches of local government.

The Public.
Students
Farmers
Forestry clients

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	400	4000	2035	5000

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

Patent Applications Submitted

Year: 2013

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	1	1	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Technical Reports/Peer-reviewed papers/Media reports

Year	Actual
2013	2

Output #2

Output Measure

- Number of conservation and climate change workshops completed.

Year	Actual
2013	11

Output #3

Output Measure

- Number of plants propagated at nursery for climate change projects.

Year	Actual
2013	1250

Output #4

Output Measure

- Number of workshops' participants.

Year	Actual
2013	350

Output #5

Output Measure

- Number of trees planted for climate change projects.

Year	Actual
2013	469

Output #6

Output Measure

- Number of acres (infested by invasive species)surveyed using GPS/GIS.

Year	Actual
2013	35

Output #7

Output Measure

- Review of major publication on climate change and food security

Year	Actual
2013	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Bacterial and sediment loads in stream runoff.
2	Number of agroforestry projects established.
3	Number of watershed projects established and protected.
4	Number of coastal stabilization projects completed.
5	Number of acres infested by invasive tree species controlled.
6	Number of GPS/GIS maps developed.
7	Number of Forest Stewardship Management plans completed.

Outcome #1

1. Outcome Measures

Bacterial and sediment loads in stream runoff.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Agricultural and construction activities in stream riparian zones may lead to soil erosion and pollution of streams with anthropogenic nutrients and coliform bacteria loads. These activities have a greater impact on the reef, where a blanket of soil may impede coral photosynthesis while excess nutrients promote algae growth. As a nursery for many marine fauna and shoreline safeguard against wave erosion, loss of coral at the expense of algae has serious repercussions on fish and crustaceans stocks as well as shoreline erosion.

What has been done
Monitoring bacterial counts at the mouths of streams, where access is relatively easy, alerts regulators, i.e., EPA, of a potential violation upstream. Likewise, visiting stream mouth soon after storm events allows for a qualitative assessment of soil erosion problems.

Results
Since an EPA initiative in 2009 to remove illegal piggeries from riparian areas and to identify possible households with ineffective sewage procedures, stream and off-shore bacterial counts have been substantially reduced and soil runoff seen only after the most severe storms will accompanying intensive rainfall.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management

Outcome #2

1. Outcome Measures

Number of agroforestry projects established.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Population pressure and land clearance for agriculture and economic development in the mountainous areas of the limited land area (76 square miles) of American Samoa are major threats and challenges to the forests and natural resources.42% of American Samoa's 76square miles has a slope of more than 45%. Soil erosion is highly visible in many of these sites.

What has been done
Forestry program conducted 11 conservation and climate change workshops for 350 participants. Moreover, forestry staff propagated 469 plants for climate change projects.

Results
Established three (3) agroforestry project. The mixed cropping system at the site not only provided food for the family but also controls the soil erosion. Moreover, the landowner and staff controlled all the invasive tree species and replanted with recommended native trees species st the site. The landowners appreciated the support from the forestry program.

4. Associated Knowledge Areas

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

Outcome #3

1. Outcome Measures

Number of watershed projects established and protected.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Pollution (trash & Pig Wastes), sedimentation, nutrient enrichment, soil erosion, invasive species, and human activities are major threats and challenges to the fresh water supply and quality in American Samoa. The threats also impacted mangroves, fresh water fish, and marine life and coral reefs.

What has been done
Conducted 11 workshops on conservation and climate change education on agroforestry, technical assistance, land management, planning, and building partnerships with villages and landowners.

Results
Families agreed to relocate their piggeries 50 feet away from the streams to maintain fresh water quality. The Forestry established a partnership with the village and were able to plant native trees to control soil erosion, replace invasive species, and maintain wildlife habitat.

4. Associated Knowledge Areas

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

Outcome #4

1. Outcome Measures

Number of coastal stabilization projects completed.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Throughout the ears, natural disasters had caused destruction to the shorelines and coastal areas of American Samoa. For instance, trees that were used for windbreaks, coastal stabilization, and soil erosion were wiped out by the Tsunami of 2009.

What has been done
Forestry propagated 350 plants for climate change projects and conducted 11 conservation and climate change workshops.

Results
Planted 469 trees at the coastal stabilization projects.

4. Associated Knowledge Areas

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

Outcome #5

1. Outcome Measures

Number of acres infested by invasive tree species controlled.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	7

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The spread of exotic invasive plants has become the greatest danger to American Samoa's native rainforest. Such serious invasive plants included the African tulip, Panama rubber tree, albizia, red-bead tree, strawberry guava, cinnamon and false kava.

What has been done
Forestry staff surveyed 64 acres of land and about 32 acres are infested in invasive species.

Results
Forestry team controlled 7 acres of infested areas.

4. Associated Knowledge Areas

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

Outcome #6

1. Outcome Measures

Number of GPS/GIS maps developed.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #7

1. Outcome Measures

Number of Forest Stewardship Management plans completed.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	13

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Out of 34,082 acres of land on Tutuila land, only 18,626 acres have less than 45% slope. Land for development and agriculture are limited. Many landowners do not have any existing management plans to care for and manage their own lands. The spread of exotic invasive species throughout the island and climate change has negatively impact the forests and natural resources in American Samoa.

What has been done
Forestry staff conducted 11 conservation education workshops and presentations to the community at large. Assisted 13 clients in developing management plans for their lands.

Results
Forestry staff completed 13 forest stewardship management plans for 13 landowners. Landowners are now able to manage their land and are frequent visitors at the Forestry greenhouse for technical assistance or for needed plants.

