

2014 American Samoa Community College Combined Research and Extension Annual Report of Accomplishments and Results

Status: Accepted

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I. Report Overview

1. Executive Summary

The 2014 Annual Report

American Samoa Community College Community & Natural Resources American Samoa

Planned Programs for 2014 were:

1. Families, Youth & Communities
2. Food Security
3. Human Health & Wellness
4. Ecosystem

Major Challenges in 2014 were:

1. Difficulty of predicting FY 2014 funding
2. Teaching all staff to estimate and calculate the "total cost of operations" (TCO).
3. Physical Inventory. Measures have been put in place to better account for all physical inventory.

Major Accomplishment in 2014 was:

The completion of the "ASCC Wellness Center." This building represents 7 years of effort to add a physical asset to combat non-communicable diseases, childhood obesity, and strengthen the overall health of the community. The building houses the childhood obesity program, EFNEP, exercise programs, health communications, media, academic program in nutrition, and a nutrition center.

Participation

Staff participation, including the heads of Research and Extension, continued as usual in preparing the 2014 Annual Report.

Under Research those who helped write the report were the Principal Investigator the Children's Healthy Living project, the Entomologist, the Plant Pathologist, and the Research Horticulturalist. At the time of preparing the Annual Report, there was no longer a Research Forester or Exercise Physiologist, both had moved off-island.

Under Extension those who helped write the 2014 Annual Report were the Agriculture Extension Manager, the Forestry Manager, the 4H Manager, and the Family & Consumer Sciences Manager.

Support staff should be more involved in future annual reports. This is good training and helps to broaden understanding and build ownership of the Plan of Work.

Stakeholder Input & Documentation

As a result of the meeting with American Samoa's Annual Report evaluator at NIFA, much more is planned in 2014 for documenting stakeholder input, quantifiable data, and more up-to-date references.

More training needs to be done in this area in how to systematically dialogue with the community and use the information for improvement.

Outputs & Outcomes

There was continued discussion among the staff about the difference between outputs and outcomes. What was helpful to the staff, that is, what helped to guide the staff's understanding of the difference, was that "outputs" measure the amount of work the staff did in 2014. "Outcomes" measure the difference our work was making in the community - in what the community learned, in what they have done differently, and in what in the condition of their lives has changed or improved.

Relation to Internal Processes

Staff were required to state the NIFA-approved "Plan of Work" output, outcome, activity, or goal to justify purchases, travel, check requests, vehicle-use, and other items that require Hatch or Smith Lever funds. They used the POW for bi-weekly reports and quarterly reports which are required by the American Samoa Government.

Data from the Annual Report was related to Accreditation processes.

Conclusion

Responsibility for the late submission of the 2014 Annual Report is with the Director alone. ASCC CNR will start working on the next Annual Report (2015) sooner.

Total Actual Amount of professional FTEs/SYs for this State

| Year: 2014 | Extension | | Research | |
|------------|-----------|------|----------|------|
| | 1862 | 1890 | 1862 | 1890 |
| Plan | 21.5 | 0.0 | 14.2 | 0.0 |
| Actual | 17.3 | 0.0 | 8.0 | 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, which serves a population of 65,000, each researcher and Extension agent tries to match his/her knowledge skills and expertise to a high priority client concern that also would meet federal grant requirements.

The proposal is then given to the Research or the Extension Coordinator, who distributes it to knowledgeable professionals both within and outside of the institution. If an off-island expert can also be found who is willing to review the proposal, gratis, this source of review is also sought.

The Director will be included in the final review of the proposals.

An investigator proposing a new research project is required to submit a Project Outline detailing the justification, objectives, procedures, and other pertinent information that would allow someone with research experience to adequately evaluate the proposal. The Research Coordinator then distributes this Project Outline in appropriate faculty and staff within the college and to professional researchers in other agencies. A cover letter explains the necessity for a merit review, lists three criteria by which to judge the proposal, and gives an assurance of anonymity. The three criteria are: 1. How important is the proposed activity to advancing knowledge and understanding of agricultural or health-related issues in American Samoa and other Pacific islands? 2. Is the project based on sound scientific principles? Are the proposal's arguments supported by verifiable facts? 3. Are sufficient resources available to bring the project to a successful conclusion? How well qualified is the individual or team to conduct the project? Are sufficient funds, facilities, equipment, and assistance available? The Research Coordinator collects the reviews and returns them to the investigator. The investigator may then choose to modify the proposal, based on the reviews, before resubmitting it to the Research Coordinator. The Research Coordinator accepts or rejects the proposal. If the latter, the investigator may appeal to the Director, who makes the ultimate decision.

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

Brief explanation.

All ASCC CNR Extension Programs are coordinated to conduct an evaluation after any workshops, activities, meetings, and training. The Programs used multiple methods to reach stakeholders within the Territory like public announcements through the TV/Radio, Invitation, and article interviews. The stakeholders are local farmers, landowners, youth leaders, special interest groups, and various committees and boards, and local government agencies.

At any Program event where stakeholders are invited or the public gathers, such as the Wellness/Farm Fair, Food Safety Workshop and Village Council meetings, the Extension staff gathers information on stakeholders' satisfaction and how they can use the obtain knowledge for their everyday lives. During site/farm visits, staff notes one-on-one consultation with clients and farmers. These feedback information has helped us understand the positive impacts and identifying emerging issues. Feedback and the critical comments are also useful in determining the direction of the program efforts including delivery methods, outreach and content.

There are four Extension Programs: the Family Consumer Science, 4-H Youth Development, Agriculture Extension and the Forestry. Each programs have their own manager and field agents, and each manager is a member of either a board or committee based on the mission of the Program. For instance, through partnership with the Department of Human and Social Services, the FCS manager and the staff conducts monthly nutrition and food safety workshop for the new SNAP recipients. The Agriculture Extension manager is a member of the Piggery Extension Committee along with reps from the EPA, DOA, and DOH. The Forestry program conducts a quarterly Advisory Council Meeting. Partnership and feedback from stakeholders and other agencies, especially regulatory agencies, confirms or helped identify emerging issues within the community.

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.

American Samoa has an assortment of organizations within the government and community including advisory boards and committees. The Extension created, maintained and continue to develop existing relationships with organizations and agencies in an effort to create a relationships which enabled productive communication. Partnership with the public and private organization have helped identify needs and gaps among different programs in the community.

