

2011 American Samoa Community College Combined Research and Extension Annual Report of Accomplishments and Results

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I. Report Overview

1. Executive Summary

American Samoa Community College (ASCC)
Community & Natural Resources (CNR)
2011 Annual Report Executive Summary

When USDA approved ASCC CNR's 2011 Plan of Work, all staff were instructed to format reports according to the "Planned Programs". These were:

1) Small Farms, 2) Ecosystem, 3) Human Health & Well-being, and 4) Families, Youth and Communities. Further, research & extension staff were to direct their efforts toward achieving the state-defined outputs and/or state-defined outcomes under each planned program. As much as possible, CNR staff were instructed to follow the USDA POW and planned programs in the department's internal reporting.

The following are highlights for FY 2011:

1. **Small Farms:**

Crops: The two main crops -- taro and banana -- were continually evaluated. More disease-resistant cultivars were multiplied and distributed to farmers. Taro tasting evaluations were held to determine if the disease-resistant cultivars suited local taste for these crops.

Animals: CNR sold 12 piglets and traded 3 breeding boars to EPA approved piggeries.

Outreach: CNR's 116 farm visitations demonstrated our commitment to reaching out to the community.

Plant Diagnostics and Surveillance: CNR conducted exotic fruit fly quarantine surveillance program in collaboration with the local Department of Agriculture. CNR set up 11 trapping stations. Provided 4 plant disease diagnostic services to the community. Provided plant clinic services to the community and plant pest quarantine interception identification service to local DOA

Fruits & Vegetables: From a health perspective, CNR set up its "Fruits for Life Greenhouse" to increase planting materials of fruits and encourage the community to plant and consume more fruits in their diets. Also, CNR encouraged vegetable production and consumption with its vegetable seedlings that reached 214 farmers.

Pesticide Training: CNR provided training in pesticide safety and use. Certified 22 pesticide applicators.

Aquaculture: In collaboration with UH Sea Grant Extension, CNR set up a tilapia breeding program and established "The Center for Sustainable and Integrated Agriculture and Aquaculture". One of the most significant accomplishments is the development of the local production of feeds for tilapia production.

1. **Ecosystem**

Forestry staff continued seed collection, propagation, and transplanting of native species. Forestry staff continued its eradication of invasive species. Conservation education was provided to hundreds of students. Coastal stabilization and beautification projects were accomplished.

Local streams were sampled to assess presence of coliform bacteria and high biotic integrity.

1. **Human Health & Well-being**

Obesity: Continued data collection on rates of obesity among youth in American Samoa and conducted focus group interviews to address concerns about obesity.

Construction: CNR continued construction of its "Wellness Center" which will house research & extension programs in nutrition, exercise, health communications & awareness, food policy/ food safety, and stress reduction. Its aim is to provide evidence-based interventions to help prevent NCD's in American Samoa.

Fruits & Vegetables: From a health perspective, CNR set up its "Fruits for Life Greenhouse" to increase planting materials of fruits and encourage the community to plant and add more fruits in their diets. Also, CNR encouraged vegetable production and consumption with its vegetable seedlings that reached 214 farmers

Policy: The Food Policy Council developed food safety assessment guidelines for gardeners and school cafeterias.

1. **Families, Youth, and Communities**

CNR welcomed numerous site visits from elementary, high school, and college students. Various community organizations also visit the station. This encourages interest and increases understanding in agriculture, natural resources, and life sciences. The entire site has become a classroom and every staff person a teacher.

CNR Families, 4H, & Youth sewing workshops to youth and village organizations is praised for building math literacy, self-efficacy, and economic development.

Arts & Craft workshops are important for the hands-on approach to learning connecting hands, heart, health, and head.

The nutrition and food safety education provided by EFNEP staff is making a difference in the community's understanding of good eating and how to improve one's health. The community is growing in its awareness of how healthy lifestyles is an effective way to combat obesity, diabetes, and heart diseases.

Publications:

Morton S.L., Shuler A., Paternoster J., Fanolua S., Vargo D. Coastal eutrophication, land use changes and *Ceratium furca* (Dinophyceae) blooms in Pago Pago Harbor, American Samoa 2007-2009. Chinese J. of Oceanology and Limnology. 2011. 29(4):790-794.

Vargo, D. Prevalence of overweight in American Samoan schoolchildren, Report to the Directors, Departments of Health & Educations. May 2009. 24 pp.

Liu, Z., Gurr, N. E., Schmaedick, M. A., Whistler, W.A., and Fisher, L.
 2011. Vegetation mapping of American Samoa. General technical report. (R5-TP-033). Vallejo, CA. USDA Forest Service Pacific Southwest Region. 19 p.

Overall Challenges are:

1. Insufficient land available and accessible for agricultural experimentation
2. Slow procurement of orders because of College processes and distance from off-island vendors.
3. Lack of expertise on-island. It is extremely difficult for the College to offer salaries competitive enough to attract off-island expertise. There is presently no staff with in-depth expertise on Climate Change.

Recommendations for 2012 Plan of Work:

1. Add and incorporate all of the 5 NIFA priorities.
2. Conduct more **training** with staff on how to guide their work toward achieving the POW outputs and outcomes for each planned program.
3. Improve processes and documentation of stakeholder input.
4. Improve alignment of outputs and outcomes with the College's own internal process such as procurement, reporting, and evaluation of activities to reduce duplication and improve effectiveness.

Total Actual Amount of professional FTEs/SYs for this State

Year: 2011	Extension		Research	
	1862	1890	1862	1890
Plan	12.0	0.0	12.0	0.0
Actual	11.1	0.0	9.6	0.0

II. Merit Review Process

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

- Combined External and Internal University External Non-University Panel

2. Brief Explanation

Research and Extension initiatives are client-driven, that is, based upon the latest stakeholder input survey. Owing to our limited number of staff, which serves a population of 55,519 (Census 2010), each researcher and CES agent tries to match his or her knowledge, skills, and expertise to a high priority client concern that also would meet federal requirements.

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

The Director of the Department of Community and Natural Resources is included in the final review of all proposals.

III. Stakeholder Input

1. Actions taken to seek stakeholder input that encouraged their participation

- Use of media to announce public meetings and listening sessions
- Targeted invitation to traditional stakeholder groups
- Targeted invitation to non-traditional stakeholder groups
- Targeted invitation to traditional stakeholder individuals
- Targeted invitation to non-traditional stakeholder individuals
- Targeted invitation to selected individuals from general public
- Survey of traditional stakeholder groups
- Survey of traditional stakeholder individuals
- Survey of the general public
- Survey specifically with non-traditional individuals
- Survey of selected individuals from the general public

Brief explanation.

In 2011, ASCC CNR continues to encourage stakeholders' participation through: media announcements (television stations, newspapers, radio stations); targeted invitations (letters, phone calls, personal visits) to traditional and nontraditional stakeholder groups and individuals; and surveys of the general public and selected groups and individuals. Focus group sessions during workshops, presentations, guest lectures, classes, tours, and meetings in the community and at ASCC CNR also encouraged stakeholders' participation.

2(A). A brief statement of the process that was used by the recipient institution to identify individuals and groups stakeholders and to collect input from them

1. Method to identify individuals and groups

- Use Advisory Committees
- Use Internal Focus Groups
- Use External Focus Groups
- Needs Assessments
- Use Surveys
- Other (formative and summative evaluations of workshops)

Brief explanation.

Similar to 2010, ASCC CNR continues to use inputs and recommendations from advisory committees, external and internal focus groups, surveys, workshops evaluations, and needs assessments to identify stakeholders' groups and individuals. Moreover, recommendations from CNR program administrators and staff members were utilized.

2(B). A brief statement of the process that was used by the recipient institution to identify individuals and groups who are stakeholders and to collect input from them

1. Methods for collecting Stakeholder Input

- Meeting with traditional Stakeholder groups
- Survey of traditional Stakeholder groups
- Meeting with traditional Stakeholder individuals
- Survey of traditional Stakeholder individuals
- Meeting with the general public (open meeting advertised to all)
- Survey of the general public
- Meeting specifically with non-traditional groups
- Survey specifically with non-traditional groups
- Meeting specifically with non-traditional individuals
- Survey specifically with non-traditional individuals
- Meeting with invited selected individuals from the general public
- Survey of selected individuals from the general public
- Other (Focus group sessions)

Brief explanation.