4. Associated Knowledge Areas

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

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

Out of 34,082 acres of land on Tutuila island, only 18,000 acres have less than 45% slope. Land for development and agriculture are limited. Many landowners do not have any existing management plans to care for and manage their own lands. The spread of exotic invasive species throughtout the island, populatio increase, and climate change will egatively impact the future of forests and natural resources in American Samoa.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Program evaluation indicated the following: 1) Forestry program staff should be more visible in the community to assist and encourage landowners to plant more native trees to address climate change. 2) The program must work with the village councils in managing watersheds and coastal areas; 3) The program must focus on native tree species and medicinal plants; 4) Must extend the program to Aunu'u and Manu'a. 5) Need to hire more professional and support forestry staff.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Childhood Obesity

☑ Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
703	Nutrition Education and Behavior	50%		50%	
724	Healthy Lifestyle	50%		50%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	2.0	0.0	2.0	0.0
Actual Paid Professional	1.8	0.0	2.4	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
51378	0	117501	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
51378	0	117501	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

We measured height, weight, and waist circumference of XXXX children aged 2 to 8 years. We also examined the back of their necks for evidence of acanthosis nigricans, rating it on a scale of 0 to 4. We

fitted each child with a wrist accelerometer to wear over the next six days. Parents/guardians completed several forms describing the home environment (sleep behavior, religion, ethnic background, screen time). We distributed food and physical activity logs to parents/guardians to complete over the course of one week. We conducted community assessments of the built environments in four communties. We held a community walk at one of our intervention communities (Aua). Staff participated in role model training offered by the University of Hawaii at Manoa.

2. Brief description of the target audience

Children aged 2 to 8 years residing in four census tract communities on Tutuila Island.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	4000	4000	3000	4000

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

Patent Applications Submitted

Year:	2013
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	0	5	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Decrease in BMI percentiles, changes in food intake, changes in physical activity level among children 2 to 8 years of age.

Not reporting on this Output for this Annual Report

Output #2

Output Measure

- Number of Nutrition educational workshops

Year	Actual
2013	45

Output #3

Output Measure

- Number of different recipes using

Year	Actual
2013	17

Output #4

Output Measure

- Number of exercise and physical activity programs completed

Year	Actual
2013	205

Output #5

Output Measure

- Number of awareness activities with school children

Year	Actual
2013	34

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Prevalence of overweight and obesity decreasing in this cohort over time
2	Number of program participants that prepared and consumed more economical and nutritious meals
3	Number of program clients that adopted balance diets utilizing local produce and healthy foods
4	Number of program clients that increased participation in physical activities and exercises
5	Number of program clients that lived healthier lifestyles

Outcome #1

1. Outcome Measures

Prevalence of overweight and obesity decreasing in this cohort over time

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Number of program participants that prepared and consumed more economical and nutritious meals

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	397

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Overweight, obesity, NCD's, and lack of physical activities continues to be a major health issues for both youth and adults in American Samoa.

What has been done
In 2013, program staff conducted 115 workshops and food demonstrations, established 15 vegetable gardens, and distributed 17 recipes to the schools and communities. In school programs emphasized the importance of a healthy lifestyle in prevention of high risk issues related to obesity.

Results
About 398 (55%) out of 723 of the participants prepared and consumed more economical and nutritious meals. A total723 participants have recorded food recall that logs nutrition with a behavioral checklist, and based on the data, about 55% changed for the better.

4. Associated Knowledge Areas

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

Outcome #3

1. Outcome Measures

Number of program clients that adopted balance diets utilizing local produce and healthy foods

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	397

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Overweight, obesity, NCD's, and lack of physical activities continues to be a major health issues for both youth and adults in American Samoa.

What has been done
In 2013, program staff conducted 115 workshops and food demonstrations, established 15 vegetable gardens, and distributed 17 recipes to the schools and communities. In school programs emphasized the importance of a healthy lifestyle in prevention of high risk issues related to obesity.

Results
About 398 (55%) out of 723 of the participants prepared and consumed more economical and nutritious meals. A total723 participants have recorded food recall that logs nutrition with a behavioral checklist, and based on the data, about 55% changed for the better.

4. Associated Knowledge Areas

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

Outcome #4

1. Outcome Measures

Number of program clients that increased participation in physical activities and exercises

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #5

1. Outcome Measures

Number of program clients that lived healthier lifestyles

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

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

- Economy
- Public Policy changes
- Government Regulations

Brief Explanation

V(I). Planned Program (Evaluation Studies)

Evaluation Results

In 2013, the extension programs reached out to 6620 participants during workshops,

food demo, and presentations. Based on the Food Recall logs, about 55% of participants have improved their eating habits. Results from focus groups, listening meetings, and surveys indicates satisfaction with the program workshops and activities. It also reveals the need for the programs to travel to neighboring islands of Manu'a and Aunu'u.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Global Food Security and Hunger

☑ Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
123	Management and Sustainability of Forest Resources	5%		5%	
124	Urban Forestry	5%		5%	
125	Agroforestry	5%		5%	
133	Pollution Prevention and Mitigation	5%		5%	
202	Plant Genetic Resources	10%		15%	
205	Plant Management Systems	10%		10%	
211	Insects, Mites, and Other Arthropods Affecting Plants	5%		5%	
212	Pathogens and Nematodes Affecting Plants	5%		5%	
215	Biological Control of Pests Affecting Plants	5%		5%	
306	Environmental Stress in Animals	5%		5%	
307	Animal Management Systems	10%		10%	
315	Animal Welfare/Well-Being and Protection	5%		5%	
401	Structures, Facilities, and General Purpose Farm Supplies	5%		5%	
601	Economics of Agricultural Production and Farm Management	5%		5%	
604	Marketing and Distribution Practices	5%		5%	
903	Communication, Education, and Information Delivery	10%		5%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	7.0	0.0	4.0	0.0