There are 4 Programs under the Extension, and each program are to collect feedback from the stakeholders through needs assessment, meetings, workshops, focus groups, surveys and evaluation forms. Methods of identifying these individual or group included existing advisory committees, ongoing working relationships with village farmers, land owners, 4-H clubs, partnerships with government and non-governmental agencies (local and national), or knowledge of individuals representing diverse groups, new client groups, and potential community partners Meetings are also conducted among researchers, instruction faculty and extension to identify stakeholders based on the planned programs, projects, clients served, and question if the communities are well represented by the stakeholders. For instance, there's an increasing number of Asian farmers and as of now, researcher and extension are working on a plan for translation during program events.

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

Brief explanation.

The ASCC-CNR staff work closely with stakeholders including farmers, landowners, youth organization, 4-H clubs, village councils, non-profit organization, government officials, teachers, and many more. Evaluation or feedback methods used for input includes focus groups, meeting minutes, needs assessments, and surveys. Input are obtained during public awareness event, meetings, workshops, trainings, one-on-one consultation, and informal conversation. All the data are posted in the Quarterly Reports which states the issues or concerns by the stakeholders, how the planned programs are being served in the community, what is being learned or gained from it, and statistics or number of participants.

The 4-H Youth Program conducts survey or focus group after every workshop, activity or training. Focus group are usually conducted for youth under the age of 12. The 4-H staff and agents are trained to support and conduct educational programs for youth in schools and out in the community. They are also trained to develop and support opportunities including individual learning and summer programs and camps. The 4-H club leaders have quarterly meetings to voice any

issues and update for upcoming events. The meeting minutes, surveys, focus groups and direct communication have been used to collect needed information. The collected information from stakeholders are used to determine vital issues and support changes throughout the year to better serve the community/clients.

Agriculture Extension Program continued to address stakeholders needs 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 awarding certificate of completion. At the demonstration plots and greenhouse, farmers and stakeholder visitors are to sign in and state the reason for the visit.

Family Consumer Science Program continued to provide home economics, nutrition and food safety outreach to schools and the community. For every workshop and outreach, a sign in sheet is provided for participants. A survey or needs assessment, Samoan and English, are completed by the stakeholders. 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 continued to address stakeholders (farmers, landowners, government and non-governmental partners) needs as determined by direct communications and the concerns by the clients. A Forestry council meetings was conducted quarterly to address the needs of the stakeholders. A sign-in sheet, meeting minutes and survey are part of the meeting agendas.

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, improvements, or to develop new programs for the community. Needs by the stakeholders have led the programs to reassess the need to hire more staff and to identify emerging issues that needs to be included in the Plan of Work. The Stakeholders input have also helped the Extension programs identified common needs from the stakeholders, but it also revealed how stakeholders are different, language and cultural barriers, and how certain groups are not being represented in the stakeholders meeting.

Brief Explanation of what you learned from your Stakeholders

Stakeholders supported the Extension Programs, and have shared and applied their knowledge and needs during meetings. We have learned the need of farmers and partners for more educational workshops in agricultural safety practices. 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 increase financial support in to recruit more professional staff, better infrastructure, and more advanced equipments for the programs.

IV. Expenditure Summary

| 1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS) | | | |
|--|-----------------------|-----------------|--------------------|
| Extension | | Research | |
| Smith-Lever 3b & 3c | 1890 Extension | Hatch | Evans-Allen |
| 1058661 | 0 | 1019115 | 0 |

| 2. Totaled Actual dollars from Planned Programs Inputs | | | | |
|---|--------------------------------|-----------------------|-----------------|--------------------|
| | Extension | | Research | |
| | Smith-Lever 3b & 3c | 1890 Extension | Hatch | Evans-Allen |
| Actual Formula | 530651 | 0 | 285952 | 0 |
| Actual Matching | 530651 | 0 | 285952 | 0 |
| Actual All Other | 0 | 0 | 0 | 0 |
| Total Actual Expended | 1061302 | 0 | 571904 | 0 |

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

V. Planned Program Table of Content

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

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Families, Youth and Communities

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

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

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

| Year: 2014 | Extension | | Research | |
|-------------------------|-----------|------|----------|------|
| | 1862 | 1890 | 1862 | 1890 |
| Plan | 6.0 | 0.0 | 5.0 | 0.0 |
| Actual Paid | 3.3 | 0.0 | 0.6 | 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 |
| 86400 | 0 | 23307 | 0 |
| 1862 Matching | 1890 Matching | 1862 Matching | 1890 Matching |
| 86400 | 0 | 23307 | 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

- Arts & Crafts
- Outdoor Recreation/Camps
- Home Economic Workshops
- Samoan Cultural Hands-On
- Summer Curriculum
- Partnership Collaboration Workshop
- Food Security
- Farm Safety
- Vegetable Garden Workshop
- Piggery Management Workshop
- Nutrition
- Food Safety
- Physical/Exercise
- Crops Plot demonstration
- Ag. in the Classroom
- Aquaculture

2. Brief description of the target audience

The targeted audiences are families and youth in the American Samoa community.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

| 2014 | Direct Contacts Adults | Indirect Contacts Adults | Direct Contacts Youth | Indirect Contacts Youth |
|---------------|---------------------------|-----------------------------|--------------------------|----------------------------|
| Actual | 500 | 2000 | 2200 | 5000 |

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

Patent Applications Submitted

Year: 2014
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

| 2014 | Extension | Research | Total |
|--------|-----------|----------|-------|
| Actual | 0 | 0 | 0 |

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of participants attending the arts & crafts workshops

| Year | Actual |
|------|--------|
| 2014 | 513 |

Output #2

Output Measure

- Number of participants involved in the outdoor activities

| Year | Actual |
|------|--------|
| 2014 | 606 |

Output #3

Output Measure

- Number of participants involved in the Samoan cultural workshops

| Year | Actual |
|------|--------|
| 2014 | 213 |

Output #4

Output Measure

- Number of participants who attended the summer programs

| Year | Actual |
|-------------|---------------|
| 2014 | 806 |

Output #5

Output Measure

- Number of participants who attended the home economics workshops

| Year | Actual |
|-------------|---------------|
| 2014 | 163 |

Output #6

Output Measure

- Number of participants who attended the partnership/ collaboration workshops

| Year | Actual |
|-------------|---------------|
| 2014 | 47 |

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

| O. No. | OUTCOME NAME |
|--------|--|
| 1 | Number of program participants who acquired knowledge and appreciation for the Samoan culture. |
| 2 | Number of participants who were able to acquire knowledge for positive self-development. |
| 3 | Number of participants who developed new life skills due to all the Program activities. |
| 4 | Number of program participants who have improved parent and children relationship through educational and recreational activities. |

Outcome #1

1. Outcome Measures

Number of program participants who acquired knowledge and appreciation for the Samoan culture.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|-------------|---------------|
| 2014 | 192 |

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 2014, the FCS and 4-H conducted 9 in-school workshops, 19 after school workshops, 2 camps, and 2 major community outreach program with 500 plus participants.

