

AMERICAN SAMOA

FY 2005 - 2006

PLAN OF WORK Update

Submitted by the
American Samoa Community College
Division of
Community and Natural Resources

INTRODUCTION

Overview of the Plan of Work

American Samoa Community College (ASCC) Division of Community and Natural Resources (CNR) is submitting a joint Extension and Research Plan of Work. This plan will focus on the Hatch, Smith Lever and McIntire Stennis funds that the college has been receiving for several years. The Smith Lever 3-(d) funds will not be included in this report; however, 3-(d) reports are submitted to the appropriate agency unit.

ASCC has 1862 land grant status. As a territory, the multistate and integrated research and extension activities follow the guidelines for the territories. However, there are joint research and extension projects involving American Samoa and the American Pacific through ADAP (Agricultural Development in the American Pacific, which receives funding through USDA) projects. ASCC submits their reports for these grants to the project principal investigator who in turn passes them on to the sponsoring agency.

Overview of American Samoa

The Land, the People and the Culture

American Samoa is an unincorporated, unorganized territory of the United States of America. (This language reflects the legal description.) It is the only American soil south of the equator. It is comprised of five mountainous, volcanic islands and two coral atolls in the South Pacific Ocean between 11 and 14 degrees south latitude and 168 and 171 degrees west longitude. The main island of Tutuila is approximately 2,300 miles southwest of Hawaii and approximately 1,600 miles northeast of New Zealand. American Samoa lies just east of the International Dateline and is six time zones behind Washington, DC (assuming EST).

The total landmass of the territory is approximately 76 square miles (48,767 acres) with Tutuila being the largest island of 49 square miles. The Manu'a group comprises 22 square miles with Rose and Swain Atolls being about 1 square mile each. Two-thirds of the five volcanic islands have slopes greater than 30%, which are covered by paleotropical rain forest and surrounded by the fringing coral reef, extending in some areas to 2,000 feet off shore. The climate is hot and humid with over 200 inches of rain annually. American Samoa is subject to periodic hurricanes. Hurricanes Ofa and Val devastated the territory in 1990 and 1991 with sustained winds of over 120 miles per hour, and Heta struck the territory in January 2004 causing an estimated \$150 million in damage. The winds blew at the rate of 165 to 170 miles per hour, damaged 70% of residents' homes and devastated approximately 50% of agricultural development and rainforest.

The National Park of American Samoa, America's newest and least known park, is a wild, scenic rainforest and coral reef area that is spread across the three islands of Tutuila, Ofu, and Ta'u. These three units of the park total nearly 9,000 acres with about 1,000 of these acres

being offshore water extending to the edge of the coral reefs. Unlike more traditional national parks where the federal government owns and manages the land, all lands in the National Park of American Samoa are leased from nine villages and the American Samoa government. Traditional, subsistence farming is allowed within the park. The park consists of superb native rainforest extending from the ocean's edge up to the mountaintops in the misty cloud forests. There are miles of some of the most spectacular shoreline on earth. In addition to long white sand beaches with overhanging palm trees, there are cliffs and secluded coves, which overlook the tropical blue ocean and fringing reef. The national park also provides important habitat for two species of flying foxes (fruit bats), which act as major pollinators of rainforest plants.

The population has almost doubled in the last 30 years to about 60,000 people. The population density in 1995 was 736 per square mile. The population is 88.2% Samoan with the median age being 21. The minimum wage set in October 1998, ranges from \$2.57 for miscellaneous activities to \$3.87 for shipping and transportation. In 1996, 13,949 people were employed with over 5,000 being employed by the Government of American Samoa and 4,542 by the two canneries. The unemployment rate is 5.2. 61% of the population lives at or below the poverty line.

While the canneries provide jobs, the jobs are not considered desirable to many people. Most of those persons employed in the entry level positions at the canneries are (Western) Samoan nationals.

Samoan is the first language of the vast majority of the population and is widely spoken. Business and education are conducted in the English language, and most people speak English. The Samoan culture is still intact in spite of foreign influence. The society is communal and organized into extended family units (*aiga*) headed by a chief (*matai*). Approximately 80% of the land is communal land. The use of this land is determined by the *matai* who decides where houses and farms are placed as well as who has access to them.

The traditional Samoan *fale* or house (open room with no windows or doors) is being replaced by more western style housing. Families tend to be larger than in the States and extended family members live together. Families and family members tend to be somewhat mobile. (Western) Samoans move to American Samoa for better jobs, and American Samoans move to the States for better jobs. Children are sometimes sent to live with relatives in the states to receive a better education or are sent from the states to American Samoa to learn about their culture. Children are sent in both directions to resolve behavior problems. There is speculation that the street-wise gang members returning to Tutuila are having a negative influence on those children who have never left the island and who know nothing other than life on a small island under strong village control. The military is the occupation of choice for many high school graduates. Many young people see the service as their chance to "get off the Rock". There are a large number of American Samoans serving in the military, and many retired military return to the islands after completing their 20 years of service.