Actual Paid Professional	2.0	0.0	0.7	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**
61124	0	25186	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
61124	0	25186	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

Multiplication, evaluation and distribution of improved taro and banana varieties.
Laboratory bioassay for foliar plant diseases.
List of plant-parasitic nematodes on taro, their distribution and management.
Vegetable variety evaluation demonstrations and workshops.
Budding, grafting and airlayering workshops for citrus and other fruit trees.
Collection of fruit trees planting materials (seeds and seedlings) from American Samoa and Independent Samoa.
Order seeds of improved fruit tree varieties
Nutrient analysis of fruits (banana variety - soa'a) and other crops and food
Pig project to reduce inbreeding of farmers' animal operations - buying/selling or trading of stock, boar services, artificial insemination (work with U.H. in re-starting this program).
Tissue culture of traditional staples and increasing genetic diversity to improve crop security.
Plant clinic diagnoses and recommendations
Pest surveys
Testing of reduce-risk pesticides
Biological control studies of important pests
Technical assistance with nuisance bee problems and assessment of apiculture
Pesticides Safety Training
Farm Safety Training
Farm visitations and demonstrations
Tilapia breeding program
Evaluation of native freshwater fish and crustaceans for intensive aquaculture
Feeds lab development
Teach ASCC courses, MSC 200: Introduction to Aquaculture and MSC 220: Introduction to Fisheries Management
Technical assistance with disease and nutrition issues for aquaculture farmers
Technical assistance with aquaponics and integrated pig-tilapia aquaculture
Technical assistance with grant writing
Technical advising for local Samoa Family Sunfish Cooperative, Inc.
Demonstration of aquarium science

Multiplication and distribution of vetiver grass (Chrysopogon zizanioides).

2. Brief description of the target audience

Small and resource-limited farmers and ranchers, commercial farmers, aquaculture farmers, forestry clients, hobby farmers, general public, school students, 4-H members, church youth and other community group members.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	719	3000	2187	3000

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

Patent Applications Submitted

Year: 2013

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	0	1	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

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

Year	Actual
2013	25

Output #2

Output Measure

- Number of improved taro setts,banana suckers/bits, and/or sweet potato slips disseminated.

Year	Actual
2013	7137

Output #3

Output Measure

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

Year	Actual
2013	24

Output #4

Output Measure

- Number of vegetable variety demonstrations completed.

Year	Actual
2013	15

Output #5

Output Measure

- Number of new fruit tree varieties introduced.

Year	Actual
2013	0

Output #6

Output Measure

- Number of fruit tree propagation workshops.

Year	Actual
2013	0

Output #7

Output Measure

- Number of pigs and piglets sold/traded.

Year	Actual
2013	25

Output #8

Output Measure

- Number of pesticide efficacy tests completed.

Year	Actual
2013	4

Output #9

Output Measure

- Number of Pesticide Applicators' Training workshops conducted.

Year	Actual
2013	4

Output #10

Output Measure

- Number of biological control species introduced or augmented to control local pests.

Year	Actual
2013	0

Output #11

Output Measure

- Number of Tilapia released from breeding program.

Year	Actual
2013	50

Output #12

Output Measure

- Number of tilapia feed trials completed.

Year	Actual
2013	1

Output #13

Output Measure

- Number of vegetable gardening workshops conducted.

Year	Actual
2013	2

Output #14

Output Measure

- Number of vegetable gardens established.

Year	Actual
2013	15

Output #15

Output Measure

- Pounds of Tilapia feed produced at ASCC feeds lab.

Year	Actual
2013	7247

Output #16

Output Measure

- Number of plant disease causal agents identified.

Year	Actual
2013	12

Output #17

Output Measure

- Number of nutrient-dense traditional crop varieties disseminated

Year	Actual
2013	0

Output #18

Output Measure

- Number of trainings in taro breeding

Year	Actual
2013	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of farmers growing improved varieties of taro, bananas, and sweet potatoes.
2	Number of clients targeting problems according to recommendations on plant clinic form.
3	Number of farmers/clients growing improved vegetable cultivars.
4	Number of people growing improved budded/grafted or airlayered fruit trees in their back yards.
5	Number of pig farmers upgrading their stock.
6	Number of reduced risk pesticides recommended for use.
7	Number of pesticide applicators trained and certified.
8	Number of farmers growing improved genetic stocks of tilapia.
9	Number of farmers upgrading their farms to aquaponics.
10	Number of farmers making their own tilapia feeds.
11	Number of farmers integrating their piggeries with tilapia culture.
12	Number of local crops nutrient analysis completed.
13	Number of people eating more vegetables as a result of the vegetable gardening project
14	Number of nutrient analysis conducted for local crops and food

Outcome #1

1. Outcome Measures

Number of farmers growing improved varieties of taro, bananas, and sweet potatoes.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	238

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The taro leaf blight of the 1990s and the black leaf streak disease of bananas negatively impacted the production of taro and banana in American Samoa.

What has been done
The Agriculture Extension, Researchers, and Tissue Culture specialist continues to multiply the best taste varieties of traditional staples for American Samoa.

Results
In FY 2013, the Agriculture Extension distributed 7,137 improved taro setts and banana planting materials to 238 farmers. With the continued multiplication and distribution of improved varieties, farmers and producers now have a great diversity of disease-resistant products.