Results

About 90% (196) of the Samoan Workshop participants acquired knowledge and appreciation for the Samoan culture.

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|-------------|---------------|
| 2014 | 1988 |

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. Based on the American Samoa YRBS, 47% of teenagers have tried cigarette smoking and 32% had sexual intercourse.

What has been done

In 2014, FCS and the 4-H Program have conducted 35 workshops for the youth and 14 workshops for families. The goal for the programs are to teach skills and empower the participants(youth) to make the right choices.

Results

About 70% (903) of the 1291 workshop participants were able to acquire knowledge for positive self-development.

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|-------------|---------------|
| 2014 | 163 |

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

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

What has been done

In 2014, FCS conducted 14 sewing workshops for adults. The Ag. Extension conducted 2 vegetable garden workshop and established vegetable gardens. The 4-H program conducted 35 workshops that can enhance hands-on skills, decision making skills, develop positive leadership skills, and increase knowledge of entrepreneurship.

Results

In 2014, 163 participants received certificate of completion in the sewing program. The participants were able to tailored and sew their own clothes. About 70% of participating youth and adults in the programs acquired knowledge and developed skills in resource management, nutrition, food safety, and youth at risk issues.

4. Associated Knowledge Areas

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

Outcome #4

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|-------------|---------------|
| 2014 | 85 |

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 a major issue of concern in American Samoa. According to CDC, 32% of teenagers had already had sexual intercourse, and about 47% have already tried cigarette smoking.

What has been done

Programs conducted workshops and provide resources to empower youth to make the right choices and to help parents become better parents. The 4-H program conducted 35 workshops that can enhance hands-on skills, decision making skills, develop leadership skills, and increase knowledge of entrepreneurship.

Results

85 program participants have improved parent and children relationship through educational and recreational activities. About 75% (2130) of the 2841 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 at the college campus and in the community, including the villages. In FY2014, The programs could only visit the Manu'a islands once because of the lack of transportation by sea and air. Some issues (premarital sex, teenage pregnancy, sexually transmitted disease) are considered taboo because of cultural and religious beliefs.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Evaluation results indicates that participants have increased knowledge due to the planned program activities. Positive feedback and critical comments were used to assess the program of what working and what is not. In 2014, 163 participants received certificates of completion in the sewing program. About 75% (2130) of the 2841 program participants acquired knowledge and developed skills in resource management, Samoan culture and youth-at-risk issues.

Being able to deliver the workshops within distance of the participants home makes a difference.

Most families do not have the time or means of transportation to attend workshops or activities.

Overall, clients and participants reported that Extension programs are doing a good job and are grateful that the staff are able to travel out in the villages and schools to conduct the programs. As the only agricultural research station in the territory, requests for school tours have increased in 2014 by 30%. Tours range from 15 to 130 students/adults per visit. The tour requests from schools are based on the school curriculum.

All Extension Programs are well received by the public and community. It will continue to provide American Samoa families, youth and community with valuable workshop and programs for a positive impact. There is still a need for more qualified staff including field agents, and more vehicles and equipment to effectively deliver the programs to the community.

In FY2014, the 4-H and FCS programs were able to reach 2841 participants in all the programs that were conducted. A total of 500 youth from 4-H Clubs were able to participate in the Summer Youth Day. 2 4-H clubs conducted summer overnight camps with a total of 107 participants. The Forestry Program conducted Arbor Week with 530 youth and 80 adults participating. The Ag. Extension Program conducted 4 safety day workshops at 4 different schools, 2 established 2 vegetable gardens, and a farm safety day on campus with 230 participants.

The basic sewing program have taught participants skills to sew and tailored their own clothing. It's a skills that helped saved money for the clients. About 10% of the participants requested an extension to the workshop from three to five months. The planned programs have also received request from neighboring islands of Aunu'u and Manu'a, but the lack of transportation had prevented the programs to reach out to these communities.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Food Security

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

| KA Code | Knowledge Area | %1862 Extension | %1890 Extension | %1862 Research | %1890 Research |
|---------|---|-----------------|-----------------|----------------|----------------|
| 102 | Soil, Plant, Water, Nutrient Relationships | 0% | | 10% | |
| 111 | Conservation and Efficient Use of Water | 5% | | 0% | |
| 202 | Plant Genetic Resources | 10% | | 15% | |
| 205 | Plant Management Systems | 10% | | 15% | |
| 211 | Insects, Mites, and Other Arthropods Affecting Plants | 5% | | 10% | |
| 212 | Diseases and Nematodes Affecting Plants | 10% | | 10% | |
| 215 | Biological Control of Pests Affecting Plants | 5% | | 10% | |
| 306 | Environmental Stress in Animals | 5% | | 0% | |
| 307 | Animal Management Systems | 0% | | 10% | |
| 315 | Animal Welfare/Well-Being and Protection | 5% | | 0% | |
| 401 | Structures, Facilities, and General Purpose Farm Supplies | 5% | | 0% | |
| 604 | Marketing and Distribution Practices | 5% | | 10% | |
| 711 | Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources | 10% | | 0% | |
| 712 | Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins | 10% | | 0% | |
| 723 | Hazards to Human Health and Safety | 5% | | 0% | |
| 903 | Communication, Education, and Information Delivery | 10% | | 10% | |
| | Total | 100% | | 100% | |

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

| Year: 2014 | Extension | | Research | |
|-------------|-----------|------|----------|------|
| | 1862 | 1890 | 1862 | 1890 |
| Plan | 8.0 | 0.0 | 5.0 | 0.0 |

| | | | | |
|-------------------------|-----|-----|-----|-----|
| Actual Paid | 4.0 | 0.0 | 3.7 | 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 |
| 147566 | 0 | 145627 | 0 |
| 1862 Matching | 1890 Matching | 1862 Matching | 1890 Matching |
| 147566 | 0 | 145627 | 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