Infrastructure

American Samoa is small in both landmass and population compared to the United States. The goods and services available are more in line with small U.S. towns. Many of the differences in the goods reflect cultural needs (packages of ground *ava*, or kava) and local preferences (canned mackerel). Since few goods are locally produced, including food, the island is dependent on the shipping lines and airfreight. There are four West Coast ships a month and one airfreight each week. Other ships arrive from Asia and the South Pacific. Delays in shipping results in shortages of specific food items. The few importers on the island determine the goods available, including the variety of food. The meats are either frozen or canned and tend to be the fatty, less desirable cuts (mutton flaps, turkey tails, chuck beef). There is limited local meat produced. Most people have chickens and use them for their own consumption. Piggeries are common throughout the island. The pig is an important food in the culture and is produced for family use at *fa'alavelave* (weddings, funerals and other ceremonies) rather than as a commodity to be sold. There are a few commercial egg operations. Fresh eggs are preferred over the imported eggs and cost much more. The fresh produce that arrives by ship on a regular basis includes potatoes, carrots, cabbage, apples, oranges, onions and garlic. These types of foods can withstand the long transit times of at least two weeks at sea plus land transportation and loading and unloading. Airfreight produce variety is much broader given the short shipping time. Leafy greens, strawberries, grapes, peaches and plums are among the foods commonly seen. These foods cost much more due to the \$1.00 per pound airfreight shipping cost vs. the \$2,900 cost of a 20-foot container. Local produce is also sold in the grocery stores but is more commonly found on the roadside stands and the local market. Chinese cabbage, long beans, cucumbers, eggplant, banana (green and ripe), coconuts (drinking and mature), taro, giant taro, and papayas are abundant. Tomatoes, green peppers, pumpkin, hot peppers and watercress can be bought on less regular basis. Pineapples are plentiful when in season. Mangos are popular, but are difficult to find for sale.

The government provides and subsidizes practically all of the medical services through the LBJ Tropical Medical Center and five Public Health Clinics on three islands. Residents pay \$5.00 per doctor's visit, \$5.00 per prescription, \$7.50 each day for hospitalization. Surgery and medical tests are not included in the visit/hospitalization fees. There are three private part-time clinics, one each for medical, dental and eye care. All medical testing and prescriptions are provided through the hospital and are somewhat limited. Many persons have to be referred off-island for treatment, which greatly increases the cost of health care.

The main island of Tutuila is long and narrow. There is a main road traveling east to west on the south side of the island with across the mountain roads to the north side at several points on the island. Most of the population lives on the south side of the island primarily at the western end. The roads are two lanes with no stoplights and 25 MPH speed limit. There are very few places on the island where there are alternate routes. The main road is very scenic with much of it along the ocean on one side and mountains on the other.

Hawaiian Air and Aloha Air provide two flights each per week to Honolulu. Flights to the U.S mainland are available from there. It is a five-hour flight to Honolulu and another five hours on to the mainland. Flights leave Pago Pago about midnight arriving in Honolulu early in

the morning. Persons traveling to destinations within the Pacific or Mountain Time Zones can continue their journeys with a couple of hours of layover time. Those traveling further east have a second night of flying or overnight on the West Coast. The flights dictate travel schedules and normally add a few days of down time to off-island business meetings. During peak travel times, it can take up to four weeks to get a confirmed reservation on a flight. Recently, 200 people were wait listed at Honolulu Air Port for a flight to Pago Pago. Passengers get priority on flights and the mail is left behind both here and in Honolulu. Problems with the mail have been alleviated with the advent of the fax machine and Internet. However, the demand for Internet has outstripped the local ISP's ability to provide consistent service.

The Government and the College

The Government of American Samoa has an elected governor, lieutenant governor, non-voting congressional delegate, and House of Representatives. The Senate is selected from among traditional leaders in accordance with cultural practices. U.S. citizens and nationals are eligible to vote.

The American Samoa Community College (ASCC) was founded in 1970. The college offers Associate of Arts and Associate of Science Degrees. The college has an enrollment of about 1,000 students and graduates about 200 students each year. The college is a semi-autonomous government institution accredited by the Western Association. In 1992, legislation was passed tying local funding to student FTE. ASCC received Land Grant Status in 1981. Instead of receiving a grant of land, the college received a \$3 million endowment. The interest from the endowment has been the source of local matching funds. The new requirements for matching formula funds with non-Federal funds will be difficult to meet. The interest from the endowment does not generate enough money to meet matching needs, and the government has never appropriated local funds for the match.