4. Associated Knowledge Areas

KA Code	Knowledge Area
202	Plant Genetic Resources
205	Plant Management Systems
212	Pathogens and Nematodes Affecting Plants
601	Economics of Agricultural Production and Farm Management

Outcome #2

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 Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	12

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
As is the case for many isolated islands, American Samoa's natural and agricultural ecosystems are highly vulnerable to disruption by accidentally introduced exotic arthropods, and the likelihood of such introductions increases with increased movement of passengers and goods to the territory. Agriculture quarantine inspections and pest surveillance surveys can stop pests before they enter the territory or before they have an opportunity to spread and become established. Accurate identification is the crucial first step for effectively managing existing pests and responding to invasions by exotic pests.

What has been done
ASCC-CNR works with the territory's Department of Agriculture to assist with plant quarantine pest interceptions and to conduct detection surveys for exotic invasive pests. The fruit fly quarantine surveillance program continued this year, and detection surveys for citrus greening disease and exotic invasive ants were completed. The ASCC-CNR Plant Clinic continued to provide pest and disease diagnostic services to extension agents, farmers, and the general public. As a member of the USDA's National Plant Diagnostic Network, the ASCC-CNR Plant Clinic has access to regional and national-level diagnostics expertise when required.

Results
No exotic fruit fly species were found among the 35,448 fruit flies captured and identified in the quarantine surveillance program this fiscal year. Additional localized supplementary trapping was done immediately after unconfirmed sighting of an exotic fly, but no non-natives were found. Since the arrival and establishment of Asian citrus psyllid in 2011, it has been important to maintain surveillance against the disease it vectors, citrus greening. Fortunately our 2013 survey again found no citrus greening. A total of 46 high risk areas were sampled for exotic invasive ants, and one new exotic species was found. A delimitation survey for the latter suggested

eradication may be feasible. One mealybug pest new to the territory was also detected, but was already too widespread to attempt eradication. The ASCC-CNR Plant Clinic continued to provide assistance to CNR extension agents, the department of agriculture, farmers, and others through plant pest and disease diagnosis and management recommendations.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
215	Biological Control of Pests Affecting Plants

Outcome #3

1. Outcome Measures

Number of farmers/clients growing improved vegetable cultivars.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	130

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Farmers continued to farm vegetable varieties that are beneficial to them in terms of providing food and to generate an income for the family.

What has been done
ASCC-CNR outreach programs continued to provide seeds/seedlings to the community, like schools and 4-H clubs, for vegetable gardening. The agents also conducted follow-up visits to farmers, schools, and producers. The Extension continued to sell seeds of improved vegetable varieties at an affordable price to the public to encourage vegetable farming.

Results
The Agriculture Extension program sold 1141 vegetable seeds to 130 farmers. The Agriculture Extension were able to identified improved cultivars that perform well in the tropics and are

disease resistance.

4. Associated Knowledge Areas

KA Code	Knowledge Area
202	Plant Genetic Resources
205	Plant Management Systems
215	Biological Control of Pests Affecting Plants
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices

Outcome #4

1. Outcome Measures

Number of people growing improved budded/grafted or airlayered fruit trees in their back yards.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
202	Plant Genetic Resources
205	Plant Management Systems
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices

Outcome #5

1. Outcome Measures

Number of pig farmers upgrading their stock.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	52

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
There is still a need to address the pig waste management system, and a need to introduce biodiversity in the local pig gene pool for inbreeding perspective and homeland security as well.

What has been done
The ASCC-CNR continued to use the ASEPA funded piggery to demonstrate the four recommended waste management systems to farmers, students, and the general public.The CNR Agriculture Extension agents also worked together with Partners in conducting outreach workshops for piggery compliance.

Results
The ASCC-CNR piggery serves as a demonstration site for farmers, students, public and visitors from off-island. The CNR Agriculture programs agents worked with 52 farmers to reduce inbreeding and provide recommendation in upgrading stock.

4. Associated Knowledge Areas

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

Outcome #6

1. Outcome Measures

Number of reduced risk pesticides recommended for use.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
American Samoa?s farmers manage their traditional and non traditional cropping systems under environmental conditions and pest combinations that are unique. Pest control solutions that work elsewhere in the U.S. or its territories may or may not work for American Samoa's farmers. It is important to test technologies that offer effective, environmentally sound pest control to ensure that they work for American Samoa?s farmers.

What has been done
This activity was restarted in 2013, and a single field trial targeting taro pests was completed. Analysis and follow-up trials are planned.

Results
This activity was restarted in 2013, and a single field trial targeting taro pests was completed. Analysis and follow-up trials are planned.

4. Associated Knowledge Areas

KA Code	Knowledge Area
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
215	Biological Control of Pests Affecting Plants

Outcome #7

1. Outcome Measures

Number of pesticide applicators trained and certified.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	51

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The continued usage of illegal pesticides in the territory is still an issue, and how it arrived in the territory are still questionable. Another issue is the proper way of handling pesticides before, during and after usage.

What has been done
During FY 2013, ASCC-CNR conducted 4 Pesticide Applicator Safety workshops.

Results
In FY 2013, 51 participants were trained and certified. The EPA Pesticide officer was present to certify the participants. The certification allowed the participants to buy pesticides from the Department of Agriculture. Due to the training, farmers and users are more aware of Integrated Pest Management strategies and biological control programs.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
307	Animal Management Systems
601	Economics of Agricultural Production and Farm Management

Outcome #8

1. Outcome Measures

Number of farmers growing improved genetic stocks of tilapia.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	5

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Tilapia introductions in American Samoa have been few and far between. Inbreeding of existing stocks has been known to reduce growth rates and maximum sizes. This limits maximum farm yields and profits.