Plant clinic diagnoses and recommendations
 Pest surveys
 Testing of reduced-risk pesticides
 Produce and evaluate growing media of locally sourced materials as alternatives to peat and mined top soil
 Develop Food Safety Policies & Procedures
 Implement Food Safety, Sanitation, and Protection Practices
 Develop Public Awareness
 Maintain Center for Sustainable Integrated Agriculture and Aquaculture
 Provide technical assistance on production, disease, and nutrition issues to aquaculture farmers
 Conduct workshops on aquaculture, including integrated practices such as aquaponics and tilapia-cum-pig systems
 Multiply, evaluate and distribute improved taro, banana, and vegetable varieties.
 Conduct vegetable and fruit tree workshops.
 Conduct nutrient analysis of fruits (banana variety - soa'a) and other crops
 Reduce inbreeding of farmers' animal operations- buying/selling or trading of stock, boar services, artificial insemination, training in feeding management, manage control and improvement in facilities
 Import Tissue culture of traditional staples and order vegetable seeds and improved fruit tree varieties to increase genetic diversity to improve crop security
 Conduct Pesticides Safety, and Farm Safety Trainings
 Conduct Farm visitations and demonstrations
 Conduct workshops to present locally produced growing media to farmers

2. Brief description of the target audience

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

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

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

| 2014 | Direct Contacts Adults | Indirect Contacts Adults | Direct Contacts Youth | Indirect Contacts Youth |
|--------|------------------------|--------------------------|-----------------------|-------------------------|
| Actual | 800 | 3500 | 2000 | 3000 |

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

Patent Applications Submitted

Year: 2014

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

| 2014 | Extension | Research | Total |
|--------|-----------|----------|-------|
| Actual | 0 | 0 | 0 |

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

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

| | |
|-------------|---------------|
| Year | Actual |
|-------------|---------------|

2014 16

Output #2

Output Measure

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

| Year | Actual |
|-------------|---------------|
| 2014 | 3399 |

Output #3

Output Measure

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

| Year | Actual |
|-------------|---------------|
| 2014 | 23 |

Output #4

Output Measure

- Number of vegetable variety demonstrations completed.

| Year | Actual |
|-------------|---------------|
| 2014 | 11 |

Output #5

Output Measure

- Number of new fruit tree varieties introduced.

| Year | Actual |
|-------------|---------------|
| 2014 | 0 |

Output #6

Output Measure

- Number of fruit tree propagation workshops conducted.

| Year | Actual |
|-------------|---------------|
| 2014 | 1 |

Output #7

Output Measure

- Number of pigs and piglets sold/traded.

| Year | Actual |
|-------------|---------------|
| 2014 | 64 |

Output #8

Output Measure

- Number of pesticide efficacy tests completed.

| Year | Actual |
|-------------|---------------|
| 2014 | 0 |

Output #9

Output Measure

- Number of Pesticide Applicators' Training workshops conducted.

| Year | Actual |
|-------------|---------------|
| 2014 | 3 |

Output #10

Output Measure

- Number of Tilapia released from breeding program.

| Year | Actual |
|-------------|---------------|
| 2014 | 38 |

Output #11

Output Measure

- Number of participants at aquaculture workshops conducted

| Year | Actual |
|-------------|---------------|
| 2014 | 10 |

Output #12

Output Measure

- Number of vegetable gardening workshops conducted.

| Year | Actual |
|-------------|---------------|
| 2014 | 17 |

Output #13

Output Measure

- Number of vegetable gardens established.

| Year | Actual |
|-------------|---------------|
| 2014 | 12 |

Output #14

Output Measure

- Pounds of Tilapia feed produced at ASCC feeds lab.

| Year | Actual |
|-------------|---------------|
| 2014 | 2168 |

Output #15

Output Measure

- Number of visitors to the Center for Sustainable Integrated Agriculture and Aquaculture

| Year | Actual |
|-------------|---------------|
| 2014 | 595 |

Output #16

Output Measure

- Number of food safety procedures, publications, brochures and educational materials distributed

| Year | Actual |
|-------------|---------------|
| 2014 | 1 |

Output #17

Output Measure

- Number of participants attending food safety and sanitation workshops

| Year | Actual |
|-------------|---------------|
| 2014 | 24 |

Output #18

Output Measure

- Number of farmers that participated in locally produced growing media workshops

| Year | Actual |
|-------------|---------------|
| 2014 | 0 |

Output #19

Output Measure

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

| Year | Actual |
|-------------|---------------|
| 2014 | 0 |

Output #20

Output Measure

- Number of pest surveys completed with department of agriculture

| Year | Actual |
|-------------|---------------|
| 2014 | 3 |

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 making their own tilapia feeds. |
| 10 | Number of participants trained on Farm Safety |
| 11 | Number of farmers switching from use of peat or mined topsoil to locally produced soilless growing media. |
| 12 | Number of new aquaculture farmers |
| 13 | Number of visitors to the Center for Sustainable Integrated Agriculture and Aquaculture |
| 14 | Number of food policies developed to address food safety issues |
| 15 | Number of participants who acquired knowledge and followed safe food handling guidelines |
| 16 | Number of pest species for which presence or absence in American Samoa was determined |

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 |
|-------------|---------------|
| 2014 | 113 |

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 of American Samoa.

Results

In FY2014, the Agriculture Extension distributed 3399 improved taro setts and banana planting materials to 113 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 | Diseases and Nematodes Affecting Plants |

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 Action Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|-------------|---------------|
| 2014 | 17 |

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

American Samoa's tropical climate provides suitable conditions year-round for growing a wide variety of crops, but is also conducive to sometimes severe pest and disease problems. The introduction of new crops not traditionally grown in the islands presents additional challenges. Accurate diagnosis of a pest or disease is the first critical step for effectively managing the problem. Home gardeners, as well as subsistence and commercial farmers, sometimes require expert assistance to make a correct diagnosis.

What has been done

The ASCC-CNR Plant Clinic provides 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

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. In most cases recognizing the causes of their production problems helped clients deal with them effectively or to be better prepared to prevent or manage problems in future crops.

4. Associated Knowledge Areas

| KA Code | Knowledge Area |
|----------------|--------------------------|
| 205 | Plant Management Systems |

- 211 Insects, Mites, and Other Arthropods Affecting Plants
- 212 Diseases and Nematodes Affecting Plants
- 711 Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources

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 |
|------|--------|
| 2014 | 112 |

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Farmers continued to farm vegetable varieties that are beneficial to them of providing food and to generate an income for the family.

What has been done

The Ag. Extension 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 office continues to sell seeds of improved vegetable varieties at an affordable price to the public to encourage vegetable farming.

Results

The Agriculture Extension program sold more than 1000 vegetable seeds to 112 farmers. The Agriculture Extension were able to identified improved cultivars that perform well in the topics 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 |

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
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|-------------|---------------|
| 2014 | 76 |

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is a great need in American Samoa to increase consumption of fruits and vegetables to help address the issue of obesity and Non-communicable disease. Providing fruit tree planting materials for families and farmers to plant fruit trees in the backyard can provide easier access to healthy foods.