The organization of ASCC and the CNR are based on U.S. models. Under the western appearance is the reality that this is Samoa. Titleholders or *matai* as well as older persons command respect and have authority within the social context. In this communal society, people work closely together and share resources. Understanding and working with the culture facilitates achieving program goals.

CNR is organized with a research and an extension unit. Research areas include water quality, entomology, plant pathology, forestry and agricultural economics. Extension has programs in agriculture, forestry, families, 4-H and nutrition. Research is conducted in both on station and in the villages. A family is in a land dispute with ASCC over the college boundary. The disputed land is being used for research plots, the piggery, and the fruit orchard. If the college loses the land case, the loss of research station land will negatively affect projects. Extension programs are village based with the exception of the 4-H in school programs. Extension program organization is often done through the Office of Samoan Affairs, a *matai*, minister, *faletua* (*matai* or minister's wife) or request from clients. Most of the programming occurs during normal working hours. After work, families are busy with village, home, and

church activities. There are few requests for after-hours programs; however, such requests are honored.

Staff

There are 52 budgeted positions, with 48 current staff members. These budgeted posts include the broad spectrum from researchers and extension agents to administrative assistants and grounds keepers. Forty-one of the staff members are Samoan and the remaining seven are expatriates (Americans). The educational levels of the staff include six with Ph.D, three MA/MS, eight BA/BS and eight AA/AS degrees. Of the 17 with bachelor degrees and higher, ten have at least one degree in agriculture/life sciences, one in family and consumer sciences, one in Adult and Occupational Education, one in Educational Administration. one in business, one in humanics, and one in computer science. While none of the local staff have completed a graduate degree, there is ADAP (Agricultural Development in the American Pacific) funding available for these studies. In the past ten years, four of the staff members completed undergraduate degrees. All but one has since retired or transferred to other units of the college. During the summer of 1998, a staff member was chosen to participate in the USDA Summer Fellows Program. There is currently a staff member studying for his master's degree on the mainland with two other staff currently pursuing master's degrees through on-line programs. ADAP funding will continue to be used to send one staff member each year to pursue bachelor or graduate studies.

Staffing is a problem at the researcher and program manager levels. These positions require more technical competence than is available locally. In the past, off-island contract persons have terminated before their contracts expired. This type of turnover is disruptive to the program. Hiring off-island is a lengthy process and takes six months under the best circumstances. Living in American Samoa is not exactly the same as living in America and some staff members and their families cannot make the adjustment. The low salaries further hamper off-island recruiting. The high end of the salary scale for faculty/researchers is the mid-\$30,000 range.

Several of the staff members were involved in writing and contributing to this POW. Those persons in supervisory roles met with their staff for input. The supervisors formed the writing team. There was collaboration among research and extension as well as across the discipline areas of agriculture, forestry, and families, 4-H and nutrition. Due to the comprehensive approach of the process, more of the staff feels ownership in the plan. In addition, they are discussing how their day-to-day work fits into the plan.

Goal 1: An agricultural system that is highly competitive in the global economy. TK through research and education, empower the agricultural system with knowledge that will improve competitiveness in domestic production, processing, and marketing.

EXTENSION/RESEARCH

a. Statement of the Issue

Given the landmass of 76 square miles of which two-thirds have slopes greater than 30% and a population of 60,000 people, and an annual growth rate of 3.7%, it is doubtful that American Samoa will ever be competitive in a global economy. However, we can reduce our dependence on imported foods. Many of the traditional crops, such as taro, giant taro, and green bananas, are imported from the Independent State of Samoa. There are also continuing increases in imports from other Pacific Islands, including Niue, Tonga, and Fiji. Tomatoes, broccoli, cauliflower, leafy greens, and beans are imported from the United States. The 1996 statistics compiled by the American Samoa Department of Commerce has revealed that green bananas and taro accounted for \$283,639 of food imports, while fresh vegetables accounted for \$691,177(update). These figures indicate an enormous demand for these food items. All of the locally grown produce is subject to plant pests and diseases. Vegetables that grow well in the United States face the additional obstacle of the hot and humid climate.

Agriculture is very much a part of Samoan society. Crops are harvested on special occasions, and are important staples in nearly all-household diets. Farming basically reflects a form of agroforestry, in addition to the production of tropical vegetables. Many local farmers have not obtained increased yields and reduced inputs per unit for a variety of reasons. The major factors are small land area, resistance to new ideas, and inadequate capital. Extension education is a promising approach to provide guidance and awareness to the farming community. Many farmers learn and adopt management skills and marketing knowledge through non-formal instruction. Efforts by extension to increase agricultural production have been supported by an overwhelming number of farmers who contributed to this attempt.