What has been done
The introduction of Genetically Improved Farmed Tilapia (GIFT)with formulated fish feed to the local farmers.

Results
GIFT grows faster and spawns earlier. The farmers are using this new breed of tilapia, and new farmers are encouraged to do the same.

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
315	Animal Welfare/Well-Being and Protection
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices

Outcome #9

1. Outcome Measures

Number of farmers upgrading their farms to aquaponics.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Food Security is an issue in American Samoa with 95% of the food supplies are imported. Upgrading farms to aquaponics are unlikely because of the limited land and the high-costs.

What has been done
One workshop was conducted to highlight the benefits and practice of aquaponics. About 70% of the participants improved their knowledge of aquaponics, including assembly, fish care, and marketability of products.

Results
The two farmers are still collecting materials and resources needed in running their aquaponic system.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #10

1. Outcome Measures

Number of farmers making their own tilapia feeds.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	5

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 - no charge.

Results
Farmers continued to make use of feeds facilities to produce feed for the farm. In 2013, the CSIAA produced 7247 pounds of tilapia feeds.

4. Associated Knowledge Areas

KA Code	Knowledge Area
306	Environmental Stress in Animals
307	Animal Management Systems
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 #11

1. Outcome Measures

Number of farmers integrating their piggeries with tilapia culture.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
There is still a need to address the pig waste management system, and a need to introduce biodiversity in the local pig gene pool for inbreeding perspective and homeland security as well.

What has been done
The program staff is assisted the farmer to integrating the 80-pig system with tilapia ponds. The EPA approved designed system uses the piggery wastewater to fertilize tilapia ponds.

Results
The farm manager has improved his skills in managing the wastewater from the piggery to ensure water quality remains optimal for the fish ponds.

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
307	Animal Management Systems
315	Animal Welfare/Well-Being and Protection
601	Economics of Agricultural Production and Farm Management

Outcome #12

1. Outcome Measures

Number of local crops nutrient analysis completed.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
202	Plant Genetic Resources
205	Plant Management Systems
604	Marketing and Distribution Practices

Outcome #13

1. Outcome Measures

Number of people eating more vegetables as a result of the vegetable gardening project

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	150

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Obesity, overweight, poor nutrition, unhealthy lifestyle, and food safety issues continued to be major problem for both adults and youth in American Samoa. The need for more vegetables gardens and for the people to eat healthier and more vegetables is a must.

What has been done
The CNR Agriculture Extension program had conducted 2 workshops on Vegetable Gardening and established 15 Vegetable gardens. The program also sold 1141 pkts of seeds to 130 farmers at an affordable price.

Results
The program established 15 vegetable gardens for the 15 different clients.

4. Associated Knowledge Areas

KA Code	Knowledge Area
202	Plant Genetic Resources
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
215	Biological Control of Pests Affecting Plants
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices
903	Communication, Education, and Information Delivery

Outcome #14

1. Outcome Measures

Number of nutrient analysis conducted for local crops and food

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
125	Agroforestry
202	Plant Genetic Resources
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
215	Biological Control of Pests Affecting Plants
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices
903	Communication, Education, and Information Delivery

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Other (Lack of staff; procurement proc)

Brief Explanation

Delay in processing requests to hire replacement for lost staff limited program capacity. ASCC business office continued to impede attempts to use Hatch and Smith-Lever grant funds to procure supplies and equipment for this and other planned programs.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Based on the evaluation, feedback form, and focus groups- the planned program is doing a fair job in promoting out in the public. There's a need to do more outreach for the planned programs. Fruit trees propagation workshops ia slso doing a fair job, but it needs more new varities. The stakeholders agreed that the program is doing an excellent job in improving varities of traditional crops, Vegetable gardening workshops and demonstration, and the Pesticide Safety Education Program. Also doing a good job with the Progressive Agriculture Safety Days and the Piggery Waste management workshops.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Sustainable Energy

☑ Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
123	Management and Sustainability of Forest Resources	10%		10%	
124	Urban Forestry	40%		40%	
125	Agroforestry	40%		40%	
132	Weather and Climate	10%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	3.0	0.0	1.0	0.0
Actual Paid Professional	2.0	0.0	0.7	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**
61124	0	25186	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
61124	0	25186	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

Energy conservation workshops
Community assessments/surveys
Tree plantings in urban areas
Collaboration with partner agencies
Propagation of trees in greenhouse and nursery for urban tree plantings
Collect native fuel wood tree seeds and seedlings for multiplication
Display and put up energy efficient items and materials
Recruitment for scientist
Site visitations to clients
Distribution of fuel wood tree planting materials

2. Brief description of the target audience

Students
Farmers
Forestry clients
4-H members
Church youth
Community groups
General public
Policy makers in the Legislature and Executive branches of the American Samoa government
Business people
Construction people
Car dealers

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	0	0	0	0

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

Patent Applications Submitted

Year: 2013
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of energy conservation workshops completed.

Year	Actual
2013	11

Output #2

Output Measure

- Number of trees propagated at nursery for urban tree plantings.

Year	Actual
2013	1500

Output #3

Output Measure

- Number of fuel wood trees propagated for project.

Year	Actual
2013	800

Output #4

Output Measure

- Number of collaborative projects with other government agencies and non-government organizations.

Year	Actual
2013	6

Output #5

Output Measure

- Number of printed educational materials distributed.

Year	Actual

2013	1200

Output #6

Output Measure

- Number of energy efficient materials and items demonstration and display.