What has been done

The Ag. Extension continued to multiply and distribute fruit tree varieties to the community. The "Fruit for Life" greenhouse also serves as a teaching lab for the students and farmers in methods of asexual propagation to increase the availability of diverse varieties of fruits in American Samoa.

Results

76 residents planted improved budded/grafted or air-layered fruit trees in their backyard. The EFNEP and 4-H conducted 35 workshops in nutrition, and to promote the consumption of vegetables and fruits.

4. Associated Knowledge Areas

| KA Code | Knowledge Area |
|----------------|--|
| 102 | Soil, Plant, Water, Nutrient Relationships |
| 202 | Plant Genetic Resources |
| 205 | Plant Management Systems |

| | |
|-----|---|
| 211 | Insects, Mites, and Other Arthropods Affecting Plants |
| 212 | Diseases and Nematodes Affecting Plants |
| 215 | Biological Control of Pests Affecting Plants |
| 604 | Marketing and Distribution Practices |

Outcome #5

1. Outcome Measures

Number of pig farmers upgrading their stock.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|------|--------|
| 2014 | 86 |

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is still a need to address the pig waste management system, and to introduce biodiversity in the local pig gene pool for inbreeding perspective.

What has been done

The Programs continued to use the ASEPA funded piggery to demonstrate the four recommended waste management systems to farmers, students and the general public. Agents worked together with Partners in conducting outreach workshops for piggery compliance.

Results

The ASCC-CNR piggery serves as a demonstration site for farmers, students and public visitors. Ag. Extension agents worked with 86 farmers to reduce inbreeding and provide recommendation in upgrading stock.

4. Associated Knowledge Areas

| KA Code | Knowledge Area |
|---------|--|
| 306 | Environmental Stress in Animals |
| 307 | Animal Management Systems |
| 315 | Animal Welfare/Well-Being and Protection |

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 |
|-------------|---------------|
| 2014 | 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 had to be curtailed in 2014 due to shortage of staff.

Results

This activity could not be completed in 2014 due to lack of personnel.

4. Associated Knowledge Areas

| KA Code | Knowledge Area |
|----------------|--|
| 211 | Insects, Mites, and Other Arthropods Affecting Plants |
| 212 | Diseases and Nematodes Affecting Plants |
| 215 | Biological Control of Pests Affecting Plants |
| 711 | Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources |
| 903 | Communication, Education, and Information Delivery |

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 Action Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|-------------|---------------|
| 2014 | 53 |

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The continued usage of illegal pesticide 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 2014, ASCC-CNR conducted 4 Pesticide Applicator workshops.

Results

In FY 2014, 53 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 the Integrated Pest Management strategies and biological programs.

4. Associated Knowledge Areas

| KA Code | Knowledge Area |
|----------------|--|
| 205 | Plant Management Systems |
| 211 | Insects, Mites, and Other Arthropods Affecting Plants |
| 212 | Diseases and Nematodes Affecting Plants |
| 307 | Animal Management Systems |
| 711 | Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources |

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 Condition Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|-------------|---------------|
| 2014 | 7 |

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 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 |
| 604 | Marketing and Distribution Practices |

Outcome #9

1. Outcome Measures

Number of farmers making their own tilapia feeds.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|-------------|---------------|
| 2014 | 7 |

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The main issue is the high cost and availability of commercial feeds for the farmers.

What has been done

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

Results

Farmers continued to make use of feeds facilities to produce feed for the farm. In 2014, the CSIAA produced 2168 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 |
| 604 | Marketing and Distribution Practices |

Outcome #10

1. Outcome Measures

Number of participants trained on Farm Safety

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|------|--------|
| 2014 | 679 |

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In FY2014, questions have been posted on the quality of the produce sold to the public, especially the school lunch program. The Department of Health have cited or shut down farming business due to poor sanitation or illegal usage of pesticide. Local Produce have been rejected by the School Lunch Program because of poor quality due to lack of knowledge in better farming practices to ensure good quality produce.

What has been done

The Ag. Extension have conducted 4 Farm Safety Workshop and 3 Pesticide Training with Farmers, Schools and Partners. The FCS program conducted 12 food safety workshops.

Results

679 participants acquired knowledge on Farm Safety through the workshops, activities, and training. The Ag. Extension program were able to assist Farmers with issues concerning Farm Safety.

4. Associated Knowledge Areas

| KA Code | Knowledge Area |
|---------|---|
| 111 | Conservation and Efficient Use of Water |
| 205 | Plant Management Systems |
| 211 | Insects, Mites, and Other Arthropods Affecting Plants |
| 212 | Diseases and Nematodes Affecting Plants |
| 215 | Biological Control of Pests Affecting Plants |

- 307 Animal Management Systems
- 315 Animal Welfare/Well-Being and Protection
- 711 Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
- 903 Communication, Education, and Information Delivery

Outcome #11

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|------|--------|
| 2014 | 0 |

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

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

What has been done

Due to delay in procuring project equipment, starting date for this project was changed to March 1, 2015.

Results

No results to date due to delay in procuring project equipment.

4. Associated Knowledge Areas

| KA Code | Knowledge Area |
|---------|--|
| 102 | Soil, Plant, Water, Nutrient Relationships |
| 111 | Conservation and Efficient Use of Water |
| 205 | Plant Management Systems |

Outcome #12

1. Outcome Measures

Number of new aquaculture farmers

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|-------------|---------------|
| 2014 | 2 |

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is little, available, arable land in American Samoa. Much of the available land is compromised of poor soils that are not suitable for gardening. With the slow economy and high cost-of-living, people are looking for ways to improve food security and financial stability.

What has been done

Conducted one workshop which highlighted the benefits and practice of Aquaponics. The participants improved their knowledge of Aquaponics, including assembly, fish care, and marketability of Aquaponic products.

Results

In FY2014, 2 farmers were able to set up their aquaponics and using the Center for Sustainable Integrated Agriculture and Aquaculture (CSIAA) for the production of fish feeds for their farms.

4. Associated Knowledge Areas

| KA Code | Knowledge Area |
|----------------|--|
| 102 | Soil, Plant, Water, Nutrient Relationships |
| 111 | Conservation and Efficient Use of Water |
| 205 | Plant Management Systems |
| 315 | Animal Welfare/Well-Being and Protection |

Outcome #13

1. Outcome Measures

Number of visitors to the Center for Sustainable Integrated Agriculture and Aquaculture

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|-------------|---------------|
| 2014 | 595 |

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. Tilapia introductions in American Samoa have been few and far between.

What has been done

The program conducted a workshop and offer outreach services to highlight the benefits and practice of aquaponics.