There is a great need for research in the areas of IPM, plant health, agricultural marketing and plant performance that is specific to American Samoa. On-going research is currently addressing banana scab moth and vegetable insect control and attempts to reduce chemical inputs into crops, thus reducing marketing costs. However, research is hampered by a lack of qualified and trained staff.

Because of the high rainfall, high humidity and 12 month growing season here in American Samoa, there is a continued need for research in areas of IPM, plant nutrition, alternative cropping systems and cultivar selections (for fruit, vegetable, flower, medicinal, and traditional crops). Because of population pressures on land use, farming is progressively moving up the mountain slopes. Soil conservation practices and the amount of soil erosion need to be assessed, quantified and compared with the RUSLE equation to 1) determine if the soil loss equation as revised, is applicable for high rainfall areas, and 2) develop sound soil conservation practices to recommend to farmers cultivating the mountain slopes.

To address the marketing problem, in the past 3 years, the American Samoa Marketing Directory was published and updated five times identifying for the farming community the businesses that purchase local agriculture produce and value added products, along with the contact person's name and phone number. In addition, the American Samoa Local Producers' Directory was published and updated five times as a companion publication, identifying for the business managers/owners, the local producers, their contact phone numbers and what is available from them. The usefulness of these two directories was evaluated in March 2003. Using a Likert scale 1 – 4 (1-not useful, 4-very useful), the users rated the directories' usefulness at 3.6 and 3.7 for the Local Producers' and Marketing directories respectively. CES will continue to work in updating these directories with information provided by various American Samoa Government departments and agriculture extension.

After the farmers grow their crops, marketing is often an issue. Outlets are not stable, farmers cannot always meet the larger clients' demand (tuna fishing fleets, hotels, restaurants, and the School Lunch Program), and farmers do not always feel that produce should meet a minimum standard.

Animal production, including layer chickens and pigs, is of minor importance commercially, but is very important within the culture of American Samoa. The predominant animal in Samoan culture is the pig. Even though imported pork is far cheaper than locally produced pork and there are no slaughter facilities on the island, many Samoan families keep a few pigs for cultural functions and status. Cooperative Extension Services (CES) will continue to advise local producers about better management techniques, local feedstuffs, and the provision of improved swine breeding stock through selection and artificial insemination projects.

Stakeholder input was obtained through farm visitation, farmers' office visitation, farmer call-ins, and farmers' group meetings. The stakeholders recommended that the following topics be addressed: traditional crop production and vegetable gardening; marketing of local produce; record-keeping; farm financing/grants; swine production and management; improved seeds and seedling production; technical assistance; planting materials and improved cultivars (taro, banana, giant taro and vegetable seeds); improved boars for breeding; an on-island slaughter house; meat processing and curing; crop and vegetable processing; pests and diseases of crops/vegetables; farm tools and equipment; pesticides and fertilizers; tree production for firewood; windbreak; contour hedgerows; ocean mist barrier and soil improvement; farmer training in all needed areas; and transportation of produce from Manu'a islands. The proposed plan of work reflects these inputs, with the exception of the slaughter house, as that is not within our capabilities at this time.

A. Performance Goal

- To determine why farmers are not fully exploiting local markets.
- To increase farmers' awareness of local markets by increasing publications, demonstrations and workshops conducted by Cooperative Extension Services by 20% per annum.

B. Key program Component

- CES efforts will focus on stakeholder inputs and on-going farmer contact activities in collaboration with internal and external affiliations as stated in goals 3, 4, and 5. Programs will be designed to minimize any clashes with cultural values to insure full execution to meet expected goals. CES will put more emphasis on the production and management in which marketing is strongly stressed. The following is a synopsis of on-going and proposed involvement for the next two years:

Outreach Programs

0. Extension Education
 - . Pesticide Applicator Safety Training (PAST)
 - a. Swine Production/Management Training
 - b. Traditional Crop Production/Management Training
 - c. Vegetable Production/Management Training
 - d. Risk Management Training
 - e. Fruit-tree Improvement Training
1. Information Dissemination
 - . Farm Visitation
 - a. School “Career Day” Presentations
 - b. Television Agricultural Programs/News Spots
 - c. Production and Distribution of FactSheets/Brochures/Pamphlets
 - d. Newspaper Articles
 - e. Publication of American Samoa Marketing & Local Producers’ Directories
 - f. Research Station and On-farm (Village) Demonstrations
2. Community Service and Special Projects
 - . Community Vegetable Garden Plots
 - a. Seedling Production
 - b. Taro, Giant Taro, and Banana Multiplication for Planting Materials
 - c. Diabetic Group Vegetable Gardening
 - d. Elementary and High School Forestry Project/Vegetable Production
 - e. Special Education Forestry Project/Vegetable Gardening
 - f. Small Business/Marketing Assistance
 - g. Technical assistance to ANA Grant Recipients
 - h. Star Kist Samoa Health and Safety Fair
 - i. Farmers’ Cooperatives Monthly Meetings
 - j. Advising for School Science Fair Projects
 - k. Advising Recipients of Veterans Financial Assistance Program for the Disabled
 - l. WSARE assistance
 - m. Value-added/niche marketing assistance
 - n. Swine Waste Management