In 2011, ASCC-CNR staff collected stakeholder inputs from more than 8,000 clients and program participants through focus group sessions and survey questionnaires during workshops (schools, villages, community groups, government agencies, churches, CNR, other sites), demonstrations, presentations, pesticides courses, classes, guest lectures, public and council meetings, outreach programs at the Fagatogo Farmers' Marketplace, exercise and physical activity sessions, field trips, summer camps and institutes, tours, school visits, science fairs, field days, career days, farm and family visitations, clients' visitations to the office, and individual consultations.

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
- Other (To develop staff capacity building opportunities and student scholarship opportunities.)

Brief explanation.

In 2011, ASCC CNR continued to use inputs from stakeholders to direct and improve programs in both extension and research in terms of recruiting and hiring of new staff; staff capacity building opportunities; scholarship opportunities for agricultural sciences student majors; acquisition of new equipments and materials and supplies; improvement of existing programs and facilities;

development and implementation of new programs; formation of new partnerships; submittal of grant applications; and construction of new facilities to address stakeholders' inputs and recommendations.

Brief Explanation of what you learned from your Stakeholders

Need to continue work in Plant clinic diagnoses and recommendations; Pest surveys; Testing of reduced-risk pesticides; Biological control studies of economically important pests; Technical assistance with nuisance bee problems and assessment of apiculture; Need to establish greenhouse in high schools for vegetables seedlings and plants for students science fair research projects; Provide Physical Activity Program for Day Care Centers; Establish new Family Consumer Programs such as Parenting, Family Management, and Traditional handicrafts: Establish a Family Fitness Program to help children ages 5-12 and families in improving food and fitness behaviors and prevention of childhood obesity; Continue to visit and provide F4HN programs for the islands of Manu'a every year on a quarterly basis; Extend the 4-H Healthy Lifestyles /Food and Nutrition Education programs to students at the high school and elementary levels; Need to import improved fruit tree seeds and seedlings; Production and distribution of fruit trees to address health problems, agroforestry, and food security; Need to address climate change challenges; Need to explore energy alternatives; Conservation education and sustainable agricultural practices; Flouriculture; Organic Agriculture; Promote the use of the four (4) EPA recommended waste management systems in swine production; Need better access to feeds; Need improved fish stocks; Need training in fish farming and aquaponics; Need training in marine science; Need internship and career opportunities; Need to involve more 4-H clubs and community residents in starting their own vegetable gardens; Need to provide staff capacity building opportunities; Need to recruit scientists, professionals, and para-professionals to implement programs; Need to offer competitive salaries to attract scientists and specialists from off-island; Need to attract local students to pursue majors in nutrition, agriculture, natural resources, forestry and related fields; Need to provide staff professional development opportunities to upgrade skills and knowledge and to pursue undergraduate and graduate degree studies.

Status of progress of previous stakeholders' inputs:

Some of the stakeholders inputs listed in 2010 have been addressed while others are still in progress.

Aquaculture: To provide better access to feeds we established an agreement with StarKist Samoa tuna cannery to obtain fishmeal, an ideal protein source for fish feeds. We also installed equipment at ASCC for farmers to use free of charge to produce feeds using local ingredients such as taro, breadfruit, cassava, and banana mixed with vegetable oil, fishmeal, vitamins and minerals. We also conducted a training in October 2011 on using the equipment to make feeds.

To improve fish stocks, we are working with Samoa Ministry of Agriculture and Fisheries to obtain an improved tilapia stock called GIFT. It grows bigger and faster than the tilapia we currently have.

To provide training in fish farming and aquaponics, we conducted seven workshops on aquaculture, aquaponics, and feeds production. We also participated in public presentations such as the Health Heroes Nutritional Fairs conducted by the Women's Community Action Program and the First Fridays at the Market conducted by the AS Department of Commerce.

To provide training in marine science, we taught MSC 200: Introduction to Aquaculture during two semesters in 2011 at ASCC. We also conducted a week-long course in underwater surveying titled, "Quantitative Underwater Ecological Surveying Techniques" in 2011. We served as guest lecturers in all grade levels from ECE to College-level.

To provide internship and career opportunities we connected ASCC students with professionals in local resource management agencies such as DMWR, DOC, and EPA where they earned stipends as they learned to conduct land and sea-based research. Eight of twenty-two interns were housed at the aquaculture program at ASCC Land Grant during 2011 working on feeds research and aquaponics system development. The QUEST course connected students with professionals at different local agencies looking to hire talented local employees. As they continue their education,

these agencies will be familiar with their professional development and be ready to hire them when they are fully qualified.

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
922092	0	905602	0

2. Totaled Actual dollars from Planned Programs Inputs				
Extension			Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	335714	0	314160	0
Actual Matching	335714	0	1024160	0
Actual All Other	0	0	0	0
Total Actual Expended	671428	0	1338320	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	Small Farms
2	Ecosystem
3	Human Health and Well-being
4	Families, Youth and Communities

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Small Farms

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
133	Pollution Prevention and Mitigation	5%		5%	
202	Plant Genetic Resources	10%		10%	
205	Plant Management Systems	22%		15%	
211	Insects, Mites, and Other Arthropods Affecting Plants	10%		12%	
212	Pathogens and Nematodes Affecting Plants	5%		10%	
215	Biological Control of Pests Affecting Plants	5%		7%	
306	Environmental Stress in Animals	3%		1%	
307	Animal Management Systems	10%		5%	
315	Animal Welfare/Well-Being and Protection	5%		5%	
401	Structures, Facilities, and General Purpose Farm Supplies	5%		15%	
601	Economics of Agricultural Production and Farm Management	5%		5%	
604	Marketing and Distribution Practices	5%		5%	
903	Communication, Education, and Information Delivery	10%		5%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2011	Extension		Research	
	1862	1890	1862	1890
Plan	6.0	0.0	4.0	0.0
Actual Paid Professional	5.8	0.0	4.5	0.0
Actual Volunteer	2.0	0.0	2.0	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
83929	0	78540	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
83929	0	788540	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Multiplication, evaluation and distribution of improved taro and banana varieties; Vegetable variety evaluation demonstrations; Budding, grafting and airlayering workshops for citrus and other fruit trees; production and distribution of fruit trees; Swine Waste Management Systems demonstrations; Pig project to reduce inbreeding of farmers' animal operations - buying/selling or trading of stock and boar services; Tissue culture of traditional staples and increasing genetic diversity to improve crop security; Plant clinic diagnoses and recommendations; Pest surveys; Biological control studies of economically important pests; Technical assistance with nuisance bee problems and assessment of apiculture; Pesticides Safety Training; Farm Safety Training; Farm visitations and demonstrations; Tilapia breeding program; Evaluation of native freshwater fish and crustaceans for intensive aquaculture; Feeds lab maintenance and feed production; Technical assistance with disease and nutrition issues for aquaculture farmers; Technical assistance with aquaponics and integrated pig-tilapia aquaculture; Technical assistance with grant writing; Technical advising for local Samoa Family Sunfish Cooperative, Inc.; Teach ASCC course, MSC 200: Introduction to Aquaculture; Demonstration of aquarium science;

2. Brief description of the target audience

Small and resource-limited farmers and ranchers, commercial farmers, aquaculture farmers, forestry clients, hobby farmers, gardeners, general public, school students, government agencies, Extension agents, businesses, 4-H members, homemakers, church youth and other non-government organizations, village residents, and community group members.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2011	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	2453	35520	2541	20800

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

Patent Applications Submitted

Year: 2011

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2011	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of research projects completed