Results

About 70% of the visitors and workshop participants improved their knowledge of aquaponics, including assembly fish care, and marketability of products.

4. Associated Knowledge Areas

| KA Code | Knowledge Area |
|----------------|---|
| 102 | Soil, Plant, Water, Nutrient Relationships |
| 111 | Conservation and Efficient Use of Water |
| 315 | Animal Welfare/Well-Being and Protection |
| 401 | Structures, Facilities, and General Purpose Farm Supplies |
| 604 | Marketing and Distribution Practices |

Outcome #14

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 |
|------|--------|
| 2014 | 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 |
| 903 | Communication, Education, and Information Delivery |

Outcome #15

1. Outcome Measures

Number of participants who acquired knowledge and followed safe food handling guidelines

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|------|--------|
| 2014 | 898 |

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

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

What has been done

The FCS program has conducted 24 workshops in Nutrition and Food Safety for 300 plus participants per month. The Ag. Extension conducted 2 workshops on vegetable gardening in the schools and 3 Pesticide training.

Results

About 90% of the participants in the workshops were able to prepare and consume healthy food demonstration through activity programs from the FCS and Ag. Extension. At the same time, the participants acquired knowledge and followed safe food handling guidelines.

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 |

Outcome #16

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|-------------|---------------|
| 2014 | 8 |

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

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

What has been done

ASCC CNR and the American Samoa Department of Agriculture work together to implement exotic pest detection surveys under the USDA APHIS Cooperative Agricultural Pests Survey program. The partners maintain a trapping network for exotic fruit flies to detect such threats as the Oriental fruit fly, melon fly, and Mediterranean fruit fly which are present in Hawaii, and the Tongan fruit fly present in nearby Tonga. Bait stations are used to monitor for exotic invasive ant species such as the imported fire ant, present in the southern U.S., and the little fire ant which is present in Hawaii and some other Pacific islands. In addition, citrus and related species are surveyed for evidence of harmful citrus greening disease. (The major citrus greening vector, the exotic Asian citrus psyllid, is now widespread in American Samoa.)

Results

The fruit fly trapping network did not detect any non-native fruit flies among the 9,294 flies trapped and identified during the reporting period, and citrus greening disease was also not detected at any of the 57 sites sampled in that survey. The exotic ant survey did not find imported fire ant or little fire ant in any of the 1,640 bait stations placed at 38 locations considered at high risk for accidental introduction of exotic ants. Another exotic species, the Singapore ant, *Monomorium destructor*, was detected for the first time. Through funding from the Farm Bill and training assistance from the California Department of Food and Agriculture's Plant Pest Diagnostics Center, three members of the local pest detection survey team received training in taxonomy and

identification of exotic fruit flies thus increasing local capacity for detection of these important pests.

4. Associated Knowledge Areas

| KA Code | Knowledge Area |
|---------|---|
| 211 | Insects, Mites, and Other Arthropods Affecting Plants |
| 212 | Diseases and Nematodes Affecting Plants |

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. The college business office continued to impede attempts to use grant funds to procure supplies and equipment for the planned programs.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Based on the evaluation, feedback form, and focus groups - the planned programs are doing a fair job in promoting out in the public. There's still a need to do more outreach for the planned programs. Fruit trees propagation workshops is also doing a fair job, but it needs more new varieties. The stakeholders agreed that the program is doing an excellent job in improving varieties 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 # 3

1. Name of the Planned Program

Human Health and Wellness

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

| KA Code | Knowledge Area | %1862 Extension | %1890 Extension | %1862 Research | %1890 Research |
|---------|--|-----------------|-----------------|----------------|----------------|
| 703 | Nutrition Education and Behavior | 50% | | 0% | |
| 721 | Insects and Other Pests Affecting Humans | 15% | | 50% | |
| 722 | Zoonotic Diseases and Parasites Affecting Humans | 15% | | 50% | |
| 724 | Healthy Lifestyle | 20% | | 0% | |
| | Total | 100% | | 100% | |

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

| Year: 2014 | Extension | | Research | |
|-------------------------|-----------|------|----------|------|
| | 1862 | 1890 | 1862 | 1890 |
| Plan | 4.0 | 0.0 | 3.0 | 0.0 |
| Actual Paid | 5.4 | 0.0 | 1.7 | 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 |
| 152820 | 0 | 65998 | 0 |
| 1862 Matching | 1890 Matching | 1862 Matching | 1890 Matching |
| 152820 | 0 | 65998 | 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 will select an intervention during 2014 based on consultations with our multi-state partners, local advisory committees, and healthcare professionals. The intervention will be peer reviewed and based on solid scientific evidence to incorporate to children aged 2 to 8, and it will have at least one positive effect on one of four primary outcomes: BMI, food intake, water intake, or physical activity.

Collect mosquitoes from villages in American Samoa and use PCR and sequencing to identify the sources of their blood meals. Concurrently estimate densities of likely vertebrate hosts in the vicinity of the villages. Evaluate mosquito host feeding frequencies in light of host abundances to determine biases in host selection.

2. Brief description of the target audience

Children aged 2 to 8 years. Mothers and grandmothers.

All residents of American Samoa

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

| 2014 | Direct Contacts Adults | Indirect Contacts Adults | Direct Contacts Youth | Indirect Contacts Youth |
|---------------|------------------------|--------------------------|-----------------------|-------------------------|
| Actual | 2667 | 1323 | 1051 | 553 |

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

Patent Applications Submitted

Year: 2014

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

| | | | |
|---------------|------------------|-----------------|--------------|
| 2014 | Extension | Research | Total |
| Actual | 0 | 1 | 0 |

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Healthy Food Choices Workshops

| Year | Actual |
|-------------|---------------|
| 2014 | 24 |

Output #2

Output Measure

- Number of Healthy Recipes Food Demonstration Workshops

| Year | Actual |
|-------------|---------------|
| 2014 | 30 |

Output #3

Output Measure

- Number of Exercise and Physical Activity Workshops

| Year | Actual |
|-------------|---------------|
| 2014 | 12 |

Output #4

Output Measure

- Number of mosquitoes tested to detect host

| Year | Actual |
|-------------|---------------|
| 2014 | 0 |

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

| O. No. | OUTCOME NAME |
|--------|---|
| 1 | Number of participants eating \geq 1 additional serving of fruits and/or vegetables a day |
| 2 | Number of participants that prepared healthier foods utilizing locally grown & harvested food |
| 3 | Number of participants that increased participation in physical activities and exercises |
| 4 | Mosquito host preferences determined to help guide additional research and management. |

Outcome #1

1. Outcome Measures

Number of participants eating ≥ 1 additional serving of fruits and/or vegetables a day

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|-------------|---------------|
| 2014 | 1037 |

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

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

What has been done

The FCS program has conducted 24 workshops in Nutrition and Food Safety for 300 plus participants per month. The Ag. Extension conducted 2 workshops on vegetable gardening in the schools.