Year	Actual
2013	1

Output #7

Output Measure

- Study on level of energy sustainability in American Samoa

Year	Actual
2013	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of workshop participants who acquired knowledge about energy conservation.
2	Number of workshop participants who adopted energy conservation practices.
3	Number of trees planted for energy conservation projects.
4	Number of community assessments completed.
5	Number of trees planted for fuel wood projects.
6	Percentage of savings in electricity bills.
7	Number of participants who purchased and installed energy efficient materials and items at the work place or home.
8	Number of participants who are now using fuel wood for food preparation/cooking.

Outcome #1

1. Outcome Measures

Number of workshop participants who acquired knowledge about energy conservation.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	298

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
American Samoa's has issues with limited land mass, forest areas, available qualified human resources, and high energy costs. To deal with these issues, there's a need for energy conservation education, urban tree planting, and fuel wood tree species propagation.

What has been done
Forestry program conducted 11 energy conservation education workshops and presentations to the community at large. About 350 participants attended the workshops. The Forestry staff propagated 469 trees for conservation projects and urban tree planting,and distributed 1200 printed educational materials.

Results
Of the 350 workshop participants, 315 (90%) acquired knowledge about energy conservation.

4. Associated Knowledge Areas

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

Outcome #2

1. Outcome Measures

Number of workshop participants who adopted energy conservation practices.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	203

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
American Samoa's has issues with limited land mass, forest areas, available qualified human resources, and high energy costs. To deal with these issues, there's a need for energy conservation education, urban tree planting, and fuel wood tree species propagation.

What has been done
Forestry program conducted 11 energy conservation education workshops and presentations to the community at large. About 350 participants attended the workshops. The Forestry staff propagated 469 trees for conservation projects and urban tree planting,and distributed 1200 printed educational materials.

Results
About 20% (63) of the workshop participants who acquired knowledge adopted energy conservation practices such as planting trees around the home, offices,and public buildings.

4. Associated Knowledge Areas

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

Outcome #3

1. Outcome Measures

Number of trees planted for energy conservation projects.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	700

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The high price of oil continued to impact the economy of American Samoa in terms of high costs in fuel/gasoline and electricity. It is important for the people of American Samoa to understand energy conservation and how it can reduce financial costs of gas and utilities, and protecting the environment.

What has been done
In FY 2013, the Forestry program conducted 11 conservation education workshop. A total of 350 participants attended the workshops and 1200 printed educational materials were distributed.

Results
About 1500 seeds were propagated and 1373 trees were planted around the island including homes, parks, and public buildings.

4. Associated Knowledge Areas

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

Outcome #4

1. Outcome Measures

Number of community assessments completed.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
American Samoa's has issues with limited land mass, forest areas, available qualified human resources, and high energy costs. To deal with these issues, there's a need for energy conservation education, urban tree planting, and fuel wood tree species propagation.

What has been done
An energy specialist has not been hired, so therefore unable to conduct any community assessment.

Results
No results

4. Associated Knowledge Areas

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

Outcome #5

1. Outcome Measures

Number of trees planted for fuel wood projects.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	200

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
American Samoa's has issues with limited land mass, forest areas, available qualified human resources, and high energy costs. To deal with these issues, there's a need for energy conservation education, urban tree planting, and fuel wood tree species propagation.

What has been done
In FY 2013, the Forestry program conducted 11 workshops on conservation. The program also distributed 1200 educational materials to the public.

Results
The Forestry program planted 200 trees for the fuel wood projects.

4. Associated Knowledge Areas

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

Outcome #6

1. Outcome Measures

Percentage of savings in electricity bills.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The high price of oil continued to impact the economy of American Samoa in terms of high costs in fuel/gasoline and electricity. It is important for the people of American Samoa to understand energy conservation and how it can reduce financial costs of gas and utilities, and protecting the environment.

What has been done
No work was done due to a lack of a Energy Specialist.

Results

4. Associated Knowledge Areas

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

Outcome #7

1. Outcome Measures

Number of participants who purchased and installed energy efficient materials and items at the work place or home.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The high price of oil continued to impact the economy of American Samoa in terms of high costs in fuel/gasoline and electricity. It is important for the people of American Samoa to understand energy conservation and how it can reduce financial costs of gas and utilities, and protecting the environment.

What has been done
No work was done due to absence of a Energy Specialist.

Results
No results

4. Associated Knowledge Areas

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

Outcome #8

1. Outcome Measures

Number of participants who are now using fuel wood for food preparation/cooking.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	40

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Limited land mass, forest areas, resources, and increase energy costs necessitate the focus on energy conservation education, urban tree planting, fuel wood tree species propagation.

What has been done
The Forestry program conducted 11 energy conservation education workshop and presentations to the community at large. 600 participants attended the conservation education workshops. Forestry staff propagated 1500 trees for projects and urban tree plantings, and 800 trees for fuel wood projects.

Results
40 participants are now using fuel wood for preparation in place of electricity and gas appliances.