Research:

Research addresses agricultural and environmental problems including crop production; identification and control of arthropod pests, weeds, and diseases; forestry issues, water quality, and agricultural economics. Specific areas to be addressed include:

0. Integrated Pest Management Program
 1. Plant Pest and Disease Clinic
 2. Plant Tissue Culture Laboratory
 3. Plant-parasitic nematodes
 4. Banana scab moth
 5. Black leaf streak disease
 6. Taro leaf blight disease
 7. Banana bunchy top disease
 8. Pest surveys
 9. Cultivar selection: traditional crops, vegetable crops, medicinal crops, fruit crops, flower crops
 10. Alternative cultivation methods: hydroponic tomatoes
 11. Soil erosion: comparative soil loss assessment of different cropping systems—no-till, contour planting, tilled and terraced planting, contour hedgerows and vegetative barriers.
 12. Native seedling establishment for tropical silviculture

C. Internal and External Linkages

- Cooperative Extension Service works cooperatively with the Agriculture Experiment Station to provide technical assistance to the farming community on both internal and external collaborations with other institutions.
- CES works with Land Grant Research to disseminate new information to farmers.
- External linkages include the following:
 0. ADAP
 1. SARE
 2. American Samoa Department of Education
 3. American Samoa Department of Agriculture
 4. American Samoa Chamber of Commerce
 5. Public Health
 6. Starkist Samoa
 7. Samoan Affairs Office
 8. Association for Native Americans
 9. Veterans Financial Assistance Program
 10. American Samoa Environment Protection Agency
 11. Department of Marine and Wildlife Resources
 12. American Samoa Resource Conservation and Development Council, Inc.
 13. American Samoa Small Business Development Center

14. American Samoa Women's Business Center
15. USDA Natural Resources Conservation Service
16. USDA Farm Services Agency
17. Le-Tausagi Environmental Group
18. American Samoa Historic Preservation Office
19. Village Councils/Churches
20. South Pacific Commission Trees/Forests Program (SPC-TFP)
21. South Pacific Regional Environmental Program (SPREP)
22. American Samoa Historic Preservation Office
23. Village councils/churches
24. Secretariat of the Pacific Community Trees/Forests Program (SPC-TFP)
25. South Pacific Regional Environmental Program (SPREP)

D. Target Audiences

- CES attempts to reach the subsistence and commercial farmers of American Samoa. CES will focus on the following groups as well: private and commercial pesticide applicators, diabetic and disabled groups, Association for Native Americans' groups, farmers' cooperatives, Early Childhood Education centers, schools, home economics and EFNEP groups, 4-H clubs and church groups.

E. Evaluation Framework

- Evaluation of each proposed program will depend on the nature of activities. Quarterly accomplishment reports will be able to reflect changes in each program from time to time. However, emphasis will be given to the following methodologies for data collection:
 - . Through farm visitations, the agents will document the actual count of farmers adopting new practices or technology.
 - a. Participation on non-formal education will be based on actual count.
 - b. Television programs and materials will be based on actual count. Feedback from farmers on the impact of materials on their production and material will be recorded.
 - c. Farm visitation reports will document actual count of new farmers; exiting ones that continue to expand their production will also be documented.
 - d. Actual count of non-government organizations that join in an effort to promote the production of crops and vegetables will be recorded. Actual count of individual members in a group will also be considered.
 - e. A survey will be done to determine the number of farmers who receive financial assistance.
 - f. A survey through farm visitation will be conducted to find out those who actually keep good records of their production.
 - g. Actual count of market options will be recorded.
 - h. Actual count of new processing businesses as a result of expanding markets will be recorded.

F. Output Indicators

Indicator 1. Forestry input for POW changes and additions

Total number of farmers completing all non-formal education programs and presentations, and adopting new practice or technology on an annual basis.

Year	# completing Non-formal educ. Prog		# adopting practice or technology	
	Target	Actual	Target	Actual
Baseline				
2005	280		95	
2006	300		100	

Indicator 2. Forestry input for POW changes and additions

Total number of materials, including newspaper articles, fact sheets/pamphlets, and television programs produced on topics related to improving productivity and global competitiveness.

Year	# of materials	
	Target	Actual
Baseline		
2005	50	
2006	59	

Indicator 3. Forestry input for POW changes and additions

Total number of organizations/groups given assistance in developing gardens.