Year	Actual
2011	0

Output #2

Output Measure

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

Year	Actual
2011	25

Output #3

Output Measure

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

Year	Actual
2011	6422

Output #4

Output Measure

- Number of plant clinic diagnoses and recommendations made to assist farmers

Year	Actual
2011	16

Output #5

Output Measure

- Number of vegetable variety demonstrations completed

Year	Actual
2011	9

Output #6

Output Measure

- Number of new fruit tree varieties introduced

Year	Actual
2011	3

Output #7

Output Measure

- Number of fruit tree propagation workshops

Year	Actual
2011	6

Output #8

Output Measure

- Number of pigs sold/traded and piglets born from AI

Year	Actual
2011	24

Output #9

Output Measure

- Number of directories published

Year	Actual
2011	0

Output #10

Output Measure

- NUmber of pesticide efficacy tests conducted

Year	Actual
2011	0

Output #11

Output Measure

- Number of Pesticide Applicator's Training workshops conducted

Year	Actual
2011	4

Output #12

Output Measure

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

Year	Actual
2011	0

Output #13

Output Measure

- Number of video production

Year	Actual
2011	1

Output #14

Output Measure

- Number of Tilapia released from breeding program

Year	Actual
2011	75

Output #15

Output Measure

- Number of candidate species culture trials completed

Year	Actual
2011	0

Output #16

Output Measure

- Number of tilapia feed trials completed

Year	Actual
2011	1

Output #17

Output Measure

- Number of semesters that MSC 200 was taught

Year	Actual
2011	2

Output #18

Output Measure

- Number of collaborative projects with other government agencies

Year	Actual
2011	18

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 farmers targeting problems according to recommendations on plant clinic form
3	Number of farmers growing improved vegetable cultivars
4	Number of people growing improved budded/grafted or airlayered fruit trees in their back yards.
5	Number of pig farmers upgrading their stock
6	Number of reduced risk pesticides recommended for use.
7	Number of pesticide applicators trained and certified
8	Number of farmers growing improved genetic stocks of tilapia
9	Number of farmers upgrading their farms to aquaponics
10	Number of farmers making their own tilapia feeds
11	Number of students enrolled in MSC 200
12	Number of students enrolled in Manu'a High School Aquaponics course
13	Number of farmers integrating their piggeries with tilapia culture
14	Number of farmers/stakeholders involved with collaborative projects

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
2011	372

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 taro and banana production in American Samoa. With the continued multiplication and distribution of improved (disease resistant) varieties, taro and banana producers now have greater diversity of disease-resistant varieties to choose from and to address the food security issue.

What has been done

Agriculture Extension staff, in collaboration with the Plant Tissue Culture Specialist continued to multiply new varieties and conduct more Taro Taste Tests to identify the best tasting varieties for American Samoa. These improved (disease resistant and acceptable taste) taro and banana varieties were multiplied and distributed to the farming community and the public.

Results

In FY 2011, the Agriculture Extension staff distributed 6,422 improved taro setts and banana planting materials from more than 25 cultivars of disease resistant taros and bananas to 372 farmers.

4. Associated Knowledge Areas

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

Outcome #2

1. Outcome Measures

Number of farmers targeting problems according to recommendations on plant clinic form

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	14

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

As a small island group with increasing commercial and passenger links to the rest of the world, American Samoa is at high risk for entry of exotic invasive species that could threaten the territory's agricultural production and environment. It is therefore important to develop and maintain a capacity for early detection and response for exotic invasive pests that may arrive in American Samoa. For both new exotic invasives and existing pests, correct identification is the first step to effective management.

What has been done

ASCC-CNR continues to work together with the territory's department of agriculture to conduct detection surveys for exotic invasive pests. The fruit fly quarantine surveillance program continued this year, and detection surveys for palm weevils (*Rhynchophorus* and *Metamasius* spp.), Asian citrus psyllid and citrus greening disease were completed. The ASCC-CNR Plant Clinic continued to provide pest and disease diagnostic services to extension agents, farmers, and the general public. As a member of the USDA's National Plant Diagnostic Network, the ASCC-CNR Plant Clinic has access to regional and national-level diagnostics expertise when required.

Results

No exotic fruit fly species were found among the 25,518 fruit flies captured and identified in the quarantine surveillance program this year. Asian citrus psyllids were detected in the territory for the first time and delimitation surveys revealed that they had already spread too widely to allow any attempt at eradication. A follow up survey for citrus greening (CG) disease (vectored by Asian citrus psyllid) indicated that CG remains absent from American Samoa. Extension agents were trained in detection of CG symptoms and CG surveys will continue to be conducted in coming years. The trapping survey for palm weevils (including the red palm weevil, *Rhynchophorus*

ferrugineus) verified that these devastating pests are not present. Through the ASCC-CNR Plant Clinic, extension agents and other clients were able to access the expertise necessary for proper diagnosis and management of pest and disease problems.

4. Associated Knowledge Areas

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

Outcome #3

1. Outcome Measures

Number of farmers 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
2011	563

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In 2011, farmers continued to grow improved vegetable varieties that are beneficial to farmers and consumers in terms of buying safer and cheaper seeds and generating additional revenues for the family. Also, consumers benefit in terms of reducing costs and meeting nutritional needs of the family and community members.

What has been done

Agriculture Extension staff continued to provide small quantities of different vegetable seeds/seedlings to homemakers, schools, and 4-H clubs interested in growing their own vegetables. Also, staff conducted visitations to provide follow up assistance to back-yard farmers, commercial vegetable growers, and school and church vegetable projects. Moreover, Extension sold 1,520 packages (10gramms each) of different vegetable seeds of good quality to 230 farmers at break-even price to encourage people to grow more vegetables. ASCC-CNR continued to order improved seeds of vegetable varieties and sell the seeds to the farmers and interested

members of the community. Extension staff completed 9 vegetable variety trials.

Results

Extension staff identified improved vegetable cultivars that perform well in the tropics and are disease resistant. The success of the improved cultivars in the farming community is evident by the increase in the number of seed purchases, demand to order more seeds to cover the shortage of the seed supply, increase in production and human consumption, and vegetable sales. 563 farmers cultivated improved vegetable cultivars.

4. Associated Knowledge Areas

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

Outcome #4

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	44

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is a great need in American Samoa to increase consumption of fruits to address the many non-communicable diseases such as diabetes, hypertension, heart disease, obesity, and others. Parents continued to be concerned to ensure that their children have enough fresh fruits to eat. Making fruit trees available to families to plant in the back yard and farm land is critical in addressing the above-mentioned challenges.

What has been done

Agriculture Extension staff continued to multiply and distribute the recommended fruit tree varieties to the farmers, homemakers, and interested residents. CNR dedicated the new "Fruits for Life" greenhouse to accommodate the multiplication of fruit-tree planting-materials, and to serve as a teaching/learning lab for ASCC Agriculture students and farmers on the different methods of asexual propagation to increase the availability of diverse varieties of fruits for the people of American Samoa. Agriculture Extension continued to work with EFNEP and 4-H to increase the consumption of vegetables and fruits in order to address the poor nutrition problem and lifestyle diseases.

Results

CNR dedicated and started using the new "Fruits for Life" greenhouse to multiply the fruit-tree planting-materials. Agriculture Extension continued to work with EFNEP and 4-H to conduct the "Fruits for Life" program to increase the consumption of vegetables and fruits in order to address the poor nutrition problem and lifestyle diseases. Conducted 6 fruit tree propagation workshops. 44 farmers planted improved budded/grafted or air-layered fruit trees in their back yards.

4. Associated Knowledge Areas

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

Outcome #5

1. Outcome Measures

Number of pig farmers upgrading their stock

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	24

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is a continued need to introduce biodiversity in the local pig gene pool, not only from an inbreeding perspective but a homeland security one as well. Also there is a great need to address

the pig waste management problem.

What has been done

Completed the ASEPA funded CNR piggery to demonstrate the four (4) recommended waste management systems to farmers, students, and the general public.

Results

Completed the ASEPA funded CNR piggery to demonstrate the four (4) recommended waste management systems to farmers, students, and the general public. The renovated piggery now serves as a demonstration site for the pig farming community regarding their options should they want to keep their piggeries operational. Once these piggeries gain compliance of the local laws, the intent is to work with the farmers to upgrade their stock to reduce inbreeding by making available boar service and trading/selling to them some of our own improved stock. Extension staff also assisted ASEPA and FSA staff, piggery council members, and other government agencies with piggery compliance workshops (outreach) in Tutuila and Manu'a islands. 24 pig farmers upgraded their stock.

4. Associated Knowledge Areas

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

Outcome #6

1. Outcome Measures

Number of reduced risk pesticides recommended for use.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	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 could not be completed in 2011 due to lack of personnel.

Results

This activity could not be completed in 2011 due to lack of personnel.

4. Associated Knowledge Areas

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

Outcome #7

1. Outcome Measures

Number of pesticide applicators trained and certified

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	67

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Continued use of unsafe and illegal pesticides are documented in American Samoa. Also people who imported and use non-EPA registered pesticides were cited by ASEPA.