4. Associated Knowledge Areas

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

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

American Samoa's limited land area, invasive species, agriculture and economic development had affected programming and outcomes. There is a need to hire a energy specialist.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

In FY 2013, the Forestry program conducted workshops and activities that directly reached 2035 residents of American Samoa, both adults and minors. The forestry together with the participants were able to plant 469 trees for climate change, and 1373 trees for energy sustainability. Based on the feedback forms and focus groups, clients are satisfied with the forestry program but there is still a need to understand more about sustainable energy. Needs include an Energy specialist to lead and manage the Sustainable energy program, more resources and to increase community awareness, and to host more workshops on sustainable energy.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Food Safety

☑ Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
101	Appraisal of Soil Resources	10%		10%	
111	Conservation and Efficient Use of Water	10%		5%	
132	Weather and Climate	10%		15%	
212	Pathogens and Nematodes Affecting Plants	10%		5%	
216	Integrated Pest Management Systems	10%		10%	
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals	10%		10%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	10%		10%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	15%		20%	
723	Hazards to Human Health and Safety	15%		15%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	3.0	0.0	1.0	0.0
Actual Paid Professional	2.0	0.0	0.7	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**
61124	0	25186	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
61124	0	25186	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Develop procedures for safe food handling.
Develop procedures for safe handling of tools and supplies.
Watch out for physical dangers in the environment such as plants with toxins or overexposure to sun.
Determine safe use of fertilizers and pesticides.
Develop plans for Integrated Pest Management.
Implement good sanitation and protection practices.
Understand soil and water quality safety.
Determine relationship between school garden and school cafeteria.
Prepare for food safety audits.
Develop policies needed to address foodborne illnesses.
Develop public awareness activities and media.

2. Brief description of the target audience

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

3. How was eXtension used?

The Food Safety planned program are conducted by the 4-H, FCS and EFNEP agents. The goal is to educate the public through schools, agencies (Private & Public) and organization in the importance Food Safety.

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	4000	4000	2500	4000

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

Patent Applications Submitted

Year:	2013
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of procedures developed for safe food handling.
  Not reporting on this Output for this Annual Report

Output #2

Output Measure

- Number of procedures developed for safe handling of tools and supplies.

Year	Actual
2013	0

Output #3

Output Measure

- Number of workshops on physical dangers in the environment such as plants with toxins or overexposure to sun.

Year	Actual
2013	4

Output #4

Output Measure

- Number of workshops on safe use of fertilizers and pesticides.

Year	Actual
2013	4

Output #5

Output Measure

- Number of workshops on Integrated Pest Management.

Year	Actual
2013	4

Output #6

Output Measure

- Number of demonstrations on good sanitation and protection practices.

Year	Actual
2013	115

Output #7

Output Measure

- Number of soil and water quality safety workshops.

Year	Actual
2013	0

Output #8

Output Measure

- Number of schools with safe drinking water sources and facilities for washing hands.

Year	Actual
2013	0

Output #9

Output Measure

- Number of school gardens established.

Year	Actual
2013	2

Output #10

Output Measure

- Number of food safety procedures/publications/brochures/educational materials distributed.

Year	Actual
2013	2174

Output #11

Output Measure

- Review of USDA Food Codes

Year	Actual
2013	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of participants who completed food safety workshops and demonstrations.
2	Number of participants who acquired knowledge and developed skills in food safety issues
3	Number of participants who adopted food safety best practices.
4	Number of participants who adopted safe handling of tools and chemicals best practices.
5	Number of food handlers who are certified and received health permits/cards.
6	Number of schools with safe drinking water.
7	Number of schools with hand washing facilities.
8	Number of schools preparing and consuming vegetables from their gardens.
9	Number of food safety audits completed.
10	Number of food policies developed to address food safety issues.

Outcome #1

1. Outcome Measures

Number of participants who completed food safety workshops and demonstrations.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1174

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
As of now, American Samoa has not adopted a Federal Food Code.Food Safety is still an issue because more cases of health risks are being cited due to food safety reasons.

What has been done
In 2013, the FCS and 4-H conducted 45 nutrition and food safety workshops. All of the 70 food demonstration also included food safety lessons.

Results
The FCS and 4-H programs have reached 5446 students through school programs and 1778 participants through the outreach workshops. About 90% of all the participants have learned the basic lessons on Food Safety.

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
111	Conservation and Efficient Use of Water
132	Weather and Climate
212	Pathogens and Nematodes Affecting Plants
216	Integrated Pest Management Systems
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals
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
723	Hazards to Human Health and Safety

Outcome #2

1. Outcome Measures

Number of participants who acquired knowledge and developed skills in food safety issues

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1054

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
American Samoa has not adopted a federal Food Code. There has been an increase in vendors being cited for food safety violations by the Department of Health. Cases of food poisoning has been reported by the local news.

What has been done
Every month, the FCS conducts a workshop to the Food Stamp recipients. All food demo conducted by the FCS program at schools and outreach in the community included lessons on Food Safety.

Results
About 90% of the food safety workshop participants have acquired knowledge and developed skills.

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
111	Conservation and Efficient Use of Water
132	Weather and Climate
212	Pathogens and Nematodes Affecting Plants

216	Integrated Pest Management Systems
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals
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
723	Hazards to Human Health and Safety

Outcome #3

1. Outcome Measures

Number of participants who adopted food safety best practices.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	950

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The Department of Health have cited vendors in violation of food safety policies. The number of food poisoning have been reported by the local news. As of now, American Samoa has not adopted a federal Food Code.

What has been done
The FCS program conducts 12 food safety workshops for Food Stamp recipients. For every demo, basic food safety lessons are included. A total of 45 workshops and food demo have been conducted at schools and communities.

Results
About 90% (950) of the participants who acquire knowledge about food safety were able to adopt food safety best practices.

4. Associated Knowledge Areas

KA Code	Knowledge Area

101	Appraisal of Soil Resources
111	Conservation and Efficient Use of Water
132	Weather and Climate
212	Pathogens and Nematodes Affecting Plants
216	Integrated Pest Management Systems
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals
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
723	Hazards to Human Health and Safety

Outcome #4

1. Outcome Measures

Number of participants who adopted safe handling of tools and chemicals best practices.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1725

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The Department of Health have cited vendors in violation of food safety policies. The number of food poisoning have been reported by the local news. As of now, American Samoa has not adopted a federal Food Code.