Year	# of groups	
	Target	Actual
Baseline		
2005	8	
2006	9	

Indicator 4. Forestry input for POW changes and additions

Total number of farmers receiving financial assistance to develop existing enterprise and increase production.

Year	# of financial aid recipients	
	Target	Actual
Baseline		
2005	12	
2006	20	

G. Outcome Indicators

- Assessment of these programs will be made by surveying farmers and community groups to determine how they have implemented the information or assistance given to them. After completing non-formal education programs, a survey will be done of farmers to ascertain whether they are adopting new practices and technologies.
- Research on current attitudes towards marketing produce will be compiled from interview results, enabling CES to better assist farmers in marketing their crops. Attempts will be made to monitor changes in production outputs.

H. Program Duration

- Long term (over two years)

I. Allocated Resources

The allocated resources are based on the approved ASCC Final Budget FY 2004 of \$1,644,500. Funds from other sources are not included. Payroll, employee benefits and other fixed costs are about \$1,494,500 with \$149,500 for equipment, materials and supplies to support the programs and projects.

Human resources include researchers, extension agents, research assistants, extension assistants directly involved in programming; and the administrative, clerical, and farm staff who offer support to the those persons and projects. The primary responsibility for this goal is that of the agriculture research and the agriculture extension units.

Fiscal resource expenditures include payroll for research, extension, and supporting staff; fixed costs; materials, supplies, and equipment to support research and extension projects and programs in producing and marketing local produce. In addition, funds will be spent on both local and off-island training to support the staff in carrying out their programs.

Goal 2: A safe and secure food and fiber system. To ensure an adequate food and fiber supply and food safety through improved science based detection, surveillance, prevention, and education.

EXTENSION

The programming for this goal in American Samoa is covered under EFNEP (Expanded Food and Nutrition Education Program). Since there are no formula funds used for this goal, this goal is not being addressed in this plan. The EFNEP report will include proposed activities and accomplishments for food safety education. At this point in time, there are no researchers having responsibilities relating to food safety and food security.

Food safety standards are not the same in American Samoa as in the states. Food safety education through EFNEP is making good progress, but there are problems that education cannot totally change. The Department of Public Health is responsible for enforcing food safety laws in

the territory and certifying food handlers. There is no food safety education required to receive a food handler's card. Not all food safety regulations are enforced. It is common to find foods in the grocery store past the pull dates. Often, frozen foods are stored in the aisles. Locally made egg and tuna sandwiches, hot dogs and hamburgers are displayed on the grocery store counter. When preparing meats for a large crowd of people, it is common practice to thaw the frozen meat (most of the meat is imported and very little of it is fresh) in large plastic containers with marinade overnight for cooking the next day. After the meat is cooked, it is plated and sits at room temperature until served.

The incident of food borne illnesses is compiled by the LBJ Tropical Medical Center. Other than LBJ, there is only one after-hours private clinic staffed by LBJ doctors. Given the way food is handled, it is very likely that the 1,299 cases of unspecified diarrhea reported in 1994 (latest records available) were due to improper food handling. Certainly, the 14 cases of salmonellosis and six cases of food poisoning reported by LBJ can be attributed to improper food handling. There are many cases of food borne illness that are self treated and therefore are not accounted for by the hospital with the identified cases are the tip of the iceberg.

While EFNEP provides food safety education for homemakers and youth, it also reaches additional adults and youth as well as day care providers, school food service personnel, and restaurant workers. Families, 4-H Youth Development and Nutrition Program has achieved good working relationships with the restaurants in spite of the fact that food safety education is not required for food handling certification. The restaurants normally allow instruction for their employees on "company time".

Goal 3: A healthy, well-nourished population. Through research and education on nutrition and development of more nutritious foods, enable people to make health promoting choices.

A. Statement of the Issue

Health and the well-being of the nation including good nutrition is an essential component of health. The life span in American Samoa is more than five years shorter than in the United States. There are many diet-related diseases in American Samoa. A study conducted by McGarvy et. al. in 1990 reported that 83.6% of males and 87.5% of females were overweight with the prevalence of severe over weight being 66.3% and 64.0% respectively. He also found that the number of overweight persons had increased from a study conducted in 1976-1978. The numbers have increased over the years. Obesity contributes to the high rates of heart disease, diabetes, hypertension and gout that are so widespread here.

The traditional culture in American Samoa is still intact. In this communal society, people share food with others. There are federal food programs such as WIC (Women, Infants, and Children) and food stamps (for low-income, blind, disabled, and elderly,) which together benefits about 7,500 individuals. Normally, the food benefits are shared within family groups. Almost everyone has access to food, though individuals may not be well nourished.