What has been done

During FY 2011, ASCC-CNR Pesticide Instructor conducted 4 Pesticide Applicator Safety workshops that enrolled 67 participants. Another Extension staff member was on hand to observe with the hope that he takes over the training in the absence of the current Pesticide Instructor.

The EPA Pesticide Officer was also present to certify the participants. The Farm Safety Agent and

Extension staff conducted 4 Progressive Agriculture Safety Days in selected Elementary Schools in addition to one (1) Community Safety workshop conducted on-campus. Extension Agents reached 945 students and community residents through the Farm Safety program.

Results

In FY 2011, 67 participants were trained and certified. Similar to 2010, more people now understand the importance of handling pesticides in a safe manner and are aware of how to use these chemicals safely. Many residents are now aware of Integrated Pest Management strategies and successful biological control programs. As a result, some farmers have dramatically reduced the use of pesticides, while others are no longer using pesticides. Importation of illegal (non-EPA registered) pesticides cases are reduced.

4. Associated Knowledge Areas

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

Outcome #8

1. Outcome Measures

Number of farmers growing improved genetic stocks of tilapia

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	0

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.

What has been done

The Center for Sustainable Integrated Agriculture and Aquaculture is in the process of being expanded to accommodate more tanks in which to conduct a breeding program to provide farmers with improved fish stocks. Tanks have been constructed and plastic liners, plumbing, pumps were purchased in preparation for tank installation.

Results

Though the expansion of the center is complete, distribution of improved genetic stocks of tilapia has not begun. This is due to the lack of improved stocks to utilize in a breeding program. We are arranging to obtain the Genetically Improved Farmed Tilapia (GIFT) in 2012 to use in a breeding program.

4. Associated Knowledge Areas

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

Outcome #9

1. Outcome Measures

Number of farmers upgrading their farms to aquaponics

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	5

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 comprised of poor soils that are not suitable for gardening. With the current loss of jobs and economic recession, people are looking for ways to improve their food security.

What has been done

Five aquaponics systems were constructed during 2011 for farmers and schools. Representatives from the University of Hawaii and Olomana Gardens, an aquaponics farm in Hawaii, were brought to American Samoa to conduct workshops and assist in building aquaponics systems.

Results

All but one of the new farms were built on existing farm lands. The fifth farm was for Ta'iala Academy and is used in their science curriculum.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #10

1. Outcome Measures

Number of farmers making their own tilapia feeds

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Feed availability and quality are poor in American Samoa. Imported feeds are expensive and their shipping is difficult to arrange to provide a consistent supply. Locally-produced feeds are an option as are feeds for other animals, such as pigs.

What has been done

The Center for Sustainable Integrated Agriculture and Aquaculture was expanded in 2010 to include two industrial strength meat grinders and a hammer mill. This equipment has greatly improved the feed production speed as well as the quality of fish feeds. A workshop called "Making Tilapia Feeds with Local Ingredients" was conducted in October 2011 with twenty-one attendees with assistance from Dr. Warren Dominy of the Oceanic Institute in Hawaii. An agreement was reached with StarKist Samoa with help from Congressman Faleomavaega's office to obtain free fishmeal for one year with fishmeal available for purchase afterwards. We obtain the fishmeal from the tuna cannery and distribute it to farmers interested in making feeds.

Results

Duke Purcell and his sons have been trained to make their own feeds using equipment at the Center for Sustainable Integrated Agriculture and Aquaculture at ASCC. They provide flour and oil and obtain free fishmeal, vitamins and minerals at the Center. Since late summer 2011, they have doubled their previous annual production of tilapia on their farm. This is directly attributable to the use of higher quality, locally-produced feeds.

4. Associated Knowledge Areas

KA Code	Knowledge Area
306	Environmental Stress in Animals
307	Animal Management Systems
315	Animal Welfare/Well-Being and Protection
401	Structures, Facilities, and General Purpose Farm Supplies
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices

Outcome #11

1. Outcome Measures

Number of students enrolled in MSC 200

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	12

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Marine Science students at the American Samoa Community College require a well rounded treatment of marine science topics, including aquaculture. These students require training for work at local marine and natural resource agencies. MSC 200 Introduction to Aquaculture is one of those classes.

What has been done

The MSC 200 course was taught during spring and fall 2011 semesters.

Results

A total of twelve students enrolled in MSC 200 during the spring and fall 2011 semesters.

4. Associated Knowledge Areas

KA Code	Knowledge Area
903	Communication, Education, and Information Delivery

Outcome #12

1. Outcome Measures

Number of students enrolled in Manu'a High School Aquaponics course

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Students in the Manu'a islands in American Samoa have poor access to science curriculum and laboratory supplies and equipment.

What has been done

An aquaponics system was built in 2007 for Manu'a High School. Preparations were made in 2009 to conduct a special aquaponics course at the school in 2010. However the September 29, 2009 tsunami caused unsurmountable difficulty in preparing for the 2010 course.

Results

Due to difficulty in approving the course through the local Department of Education, this course has not been offered since 2008. We are working with the local DOE to find the best arrangement to offer this course for credit towards graduation.

4. Associated Knowledge Areas

KA Code **Knowledge Area**
903 Communication, Education, and Information Delivery

Outcome #13

1. Outcome Measures

Number of farmers integrating their piggeries with tilapia culture

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The American Samoa Environmental Protection Agency has identified local piggeries as sources of harmful bacteria and other pollution in streams, rivers, and nearshore reef environments. Their response has been to shut down piggeries that are noncompliant with their regulations.

What has been done

We focused on Duke Purcell's farm this year. He integrated his piggery with his tilapia ponds the previous year.

Results

No new integrated piggery/tilapia farms were created in 2011.

4. Associated Knowledge Areas

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

Outcome #14

1. Outcome Measures

Number of farmers/stakeholders involved with collaborative projects

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	2000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The limited availability of financial and specialized human resources are major challenges in program planning, development, implementation, and evaluation in American Samoa.

What has been done

Similar to 2010, more than 35 local, federal, regional government agencies and non-government organizations partnered in program planning, development, implementation, and evaluation of more than 18 collaborative projects.

Results

More than 2000 farmers and stakeholders participated in planning, development, implementation, and evaluation of more than 18 collaborative projects involving more than 35 local, federal, regional government agencies and non-government organizations partners. The partnerships resulted in many accomplishments as reported in the outputs and outcomes sections.

4. Associated Knowledge Areas

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

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

The impacts of the September 29, 2009 earthquake and tsunami delayed and/or cancelled program activities.

Loss of staff reduced program capacity.

Delay in staff recruitment process.

In the process of recruiting for: Forestry Researcher, Animal Specialist, Fruit Tree Specialist, Marketing Specialist, Entomology Assistant and Technician, and field and support staff.

Lack of staff limited program capacity. Recruiting for entomology research assistant and technician.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

- Our aquaculture clients all say they are impressed with progress made in providing feeds options, aquaponics training and support, marine science education, improving fish stocks, and providing internship opportunities. None of them made any recommendations for improvement. It is interesting to note, however, that even though aquaculture clients express gratitude and excitement for services offered by CNR, those who really need to make feeds for their fish do not take advantage of the service except for two farmers. All other services are well used by other clients.

- Agriculture clients reported that. CNR is: 1). doing an excellent job in programming on traditional crops, vegetable crops, and pesticides safety education programs; and plant diagnostics; and 2). doing a good job in programming on piggery waste management, farm visitations, and fruit trees multiplication and distribution. However, Agriculture Agents need to be more visible in the community; CNR need more Specialists (qualified staff), Agents, vehicles, equipments, and technologies to develop, implement, and deliver programs to the clients.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Ecosystem

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
112	Watershed Protection and Management	25%		0%	
133	Pollution Prevention and Mitigation	75%		100%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2011	Extension		Research	
	1862	1890	1862	1890
Plan	2.0	0.0	3.0	0.0
Actual Paid Professional	1.7	0.0	1.8	0.0
Actual Volunteer	1.0	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
83928	0	78540	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
83928	0	78540	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 planned to monitor 35 to 40 permanent streams on Tutuila Island using chemical, physical, and biological parameters. This was to be a follow-up to similar work conducted from 2003 through 2005. Results were to be shared with the American Samoa EPA and the local water utility, ASPA.