Results

About 90% of the participants in the workshops were able to prepare and consume healthy food demonstration through activity programs from the FCS and Ag. Extension.

4. Associated Knowledge Areas

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

Outcome #2

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|-------------|---------------|
| 2014 | 898 |

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

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

What has been done

The FCS program has conducted 24 workshops in Nutrition and Food Safety for 300 plus participants per month. The Ag. Extension conducted 2 workshops on vegetable gardening in the schools.

Results

About 90% of the participants in the workshops were able to prepare and consume healthy food demonstration through activity programs from the FCS and Ag. Extension.

4. Associated Knowledge Areas

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

Outcome #3

1. Outcome Measures

Number of participants that increased participation in physical activities and exercises

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|-------------|---------------|
| 2014 | 167 |

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

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

What has been done

90% of the outreach programs includes a physical activity or exercise. The program conducted 12 workshop related to physical activity and exercise, and about an average of 25 participants exercise daily at Wellness Center.

Results

About 90% of the participants are noticing changes in their health due to exercising and change in diet. With assistance from program, participants were able to acquire a nutrition and exercise plan.

4. Associated Knowledge Areas

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

Outcome #4

1. Outcome Measures

Mosquito host preferences determined to help guide additional research and management.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|-------------|---------------|
| 2014 | 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 were no longer available once the procurement issues were resolved.

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 |

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

Loss of staff and procurement difficulties limited program capacity.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

According to the surveys and focus groups, about 90% of the participants indicated that they have learned from the workshops and will adopt it.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Ecosystem

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

| KA Code | Knowledge Area | %1862 Extension | %1890 Extension | %1862 Research | %1890 Research |
|---------|---|-----------------|-----------------|----------------|----------------|
| 112 | Watershed Protection and Management | 10% | | 10% | |
| 123 | Management and Sustainability of Forest Resources | 10% | | 10% | |
| 124 | Urban Forestry | 30% | | 30% | |
| 125 | Agroforestry | 30% | | 30% | |
| 132 | Weather and Climate | 10% | | 10% | |
| 136 | Conservation of Biological Diversity | 10% | | 10% | |
| | Total | 100% | | 100% | |

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

| Year: 2014 | Extension | | Research | |
|-------------------------|-----------|------|----------|------|
| | 1862 | 1890 | 1862 | 1890 |
| Plan | 3.5 | 0.0 | 1.2 | 0.0 |
| Actual Paid | 4.6 | 0.0 | 2.0 | 0.0 |
| Actual Volunteer | 0.0 | 0.0 | 0.0 | 0.0 |

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

| Extension | | Research | |
|---------------------|----------------|----------------|----------------|
| Smith-Lever 3b & 3c | 1890 Extension | Hatch | Evans-Allen |
| 143865 | 0 | 51020 | 0 |
| 1862 Matching | 1890 Matching | 1862 Matching | 1890 Matching |
| 143865 | 0 | 51020 | 0 |
| 1862 All Other | 1890 All Other | 1862 All Other | 1890 All Other |
| 0 | 0 | 0 | 0 |

V(D). Planned Program (Activity)

1. Brief description of the Activity

ASCC will collaborate with partners at Department of Marine and Wildlife Resources to establish mangrove plantings on degraded watersheds and coastal areas. This will involve the Forestry Researcher to determine which mangrove species to propagate and the best methods for greenhouse propagation. Also, this will involve the propagation and care of mangrove plants by Forestry Extension.

ASCC will conduct site visits on private/communal/public land, meet with landowner/land manager, and write-up a multi-year stewardship plan (including proper urban tree care) for each site. The Forest Researcher and Extension personnel will work together to visit the sites, meet with stakeholders, and form a comprehensive management plan specific for each site. ASCC will hold community outreach events (e.g., in schools and villages) to teach youth about the importance of ecosystem health, urban trees, etc.

Forestry Extension personnel will continue to propagate and distribute seedlings of agroforestry plants to the general public. The Forest Researcher will conduct research on the best propagation techniques, soil medium, etc., for specific species, and Extension personnel will propagate and care for the plants and promote their use by land owners and land managers.

ASCC will conduct site visits on private/communal land with invasive species concerns and write-up management plans for specific sites and for specific invasive plant species. The Forest Researcher will research the proper techniques for effectively managing invasive plant species, and the Extension personnel will disseminate this knowledge to the landowner/land manager.

2. Brief description of the target audience

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

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

| 2014 | 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: 2014
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

| 2014 | Extension | Research | Total |
|--------|-----------|----------|-------|
| Actual | 0 | 0 | 0 |

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of improved watersheds and coastal areas.

| Year | Actual |
|------|--------|
| 2014 | 3 |

Output #2

Output Measure

- Number of landowners with forest stewardship plans.

| Year | Actual |
|------|--------|
| 2014 | 10 |

Output #3

Output Measure

- Number of youth educated about the importance of ecosystem health.

| Year | Actual |
|------|--------|
| 2014 | 2818 |

Output #4

Output Measure

- Number of fruit trees propagated and distributed through the Tree of Life nursery.

| Year | Actual |
|------|--------|
| 2014 | 279 |

Output #5

Output Measure

- Number of sites with invasive plant management plans.

| Year | Actual |
|-------------|---------------|
| 2014 | 2 |

Output #6

Output Measure

- Number of water samples analyzed for bacterial contamination and Total Dissolved Solids.

| Year | Actual |
|-------------|---------------|
| 2014 | 0 |

Output #7

Output Measure

- Number of schoolchildren informed about watershed protection.

| Year | Actual |
|-------------|---------------|
| 2014 | 2818 |

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

| O. No. | OUTCOME NAME |
|--------|---|
| 1 | Improved watersheds and coastal areas |
| 2 | Forest Stewardship Plans |
| 3 | Youth education workshops |
| 4 | Propagation and distribution of fruit trees |
| 5 | Invasive plant management plans |
| 6 | Coliform and E. coli tests and Electrical Conductivity analyzes (for TDS) |
| 7 | Visits to public and private elementary and middle schools |

Outcome #1

1. Outcome Measures

Improved watersheds and coastal areas

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|-------------|---------------|
| 2014 | 3 |

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Stream littering such as pig wastes, trash, sedimentation, invasive species, soil erosion, and human activities are major threats and challenges to fresh water quality in American Samoa. These threats also affected fresh water fish, mangroves, marine life and coral reefs. American wetlands, including coastal mangroves and fresh water marshes, are threaten by filling for development and by sedimentation and nutrient overload from agro forestry.