Most of the food consumed is imported. Taro has traditionally been the staple starch crop. This crop was destroyed by two hurricanes in the early 1990's. A few years later, taro leaf blight decimated the local taro production. Resistant varieties have since replaced the local traditional taro varieties. While taro has made a comeback, rice has replaced taro in many diets. Rice is less expensive and easier to prepare, but it is lower in fiber, calcium and iron. The traditional diet consisted of fish, pork, chicken, root crops, greens, and fruit with coconut cream for flavor. Today, animal protein and starches make up most of the diet. Fatty, salty meats like turkey tails, mutton flaps, chicken legs, pork, salt beef and canned corned beef are consumed in large quantities. Canned mackerel and canned tuna are also favorite foods. Fresh seafood is still widely consumed including octopus, eel, sea urchin and other types of fish and shellfish not found in state side seafood markets. The main starch sources are green bananas, white rice, breadfruit, *taamu* (giant taro), taro, white bread, and products made from white flour. Coconut cream, butter, oil and lard are used for flavoring and cooking. Eggs, dairy products, fruits and vegetables are used occasionally. Soft drinks and fatty snack foods are also prevalent in the diet. Over the last two or three years, three major franchised fast-food establishments have opened and continue to have an abundance of customers.

The most abundant locally grown vegetables are cucumbers, long beans, Chinese cabbage and eggplant. *Pele* (edible hibiscus) is easy to grow and is a good green to add to the diet. Tomatoes, green peppers, pumpkin and watercress are sometime available. Other than Chinese cabbage, much work remains to be done on growing nutrient rich vegetables and developing recipes that would be acceptable to the local community. In addition to vegetables not being widely accepted, those that are consumed are often cooked with meats or flavored with fats. Vegetables are not easy to grow in this tropical climate. Insects, birds, snails, slugs, molds, viruses and rots plague vegetable production. Seeds, fertilizers and insecticides are expensive and not widely available. Diets could be greatly enhanced with the increased production and consumption of locally grown nutrient rich vegetables. Locally grown vegetables and fruits are being purchased by the school food service as well as taro.

Papaya (Esi), banana and pineapple are the most commonly produced and consumed local fruits. Mangos are prized, but in short supply. Guava, olden apple, mountain apple (Nonufi'afi'a) and star fruit (Vineta) are grown but are not widely available. Apples, oranges (moli), pears and grapes are imported and popular with consumers. Both papayas and mangos are good sources of both vitamins A and C. Papayas are easy to grow from seed, produce fruit in a short period of time (one year), and have no season. Promoting papayas would have an immediate impact on the diet. A concerted effort to propagate fruit trees especially mangos, soursops, oranges, limes, and mountain apples would greatly enhance the local diets in the long term.

The EFNEP program is the major nutrition education program of the cooperative extension service in American Samoa. Since it is a 3-d program, the activities for that program do not appear as part of goal three and are reported separately through the EFNEP reporting system. The EFNEP program and its goals are more encompassing than Goal 3. The F4-HN area work under an MOU with the Food Assistance Program to furnish nutrition education to the food stamp clients.

The stakeholders recommended many activities for Goal 3. These ideas are being incorporated into the programming to the extent possible. Their recommendations follow: cooking demonstrations; vegetable gardening workshops; health and nutrition workshops, developing and promoting local vegetable and fruit recipes that are attractive, nutritious and acceptable to youth and families; community garden; radio and TV programs; bazaars, fairs, and field days to allow the target audiences to display project items, compete in related categories and/or sell their produce and products. Additional recommendations were: incorporate vegetable gardening, family and consumer sciences, and health and nutrition in the early childhood and elementary school curriculum; encourage the local school lunch to use locally grown vegetables and fruits for students' meals; encourage food stamp recipients to purchase locally grown vegetables and fruits; design incentive programs to promote vegetable gardening like free seeds, seedlings, tools, fertilizers, and other inputs'; and finally, vegetable projects for villages, churches, youth groups, and other organizations.

B. Performance Goal

- To increase the production and consumption of locally grown nutrient dense fruits and vegetables.

C. Key program Component

- An integrated approach from fruit and vegetable production to incorporating the produce in the diet is needed to help insure that this goal will be met. The nutrient rich produce that is grown locally also needs to become a regular part of the diet. Programs will take place in the villages, schools and appropriate government offices. Television programs newspaper articles and fact sheets will reinforce program messages. Food demonstrations and recipes incorporating the locally grown produce will be one component of the program. Clients will have the opportunity to display their produce and/or prepared food dishes at the end of the program. Use of local produce as part of the food stamp allocation will be promoted with the food stamp recipients. Currently, 30% of the individual food stamp allocation is for purchasing local food products. In-school programs would emphasize the local fruits and vegetable consumption with special emphasis placed on the local produce purchased by the school lunch program. The "Five a Day" campaign for the use of fruits and vegetables will be a major program.
- Extension programs will be offered in the following areas:
 0. Vegetable and Fruit Production
 1. Fruit and Vegetable Selection and Preparation
 2. Nutrient Value of Foods
 3. The use of Fruits and Vegetables in Menu Planning
 4. Proper Storage and Handling of Fruits and Vegetables
 5. Vegetable Production
 6. Plant Clinic
 7. Pest Control
 8. Weed control
 9. Traditional Production Methods