However, both agencies requested that we refocus our attention to drinking water issues. With enforcement of the EPA Ground Water Rule (71 FR 65574) 01 DEC 2009, many public institutions- including schools- could no longer operate drinking water fountains because half of the 53 municipal water wells were contaminated with coliform and *E. coli* bacteria. To make matters worse, many of the wells were showing signs of seawater intrusion owing to over-pumping. Electrical conductivity (EC) of tap water varied from 0.205 mS/cm in one village and in another village 2.54 mS/cm. Because of unpalatability, frequent boil water notices, and a wariness of drinking water containing chlorine, the public increasingly turned to expense bottled water. The AS Department of Education (DOE) purchased a water truck to supply affected schools.

Efforts to cooperate with ASPA by offering to monitor EC and cation concentrations of ground water at well heads on a monthly basis have gone unanswered.

2. Brief description of the target audience

Residents who depend upon the local water utility for a safe, dependable drinking water supply.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2011	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	12	26	0	0

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

Patent Applications Submitted

Year: 2011

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2011	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Percent of streams sampled
Not reporting on this Output for this Annual Report

Output #2

Output Measure

- Percent of schools visited
Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of streams with reduced loads of coliform bacteria.
2	Number of streams with high biotic integrity.

Outcome #1

1. Outcome Measures

Number of streams with reduced loads of coliform bacteria.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	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
133	Pollution Prevention and Mitigation

Outcome #2

1. Outcome Measures

Number of streams with high biotic integrity.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	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
133	Pollution Prevention and Mitigation

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Other (Lack of cooperation from local water utility)

Brief Explanation

The local water utility has been under tremendous public pressure owing to frequent and protracted drinking water alerts. Many of these alerts were triggered by lax regulations regarding the installation of proper septic systems in residential structures and to piggery owners who built within the allowable distance from ground water wells. With enforcement of the EPA Ground Water Rule (71 FR 65574) in December 2009, the utility was found to be unprepared. As a consequence, many schools and other public venues could no longer use their municipal water supply for drinking. And for years, residents in certain areas of the island have complained about the taste of their drinking water. These public outcries may account for a siege mentality at the utility.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Until or unless the local water utility is willing to work with willing partners in an open and constructive manner, residents must contend with future "boil water" notices and purchasing bottled water.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Human Health and Well-being

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	40%		0%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	20%		0%	
721	Insects and Other Pests Affecting Humans	10%		0%	
722	Zoonotic Diseases and Parasites Affecting Humans	10%		0%	
724	Healthy Lifestyle	20%		100%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2011	Extension		Research	
	1862	1890	1862	1890
Plan	2.0	0.0	3.0	0.0
Actual Paid Professional	1.8	0.0	1.8	0.0
Actual Volunteer	2.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
83929	0	78540	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
83929	0	78540	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

Nutrition education workshops.
 Local produce (vegetable & fruit) recipe development and testing workshops.
 Vegetable gardens will be established with interested homemakers and other clients.
 Demonstrations of vegetable dishes with recipes passed out.
 Food preparation, handling, and storage demonstrations.
 Food safety workshops and demonstrations.
 Nutrition awareness media (radio, TV, newspaper) programs.
 Development, translation, and distribution of calendar, posters, brochures, and other educational materials.
 Aerobics, sports, vegetable gardening, and other physical activity programs.
 Childhood Obesity Grant community meetings
 Research biology and control of disease-carrying mosquitoes.
 Communicated results via research reports, brochures, seminars, TV, and individual contacts with other agencies, students, and the public.
 Construct new facility for health programs.

2. Brief description of the target audience

All residents of American Samoa are the target audience including recipients of the Food Stamp and WIC programs, Mental Health Program clients, village and church women's organization members, homemakers, farmers, students, interested individuals, children and youth program participants. Additional audience include community leaders (church & village), and ECE (Early Childhood Education), K-5, and Day Care Centers' teachers, parents, and service providers.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2011	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	3750	20200	4600	21500

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

Patent Applications Submitted

Year: 2011
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2011	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of research projects completed

Year	Actual
2011	0

Output #2

Output Measure

- Number of Nutrition educational workshops

Year	Actual
2011	230

Output #3

Output Measure

- Number of vegetable gardening workshops

Year	Actual
2011	80

Output #4

Output Measure

- Number of vegetable gardens established

Year	Actual
2011	80

Output #5

Output Measure

- Number of different recipes using local produce given out

Year	Actual
2011	53

Output #6

Output Measure

- Number of food safety workshops conducted

Year	Actual
2011	300

Output #7

Output Measure

- Number of publications/brochures/posters/calendars

Year	Actual
2011	10

Output #8

Output Measure

- Number of exercise and physical activity programs completed

Year	Actual
2011	141

Output #9

Output Measure

- Number of nutrient-dense traditional crop varieties disseminated

Year	Actual
2011	12

Output #10

Output Measure

- Number of collaborative projects with other agencies/organizations

Year	Actual
2011	20

Output #11

Output Measure

- Number of publications/brochures/posters/calendars distributed

Year	Actual
2011	3522

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of program participants that acquired knowledge and developed skills in nutrition, vegetable gardening, nutritious meal preparation, food safety and health and physical activities
2	Number of people eating more vegetables as a result of the vegetable gardening project
3	Number of program participants that prepared and consumed more economical and nutritious meals.
4	Number of program clients that adopted balance diets utilizing local produce and healthy foods.
5	Number of program clients who adopted safer food handling, storage, and preparation practices
6	Number of program clients that increased participation in physical activities and exercises
7	Number of program clients that lost weight and improved self-esteem
8	Number of program clients that lived healthier lifestyles
9	Number of clients involved in collaborative projects
10	Number of villages using ASCC CNR generated information to control mosquitoes

Outcome #1

1. Outcome Measures

Number of program participants that acquired knowledge and developed skills in nutrition, vegetable gardening, nutritious meal preparation, food safety and health and physical activities

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	3500

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Obesity and overweight, poor nutrition, lack of exercise, and food safety issues continued to be major health problems for both adults and youth in American Samoa in 2011.

What has been done

In 2011, F4HN professional and paraprofessional staff continued to provide nutrition education programs to youth, homemakers, community residents, and other traditional and nontraditional clients. Moreover, F4HN staff continued to conduct workshops, presentations, and food demonstrations in villages, schools, Day Cares, Health clinics, churches and government offices. In-school programs emphasized the importance of physical activity to reduce the high risk of obesity, production and the consumption of local food with gardening projects, and food safety.

Results

3500 program participants acquired knowledge and developed skills in nutrition, vegetable gardening, nutritious meal preparation, food safety and health and physical activities.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
724	Healthy Lifestyle

Outcome #2

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	2300

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The diets in American Samoa continue to be high in meats, starches, sugars, and fats and tend to be very low in vegetables, fruits and dairy products. Such diets lead to diet and life style related diseases such hypertension, diabetes, heart disease, strokes, obesity, and others. Diets could be greatly enhanced with the increased production and consumption of locally grown nutrient rich vegetables.

What has been done

In 2011, the F4HN program continued to collaborate with Agriculture Extension staff in the vegetable gardening project workshops in the community and in schools. In a multidisciplinary effort, Agriculture Extension encouraged homemakers and community residents to grow more vegetables in their backyard in an effort to address the obesity issue and related problems. "Putting Food on the Table" brochures with step by step instructions on how to grow your own vegetables in addition to cooking recipes using these vegetables continued to be developed and distributed to clients. Agriculture extension staff continued to encourage homemakers to grow their own tomatoes, bell peppers, beans, cucumbers and distributed spices (free of charge) such as basil and oregano seedlings. Continued to place orders of seeds from reliable sources and sold the seeds at break-even prices to encourage people to grow more vegetables. Agriculture Extension staff continued with farm visitations to assist not only start-up and subsistence farmers, but also hobby and commercial vegetable growers.

Results

Participants attended 80 vegetable gardens workshops and established 80 vegetable gardens as a result of the program. 2300 continued to consume more vegetables as result of the vegetable gardening project. 3500 participants prepared and consumed more economical and nutritious meals.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
724	Healthy Lifestyle

Outcome #3

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	3500

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Obesity and overweight, poor nutrition, lack of exercise, and food safety issues continued to be major health problems for both adults and youth in American Samoa. The value of nutrition education for improving the diets and ultimately the health of people with limited resources has long been recognized in American Samoa.