What has been done

Conducted 23 workshops on conservation, climate change, and land management planning of how to be good stewardess. The programs also provided technical assistance, and building partnerships with villages, landowners, and environmental government agencies.

Results

Forestry program established partnership with the villagers. Landowners were able to continue watershed monthly cleanup. Partnership and collaboration with other environmental agencies to provide outreach services for the community.

4. Associated Knowledge Areas

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

Outcome #2

1. Outcome Measures

Forest Stewardship Plans

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|-------------|---------------|
| 2014 | 10 |

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

American Samoa continues to depend on the forest to provide food and sustainable resources. With climate change issues as sea level rises and rising temperature in the ocean and scorching heat, the island of American Samoa continues to see the importance of being good stewards toward lands by restoring their native forests and reforesting barren lands. Invasive plant species has threatened and invaded the forests which is affecting the native flora and fauna and posing a threat to the habitats of native plants and animals.

What has been done

Forestry program provided natural resources assistance to the landowners' including technical and educational support. The programs also conducted workshops and activities with landowners to maintain good care of their forestland and identifying invasive species.

Results

Landowners and farmers are working cooperatively with the program in managing their forestland and related issues. Forestry program have developed new management plans for ten Landowners. Forest Stewardship staff continues to work closely with GIS specialist in obtaining and conducting survey of forest landowners.

4. Associated Knowledge Areas

| KA Code | Knowledge Area |
|----------------|---|
| 112 | Watershed Protection and Management |
| 123 | Management and Sustainability of Forest Resources |
| 124 | Urban Forestry |

| | |
|-----|--------------------------------------|
| 125 | Agroforestry |
| 132 | Weather and Climate |
| 136 | Conservation of Biological Diversity |

Outcome #3

1. Outcome Measures

Youth education workshops

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|------|--------|
| 2014 | 35 |

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

People are constantly littering the streams and watersheds, damaging watershed and fresh water quality. Forest areas have been clear out by human activities and building development. Exotic plants are growing rapidly replacing native trees. In addition, rising of sea level and scorching heat continues to be life threatening to American Samoa. Workshops are very important to educate and to inform the community of how important natural resource and the surrounding environment is to daily lives.

What has been done

The programs conducted 23 workshops on conservation education, climate change, and land management activities with landowners. 12 conservation education workshops were conducted in the schools. All workshops were to educate, support and strengthen the communities management planning and implementation of coastal stabilization, traditional forestry practices, sustainable use of natural resources, and maintaining a healthy rainforest.

Results

The program registered 10 new landowners and distributed 969 natives and non-native trees to landowners, school tours, and walk-in individuals.

4. Associated Knowledge Areas

| KA Code | Knowledge Area |
|---------|----------------|
|---------|----------------|

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

Outcome #4

1. Outcome Measures

Propagation and distribution of fruit trees

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|------|--------|
| 2014 | 114 |

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is a need in American Samoa to increase consumption of fruit trees to address the many non-communicable diseases. Parents continued to be concerned about children not consuming enough fruits and vegetables.

What has been done

The Ag. Extension Program continued to multiply and distributed recommended varieties of fruit trees to farmers, homemakers, students, and interested residents. The "Fruits of Life" greenhouse is used for multiplication of fruit-tree planting materials, and a teaching lab for Agricultural students and farmers on methods of asexual propagation.

Results

In 2014, the staff propagated 279 Fruit seeds and distribute 114 seedlings. 76 people were growing budded/grafted fruit trees in their backyard.

4. Associated Knowledge Areas

KA Code Knowledge Area

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

Outcome #5

1. Outcome Measures

Invasive plant management plans

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|------|--------|
| 2014 | 2 |

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In 2012, a State-wide Assessment and Strategies for Forest Resources (SWARS) identified the rapid growth and spread of exotic invasive plants in American Samoa rainforest. Invasive species are destroying and replacing native plants, and it's one of the greatest threat to American Samoa's rainforest.

What has been done

The Cooperative Forest Health Protection and Invasive Plants Management Project focused on two infested invasive species sites. Of the 40 acres surveyed, an estimated 30 acres still require treatment. The program have collected data, apply herbicide, and mechanically remove unwanted plants. The field agents continues to conduct maintenance work to the infected sites.

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 |
| 136 | Conservation of Biological Diversity |

Outcome #6

1. Outcome Measures

Coliform and E. coli tests and Electrical Conductivity analyzes (for TDS)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|-------------|---------------|
| 2014 | 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 |
| 136 | Conservation of Biological Diversity |

Outcome #7

1. Outcome Measures

Visits to public and private elementary and middle schools

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

| Year | Actual |
|-------------|---------------|
| 2014 | 12 |

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

It important to build ad develop the youth knowledge, interests, and their mindsets at an early age on why trees and natural resources are important to daily lives and the future.

What has been done

Conducted 35 workshops on conservation, climate change, and land management planning. Educated the youth on how to be good landowners in the future and take full responsibility for their actions. Conducted 12 outreach workshops for the schools to educate in Forestry Health, Forest Stewardship, and Urban Forestry. Tree planting activities were conducted around school campuses.

Results

Forestry Program were able to establish 3 new greenhouse nurseries at three different schools. Schools were provided with native trees for coastal plants, beautification plants, and medicinal plants. Staff continues to work with the schools to maintain a healthy greenhouse nursery.

4. Associated Knowledge Areas

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

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

American Samoa's limited land area, invasive species, agriculture and economic development had affected programming and outcomes. Out of 34,082 acres of land on Tutuila island, only 18,000 acres have less than 45% slopes. 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, population increase, and climate change will negatively impact the future of forests and natural resources in American Samoa.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

In FY 2014, the Forestry program conducted workshops and activities that directly reached 2818 residents of American Samoa. The forestry together with participants were able to plant trees for climate change and energy sustainability. Based on the feedback, clients are satisfied but there is still a need to understand more about climate change and sustainable energy. Program evaluation indicated the following:

- Program staff should be more visible in the community to assist and encourage landowners to plant more native trees to address climate change.
- Continue to work with village councils to manage watersheds and coastal areas.
- Extend the program to Aunu'u and Manu'a
- Hire more professional staff.

Key Items of Evaluation

VI. National Outcomes and Indicators

1. NIFA Selected Outcomes and Indicators

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