What has been done
The FCS program conducts 12 food safety workshops for Food Stamp recipients. For every demo, basic food safety lessons are included. A total of 45 workshops and food demo have been conducted at schools and communities.The Ag Extension Program also conducted 4 Pesticide Applicator Safety workshop and 5 Progressive Agriculture Safety program.

Results

The FCS and Ag. Extension programs have reached 2300 participants through school programs and outreach workshops. About 75% of all the participants have have adopted safe handling of tools and chemicals best practices.

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
212	Pathogens and Nematodes Affecting Plants
216	Integrated Pest Management Systems
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
723	Hazards to Human Health and Safety

Outcome #5

1. Outcome Measures

Number of food handlers who are certified and received health permits/cards.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
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
723	Hazards to Human Health and Safety

Outcome #6

1. Outcome Measures

Number of schools with safe drinking water.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals

712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
723	Hazards to Human Health and Safety

Outcome #7

1. Outcome Measures

Number of schools with hand washing facilities.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals
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
723	Hazards to Human Health and Safety

Outcome #8

1. Outcome Measures

Number of schools preparing and consuming vegetables from their gardens.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Obesity, overweight, poor nutrition, and food safety issues continued to be major problems for both adults and youth in American Samoa. The is still a need for more nutritional educational workshops and vegetable gardens to educate students in eating and staying healthy.

What has been done
The CNR Agriculture Extension program had conducted 2 workshops on Vegetable gardening and established 2 vegetable gardens in the schools. At the same time, The FCS program were able to conduct programs to educate students in healthy eating and food safety.

Results
The Ag.Extension program established 2 vegetable gardens in the schools. 90% of the student participants were able to learn how to prepare and consume vegetables through activity programs from the FCS and Ag. Extension staff.

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
111	Conservation and Efficient Use of Water
132	Weather and Climate
212	Pathogens and Nematodes Affecting Plants
216	Integrated Pest Management Systems
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other

	Hazards Affecting Animals
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
723	Hazards to Human Health and Safety

Outcome #9

1. Outcome Measures

Number of food safety audits completed.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
111	Conservation and Efficient Use of Water
212	Pathogens and Nematodes Affecting Plants
216	Integrated Pest Management Systems

314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals
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
723	Hazards to Human Health and Safety

Outcome #10

1. Outcome Measures

Number of food policies developed to address food safety issues.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
111	Conservation and Efficient Use of Water
132	Weather and Climate

212	Pathogens and Nematodes Affecting Plants
216	Integrated Pest Management Systems
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals
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
723	Hazards to Human Health and Safety

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)

Brief Explanation

In the process of recruiting a Food Safety specialist.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

According to the surveys, about 90% of the participants indicated that they have learned from the workshops, and will adopt it. The Extension programs have reached 6,620 students and adults through 115 food saferty workshops and food demonstration.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Human Health and Well-Being

☑ 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
721	Insects and Other Pests Affecting Humans	15%		50%	
722	Zoonotic Diseases and Parasites Affecting Humans	15%		50%	
724	Healthy Lifestyle	70%		0%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Actual Paid Professional	1.3	0.0	2.9	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
51378	0	117501	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
51378	0	117501	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) We propose to collect mosquitoes from six villages in American Samoa and use PCR and sequencing to identify the sources of their blood meals. At the same time, we will estimate densities of likely vertebrate hosts in the vicinity of those villages. Mosquito-to-host forage ratios will then be calculated to determine if mosquitoes show biases in host selection.

2) To conduct community focus groups on stress in American Samoa.

2. Brief description of the target audience

Residents of American Samoa because anyone can be affected by dengue or filariasis.

For the stress management project, the audience is primarily adults, either employed or non-employed, male or female, who participate in traditional village or church activities.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

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

Patent Applications Submitted

Year:	2013
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- number of modquito to host forage ratios calculated

Year	Actual
2013	0

Output #2

Output Measure

- number of discussions held on stress

Year	Actual
2013	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

Outcome #1

1. Outcome Measures

Number to determine relative importance of the species in human pathogen transmission and inform efforts to reduce disease transmission.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Mosquitoes in American Samoa are known to vector several important human pathogens, including lymphatic filariasis (LF), dengue, and other arboviruses. But the relative importance of the different species as disease vectors is not well understood. A mosquito species? importance as a disease vector depends on a number of factors, including the frequency with which it feeds on human hosts versus other available hosts. This project aimed to use PCR on blood-fed, field-collected mosquitoes to detect the source of their blood meals and estimate relative feeding preferences for hosts available in American Samoa villages.

What has been done
The project could not be completed. Procurement delays prevented the acquisition of critical supplies during the time when personnel were available to implement the project. Those personnel are no longer available.

Results
(Project could not be completed.)

4. Associated Knowledge Areas

KA Code	Knowledge Area
721	Insects and Other Pests Affecting Humans
722	Zoonotic Diseases and Parasites Affecting Humans

Outcome #2

1. Outcome Measures

Listing of stress factors identified in American Samoa

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
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
- Populations changes (immigration, new cultural groupings, etc.)
- Other (Staff time, procurement problems, hiring problems)

Brief Explanation

Loss of staff limited program capacity. ASCC business office continued to impede CNR's attempts to use Hatch and Smith-Lever and other grant funds to procure supplies and equipment for this and other planned programs.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

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Key Items of Evaluation

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