What has been done

In FY 2011, F4HN staff conducted 230 Nutrition educational workshops. Moreover, the F4HN staff continued to distribute nutrition educational handouts, recipes, brochures, posters, and other nutrition materials to traditional and non-traditional clients. "Putting Food on the Table" brochures with step by step instructions on how to grow your own vegetables in addition to cooking recipes using these vegetables continued to be developed and distributed to clients. Moreover, the F4HN staff continued to distribute nutrition educational handouts such as Pacific Food Guide Pyramid, recipes, brochures, posters, My Plate fact sheets, and other nutrition materials to Food Stamp recipients, students, teachers, homemakers, and other clients. Community Awareness programs impacts of obesity, overweight, poor nutrition, lack of physical activity continued to be implemented. In a multidisciplinary effort, agriculture extension staff continued to encourage homemakers and community residents to grow more vegetables in their backyard in an effort to address obesity and related health problems.

Results

With fresh vegetables available from their own gardens in the back yard, the consumption of vegetables increased. With a better diet, diet related diseases are reduced. Similar to 2010, participants have shown improvements in diet, knowledge, and food related behavior. Moreover, participants learned how to use local fruits and vegetables in preparing economical and nutritious recipes. Participants attended 80 vegetable gardens workshops and established 80 vegetable gardens as a result of the program. 2,300 continued to consume more vegetables as result of the vegetable gardening project. 3,500 participants prepared and consumed more economical and nutritious meals.

4. Associated Knowledge Areas

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

Outcome #4

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	3200

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The diets in American Samoa are high in meats, starches, sugars, and fats and tend to be very low in vegetables, fruits and dairy products. Such diets lead to diet and life style related diseases such hypertension, diabetes, heart disease, strokes, obesity, and others. Diets could be greatly enhanced with the increased production and consumption of locally grown nutrient rich vegetables.

What has been done

In 2011, F4HN staff conducted 230 workshops, presentations, and demonstrations in the villages, schools, churches, government agencies, and community groups on developing and testing recipes using locally grown produce. "Putting Food on the Table" brochures with step by step

instructions on how to grow your own vegetables in addition to cooking recipes using these vegetables continued to be developed and distributed to clients.

Results

53 different recipes using local produce were given out to the participants. 3200 participants adopted recipes and diets using local produce and healthy foods. More vegetables were consumed and more participants' health improved. Participants have shown improvements in diet, knowledge, and food related behavior. Moreover, participants learned how to use local fruits and vegetables in preparing economical and nutritious recipes.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
724	Healthy Lifestyle

Outcome #5

1. Outcome Measures

Number of program clients who adopted safer food handling, storage, and preparation practices

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	3200

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Obesity and overweight, poor nutrition, lack of exercise, and food safety issues continued to be major health problems for both adults and youth in American Samoa. The value of nutrition education and food safety for improving the diets and health of people with limited resources has long been recognized in American Samoa.

What has been done

In 2011, F4HN staff conducted 230 food safety workshops and demonstrations about safe food handling, storage and preparation to youth, childcare providers, WIC participants, Food Stamp clients, homemakers, and other clients. Demonstrations on the correct way to wash hands to

prevent food borne illness continued to be conducted to school age children and adults.

Results

3200 program participants adopted safer food handling, storage, and preparation practices. Teachers and parents reported that more students are washing their hands before preparing family meals and consumption of food.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
724	Healthy Lifestyle

Outcome #6

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	3200

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Obesity and overweight, poor nutrition, lack of exercise, and food safety issues continued to be major health problems for both adults and youth in American Samoa.

What has been done

During FY 2011, F4HN staff conducted 141 exercise and physical activity programs in schools, villages, community groups, government agencies, churches, and other community settings. Community awareness programs on the negative impacts of obesity, overweight, poor nutrition, lack of physical activity, and food safety issues continued to be implemented. Moreover, sports, aerobics, and other exercise programs were implemented in schools, work place, and village settings as alternative physical activity programs.

Results

3200 program clients increased their participation in physical activity and exercise programs; hence, reduced the incident of high blood pressure, diabetic, heart disease, and related illnesses. With the completion of the ASCC-CNR Health and Wellness Center, more people will participate in physical activities and excercises.

4. Associated Knowledge Areas

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

Outcome #7

1. Outcome Measures

Number of program clients that lost weight and improved self-esteem

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	742

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Obesity and overweight, poor nutrition, lack of exercise, and food safety issues continued to be major health problems for both adults and youth in American Samoa.

What has been done

In 2011, F4HN staff conducted 141 exercise and physical activity programs in schools, villages, community groups, government agencies, churches, and other community settings. Community awareness programs on the negative impacts of obesity, overweight, poor nutrition, lack of physical activity, and food safety issues continued to be implemented. Moreover, sports, aerobics, and other exercise programs continued to be implemented in schools, work place, and village settings as alternative physical activity programs.

Results

742 program clients lost weight and improved self-esteem.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
724	Healthy Lifestyle

Outcome #8

1. Outcome Measures

Number of program clients that lived healthier lifestyles

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	3200

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Obesity and overweight, poor nutrition, lack of exercise, and food safety issues continued to be major health problems for both adults and youth in American Samoa.

What has been done

Similar to 2011, F4HN staff conducted 141 exercise and physical activity programs in schools, villages, community groups, government agencies, churches, and other community settings. Community awareness programs on the negative impacts of obesity, overweight, poor nutrition, lack of physical activity, and food safety issues continued to be implemented. Moreover, sports, aerobics, and other exercise programs were implemented in schools, work place, and village settings as alternative physical activity programs.

Results

In 2011, 3200 program participants lived healthier lifestyles as evident by participants' increased in physical activities, weight loss and improved self-esteem, adoption of food safety behavior, and consumption of balanced and nutritious meals. Also, participants acquired knowledge and developed skills in nutritious and balanced meals preparation, vegetable gardening, food safety, and health and physical activities

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
724	Healthy Lifestyle

Outcome #9

1. Outcome Measures

Number of clients involved in collaborative projects

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	3200

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The limited availability of financial and specialized human resources are major challenges in program planning, development, implementation, and evaluation in American Samoa.

What has been done

More than 20 local, federal, regional government agencies and non-government organizations partnered in program planning, development, implementation, and evaluation of more than 20 collaborative projects.

Results

More than 3200 clients participated and involved in planning, development, implementation, and evaluation of more than 20 collaborative projects involving more than 20 local, federal, regional government agencies and non-government organizations partners. The partnerships resulted in many accomplishments as reported in the outputs and outcomes sections.

4. Associated Knowledge Areas

KA Code	Knowledge Area
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703	Nutrition Education and Behavior
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
721	Insects and Other Pests Affecting Humans
724	Healthy Lifestyle

Outcome #10

1. Outcome Measures

Number of villages using ASCC CNR generated information to control mosquitoes

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

American Samoa remains at risk from several tropical diseases that are carried by mosquitoes. Lymphatic filariasis, endemic in American Samoa, has declined dramatically in recent years as a result of American Samoa's participation in the global program to eliminate this disease. The emphasis now is on monitoring to ensure against a resurgence of the disease. New trapping and testing technology has made it possible to monitor for the parasite's presence by trapping and testing the mosquitoes that vector it. Dengue and other arboviruses remain a threat with occasional outbreaks continuing to occur. Research by ASCC-CNR and others indicates that elimination or mitigation of the dengue vectors' container breeding sites is essential to reducing their numbers and in turn reducing dengue transmission.

What has been done

ASCC-CNR worked with the U.S. Centers for Disease Control and Prevention, the American Samoa Departments of Health and Samoan Affairs, and the University of Kentucky to complete large-scale, territory-wide collections of mosquitoes. The mosquitoes are currently being tested for the filarial parasites by colleagues at Smith College, Massachusetts. ASCC-CNR worked with the territory's Environmental Protection Agency and the solid waste landfill operator, the American Samoa Power Authority, to demonstrate effective, environmentally sound control of dengue vector mosquitoes breeding in water collected in the used tires piled up at the landfill. ASCC-CNR continued educating the public about the need to eliminate mosquito breeding sites in villages

through distribution of brochures and direct contacts with students, village leaders, counterparts in government agencies, and the general public.

Results

Although the testing and data analysis are still underway, the territory-wide collections and testing of mosquitoes for filariasis appear to demonstrate for the first time in the South Pacific the feasibility of using large-scale trapping and testing of mosquito vectors as a practical method to monitor for possible resurgence of human lymphatic filariasis disease. The used tire pile at the territory's main solid waste landfill was identified as an important source of large numbers of dengue carrying mosquitoes. Together with the landfill operator and the local EPA, ASCC-CNR developed a treatment protocol using an environmentally suitable larvicide product which reduced daily production of dengue carrying mosquitoes in the tire pile from over 5,000 adult females per day to zero. Landfill operator staff received hands-on training and the operator has obtained the equipment needed to carry out the protocol. As funds become available the operator plans to implement a longer term solution by acquiring a tire shredder and establishing a waste-to-fuel facility. As ASCC-CNR continues efforts to educate the community about ways to control dengue carrying mosquitoes in villages, some residents have been observed eliminating or mitigating breeding sites around their homes. Many others are not doing so, however, and the territory remains at high risk for a dengue outbreak.

4. Associated Knowledge Areas

KA Code	Knowledge Area
721	Insects and Other Pests Affecting Humans

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Competing Public priorities
- Populations changes (immigration, new cultural groupings, etc.)
- Other (Staff Recruitment)

Brief Explanation

The impacts of the September 29, 2009 earthquake and tsunami delayed and/or cancelled program activities.

In the process of recruiting for: Community Nutritionist, Exercise Physiologist, Fruit Tree Specialist, Horticulturalist, Marketing Specialist, and field and support staff.

Delay in recruiting staff reduced program capacity. In the process of recruiting for Entomology Technician and Entomology Research Assistant

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Overall, clients reported that CNR staff members are doing a very good job in teaching them how to eat right, preparing nutritious meals using local produce, safe handling and storage of food, preparing food budget, and reading and understanding the food labels. Moreover, the staff are doing a fair job in helping the children with the obesity and overweight challenges.

However, clients requested more assistance from CNR with: starting vegetable gardens and planting fruit trees; organizing physical activities for the families; hosting recipes' competition using local produce; and

offering alternative programs for clients to loose weight. Furthermore, Nutrition Educators/Agents need to be more visible in the community; CNR need more Nutrition Specialists (qualified staff), more staff development capacity building opportunities, vehicles, equipments, and technologies to develop, implement, and deliver programs to the clients.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Families, Youth and Communities

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	35%		20%	
802	Human Development and Family Well-Being	15%		30%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	15%		40%	
806	Youth Development	35%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2011	Extension		Research	
	1862	1890	1862	1890
Plan	2.0	0.0	2.0	0.0
Actual Paid Professional	1.8	0.0	1.6	0.0
Actual Volunteer	2.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
83928	0	78540	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
83928	0	78540	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

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

2. Brief description of the target audience

All residents of American Samoa are the target audience including parents, youth, village and church women and youth organization members, homemakers, farmers, students, interested individuals, 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

2011	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	3200	30000	3400	21500

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

Patent Applications Submitted

Year: 2011
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2011	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of entrepreneurial and job readiness workshops

Year	Actual
2011	75

Output #2

Output Measure

- Number of apprenticeship and career shadowing programs

Year	Actual
2011	5

Output #3

Output Measure

- Number of sewing workshops and demonstrations

Year	Actual
2011	80

Output #4

Output Measure

- Number of arts and crafts workshops and demonstrations

Year	Actual
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2011 75

Output #5

Output Measure

- Number of vegetable gardening and marketing projects

Year	Actual
2011	85

Output #6

Output Measure

- Number of Samoan cultural workshops and demonstrations

Year	Actual
2011	75

Output #7

Output Measure

- Number of vegetable gardens established

Year	Actual
2011	80

Output #8

Output Measure

- Number of parenting and character counts workshops

Year	Actual
2011	75

Output #9

Output Measure

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

Year	Actual
2011	5

Output #10

Output Measure

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

Year	Actual
2011	53

Output #11

Output Measure

- Number of public awareness media (radio, TV, newspaper) programs

Year	Actual
2011	25

Output #12

Output Measure

- Number of publications/brochures/posters/calendars

Year	Actual
2011	5

Output #13

Output Measure

- Number of videos

Year	Actual
2011	2

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of program participants that acquired knowledge and developed skills in resources management (poverty), parenting, Samoan culture, and youth at risk issues
2	Number of participants generating revenues from resource management activities
3	Number of participants starting home-based and small businesses
4	Number of participants securing employment in the private and public sectors
5	Number of people continuing to grow and sell vegetables as a result of the vegetable gardening and marketing project
6	Number of program participants that improved parent and children relationship
7	Number of program clients that developed a sense of pride and appreciation of the Samoan culture
8	Number of program clients that became self-reliant, productive, and contributing members of the society
9	Number of program clients that made successful transition from youth at risk behaviors to clean, healthy, and esteemed lifestyles

Outcome #1

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	3487

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

As reported in 2010, resource management (poverty), parenting, culture, and youth at risk issues continued to be the major areas of concern in American Samoa. Additionally, more than 58.3% of American Samoa's families are considered poor and below the U.S. poverty level. Unemployment is about 18%; cost of living is high and more than 50% of average spending goes to food and housing. With per capita income at \$4357, people need to manage family resources wisely and take advantage of economic opportunities to maintain and increase their quality of life.

What has been done

In 2011, F4HN staff conducted 75 entrepreneurial and job readiness workshops, 80 sewing workshops/demonstrations, 75 arts and crafts workshops/demonstrations, 75 parenting and character counts workshops, 53 youth at risk issues workshops, and 75 Samoan cultural workshops/demonstrations. Moreover, F4HN staff hosted 5 (five) 4-H camps and summer programs; and completed 5 public awareness programs (radio, TV, newspapers). Ag Extension staff also conducted 85 vegetable gardening and marketing projects. Established 80 vegetable-gardens.

Results

3,487 program participants acquired knowledge and developed skills in resource management, parenting, Samoan culture, and youth at risk issues.

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

802	Human Development and Family Well-Being
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
806	Youth Development

Outcome #2

1. Outcome Measures

Number of participants generating revenues from resource management activities

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	473

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

As reported in 2010, more than 58.3% of American Samoa's families are considered poor and below the U.S. poverty level. Moreover, unemployment is about 18%; cost of living is high and more than 50% of average spending goes to food and housing. With per capita income at \$4357, people need to manage family resources wisely and take advantage of economic opportunities to maintain and increase their quality of life.

What has been done

In 2011, F4HN staff conducted 75 entrepreneurial and job readiness workshops, 80 sewing workshops/demonstrations, and 75 arts and crafts workshops/demonstrations. F4HN staff also hosted 5 4-H camps, and summer programs; and completed 5 public awareness programs (radio, TV, newspapers). Ag Extension staff also conducted 85 vegetable gardening and marketing projects. Established 80 vegetable-gardens.

Results

473 participants generated revenues from resource management activities (vegetable gardening, sewing projects, arts and crafts sales, bake sales, marketing projects, traditional weaving, home based and small businesses, and employment in the private and public sectors. Program participants also established 80 vegetable gardens as a family revenue generating enterprise. 343 participants continue to grow and sell vegetables as a result of the vegetable gardening and marketing projects.

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 starting home-based and small businesses

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	28

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

As reported in 2010, more than 58.3% of American Samoa's families are considered poor and below the U.S. poverty level. Moreover, unemployment is about 18%; cost of living is high and more than 50% of average spending goes to food and housing. With per capita income at \$4357, people need to manage family resources wisely.

What has been done

In 2011, F4HN staff conducted 75 entrepreneurial and job readiness workshops, 80 sewing workshops/demonstrations, and 75 arts and crafts workshops/demonstrations. F4HN staff also hosted 5 (five) 4-H camps, and summer programs; and completed 5 public awareness programs (radio, TV, newspapers). Ag Extension staff also conducted 85 vegetable gardening and marketing projects. Established 80 vegetable gardens.

Results

In 2011, 28 participants started home-based and small businesses such as sewing shops, arts and crafts shops, cookie shops, vegetables and fruits roadside market stalls. 343 participants continue to grow and sell vegetables as a result of the vegetable gardening and marketing projects.

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 participants securing employment in the private and public sectors

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	28

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

More than 58.3% of American Samoa's families are considered poor and below the U.S. poverty level. Unemployment is about 18%; cost of living is high and more than 50% of average spending goes to food and housing. With per capita income at \$4357, people need to manage family resources wisely and take advantage of economic opportunities to maintain and increase their quality of life.

What has been done

In 2011, F4HN staff conducted 75 entrepreneurial and job readiness workshops, 80 sewing workshops/demonstrations, and 75 arts and crafts workshops/demonstrations, and 5 career shadowing and apprenticeship programs. F4HN staff also hosted 5 (five) 4-H camps, and summer programs; and completed 5 public awareness programs (radio, TV, newspapers). Ag Extension staff also conducted 85 vegetable gardening and marketing projects. Established 80 vegetable gardens.

Results

28 participants secured employment in the private and public sectors. The majority operate their own home-based and small businesses while the rest secured employment with the government and private businesses. Program participants also established 80 vegetable gardens as a family

revenue generating enterprise. 343 participants continued to grow and sell vegetables as a result of the vegetable gardening and marketing project.

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 #5

1. Outcome Measures

Number of people continuing to grow and sell vegetables as a result of the vegetable gardening and marketing project

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	343

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

As reported in 2010, more than 58.3% of American Samoa's families are considered poor and below the U.S. poverty level. Moreover, unemployment is about 18%; cost of living is high and more than 50% of average spending goes to food and housing. With per capita income at \$4357, people need to manage family resources wisely.

What has been done

In 2011, F4HN staff conducted 75 entrepreneurial and job readiness workshops, 80 sewing workshops/demonstrations, and 75 arts and crafts workshops/demonstrations. F4HN staff also hosted 5 (five) 4-H camps, and summer programs; and completed 5 public awareness programs (radio, TV, newspapers). Ag Extension staff also conducted 85 vegetable gardening and marketing projects. Established 80 vegetable gardens.

Results

In 2011, 28 participants started home-based and small businesses such as sewing shops, arts and crafts shops, cookie shops, vegetables and fruits roadside market stalls. 343 participants continue to grow and sell vegetables as a result of the vegetable gardening and marketing projects. Program participants acquired knowledge and developed skills in vegetable production and marketing that resulted in the establishment of 80 vegetable gardens, which served as family revenue generating enterprises.

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 #6

1. Outcome Measures

Number of program participants that improved parent and children relationship

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	378

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

As reported in 2010, resource management (poverty), parenting, culture, and youth at risk issues are major areas of concern in American Samoa. More specifically, parent and child relationship is a critical issue in American Samoa. Lack of supervision for children and youth due to working or absent parents continued to be a major concern. Therefore, providing programs and resources to help parents become better parents and for the children to remain respectful of their parents are necessary.

What has been done

In 2011, F4HN staff conducted 75 parenting and character counts workshops and 53 youth at risk issues workshops. F4HN staff also completed 5 public awareness programs (radio, TV, newspapers) on parenting, youth character, youth at risk issues, and other topics.

Results

378 program participants improved parent and children relationships. Similar to 2010, appreciation and respect for parents by the children were reported. Moreover parents acquired knowledge and developed skills to improve relationship and in handling and raising children especially those who were born and raised outside of American Samoa.

4. Associated Knowledge Areas

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

Outcome #7

1. Outcome Measures

Number of program clients that developed a sense of pride and appreciation of the Samoan culture

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	1315

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

As reported in 2010, American Samoan families are becoming more westernized and are forced to reconcile their traditional culture of respect for elders and communal living with the often directly opposite western value of individualism. Attitudes toward the Samoan culture or fa'a Samoa are changing and that people are losing their perspective and respect for high moral standards and ethical conduct. Therefore, providing learning opportunities to preserve the Samoan culture, language, and family values via 4-H and Family & Consumer Science programs need to be continued.

What has been done

In 2011, F4HN staff conducted 75 Samoan cultural workshops and demonstrations 75 parenting and character counts workshops, and 53 youth at risk issues workshops. F4HN staff also completed 5 public awareness programs (radio, TV, newspapers) on Samoan culture and language, parenting, youth character, youth at risk issues, and other topics.

Results

1315 program clients developed a sense of pride and appreciation of the Samoan culture. Similar to 2010, many youth developed a sense of identity and affiliation. Moreover, participants acquired knowledge and develop skills in traditional customs, Samoan language, entertainment/performances (songs and dances), arts and handicrafts, sports, social norms and values, and other related topics.

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 #8

1. Outcome Measures

Number of program clients that became self-reliant, productive, and contributing members of the society

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	667

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Similar to 2010, resource management, parenting, culture, and youth at risk issues continued to be the major areas of concern in American Samoa. People need to: manage family resources wisely; become better parents and for the children to remain respectful of their parents; provide learning opportunities to preserve the Samoan culture, language, and family values; and opportunities to help youth make a smooth transition from youth at risk behaviors to becoming

self-reliant, productive, and contributing members of the society.

What has been done

In 2011, F4HN staff conducted 75 entrepreneurial and job readiness workshops, 80 sewing workshops, 75 arts and crafts workshops, 75 parenting and character counts workshops, 53 youth at risk issues workshops, 75 Samoan cultural workshops. Moreover, F4HN staff hosted 5 (five) 4-H camps, and summer programs; and completed 5 public awareness programs (radio, TV, newspapers). Ag Extension staff also conducted 85 vegetable gardening and marketing projects. Established 80 vegetable gardens.

Results

667 program clients became self-reliant, productive, and contributing members of the society.

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 #9

1. Outcome Measures

Number of program clients that made successful transition from youth at risk behaviors to clean, healthy, and esteemed lifestyles

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2011	719

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The American Samoa 2007 Youth Risk Behavior Survey of 3,625 high school students in six public high schools reported: 22.2% of the students carried a weapon, 56.8% tried cigarette smoking, 46.6% drank alcohol, 17.6% used marijuana, 32.0% had sexual intercourse, and 19.6%

attempted suicide. Addressing the youth at risk issues will help the youth of American Samoa become productive, self-reliant, and contributing members of the community.

What has been done

In 2011, F4HN staff conducted 75 entrepreneurial and job readiness workshops, 80 sewing workshops, 75 arts and crafts workshops, 75 parenting and character counts workshops, 53 youth at risk issues workshops, 75 Samoan cultural workshops. Moreover, F4HN staff hosted 5 (five) 4-H camps, and summer programs; and completed 5 public awareness programs (radio, TV, newspapers). Ag Extension staff also conducted 85 vegetable gardening and marketing projects.

Results

In 2011, 719 program participants made successful transition from youth at risk behaviors to clean, healthy, and esteemed lifestyles. Similar to 2010, participants acquired knowledge and developed skills in dealing with youth at risk issues; and some participants served as ambassadors in spreading the news to their peers and friends about the negative impacts of youth at risk behaviors.

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
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Other (Staff Recruitment, Culture)

Brief Explanation

The impacts of the September 29, 2009 earthquake and tsunami delayed and/or cancelled program activities.

In the process of recruiting for: Parenting Specialist, Community Nutritionist, Exercise Physiologist, Fruit Tree Specialist, Horticulturalist, Marketing Specialist, and FCS and 4-H Specialists and Agents.

Delay in recruiting staff reduced program capacity.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Clients reported that CNR staff are doing a very good job with the "Basic Sewing Programn." Clients learned to operate the sewing machines, use the patterns, and take the basic measurements. Many program participants are saving money by sewing their own family members' clothes. Some of the participants purchased sewing machines and initiated the process of starting their own sewing businesses. However, participants requested to extend the program duration from three months to five months per group. Residents of the Manu'a islands requested the sewing program to be extended to their islands. One Sewing Instructor is not enough to meet the demand from the community. Additional FCS Agents, vehicles, and equipments are needed to effectively deliver the sewing programs to the clients.

Clients also requested CNR to organize fashion shows to display their work and accomplishments.

Overall, clients reported that CNR staff members are doing a good job in the 4-H program areas.

Clients are grateful for the 4-H program especially for helping the young people learned more about their culture, resource managment, entrepreneurship, traditional arts and crafts, peer pressure, teen pregnancy, other areas, and in developing the essential life skills.

However, 4-H Agents need to be more visible in the community and need to do more programs in the schools, villages, and in the Manu'a islands. CNR need more 4-H Specialists (qualified staff), staff development capacity building opportunities, vehicles, materials and supplies, and technologies to develop, implement, and deliver programs to the communities. .

Key Items of Evaluation