10. Fruit Tree Propagation

- Research projects will be conducted in the following areas
 0. Identification of Vegetables Best Suited for production in American Samoa
 1. Integrated Pest Management of fruits and vegetables
 2. Evaluation of taro leaf blight resistant breeding lines from the South Pacific and Southeast Asia
 3. Propagation and protection of new and traditional plant germplasm through plant tissue culture
 4. Invasive species surveys and surveillance (fruit flies and weeds)
 0. “Nutrition Assesments in Children Living in the Pacific Islands and Obesity Prevention” projects with Hawaii Cooperative Extension.”
- The key component for the success of the program is providing educational opportunities throughout the community on successfully raising local vegetables and fruits and incorporating these foods into the diet. Fact sheets on vegetable and fruit production; pest, disease and weed control; recommended varieties to grow; fruit and vegetable nutrition fact sheets and recipes; Five a Day brochures will be distributed to clients.

D. Internal and External Linkages

- Research/Extension
Research and extension both have a role in this goal. Research will provide the data necessary for variety selection based on conditions in American Samoa as well as methods for pest, weed, and plant disease control. Extension will conduct programming in fruit and vegetable production, fruit tree prorogation, and methods for incorporating fruits and vegetables into the diet.
- Multi-disciplinary
All of the discipline areas (Agriculture; Families, 4-H Youth Development and Nutrition; and Forestry) of the Division of Community and Natural Resources will be involved in this goal area.
- Multi-institutional
Other institutions that will partner with ASCC in this goal are the Department of Agriculture, Department of Education, Public Health Department, National Resources Conversation Service, School Lunch Program, Office of Samoan Affairs, TAOA (Territorial Administration On Aging), Human and Social Services, (WHO) World Health Organization, Church Leaders and Early Childhood Program. Linkages are formed with the agencies based on their mutual interests in fruit and vegetable production and nutrition. In addition, some of these agencies are interested in CNR providing services to their clients.
- Multi-state and Multi-country Activities
Materials developed by ADAP in vegetable production and nutrition will be utilized as well as SPC (Secretariat of the Pacific Community) materials. In addition, research

information on vegetable production between ADAP members and the University of the South Pacific – Alafua, Samoa Campus is exchanged.

E. Target Audiences

- Farmers
- Homemakers
- School Groups
- 4-H Youth
- Village Groups
- Church Groups
- Teachers
- Food Stamp Clients
- WIC Clients
- Sport Groups
- Choirs/Music Groups
- Sport groups
- Choirs/music groups

F. Evaluation Framework

- Prepared pre/post tests, accomplishment reports, enrollment forms, focus groups, media exposure, and visitation reports will be used to the program. The gardens and trees planted, success of the gardens, and the use of the produce will be monitored. Food Recalls will be used to evaluate and observe the fruit and vegetable consumption in a client's diet.

G. Output Indicators

- Number of persons completing vegetable gardening programs.
- Number of persons increasing their knowledge of vegetable gardening.
- Number of new vegetable gardens.
- Number of persons completing fruit production programs.
- Number of new fruit trees planted.
- Number of persons increasing their knowledge of fruit production.
- Number of persons completing fruit and vegetable related food, nutrition, and food safety education programs.
- Number of persons committing to include five vegetables and fruits per day in their diets.
- Number of persons increasing their knowledge of the importance of fruit and vegetable consumption, how to select and prepare, and how to safely handle and store it.
- Number of servings of fruits and vegetables consumed.
- The number and types of fact sheets completed and distributed.
- Types of fruits and vegetables recommended for production as well as recommendations for pest, disease and weed management.

H. Outcome Indicators

- ❑ In assessing the program results to meet this goal, a baseline of what exists needs to be established. The number of currently existing extension client fruit and vegetable gardens will be determined. Enrollment of new clients will be tabulated in order to calculate the increase in fruit and vegetable gardening and production. Simple questionnaires would be used to determine type of produce grown the use of the produce, duration of the gardens, and practices used in gardening. Pretests and posttests would be used to ascertain vegetable gardening knowledge. A six-to twelve-month follow-up would be conducted to ascertain the impact after the program is concluded.
- ❑ Twenty-four hour diet food recalls would be used to determine the levels of fruit and vegetable consumption at the beginning of the program with consumption at the end of the program. Pre-tests and post-tests would be given to determine the increase in knowledge of fruit and vegetable nutrition, purchasing, preparation and safe handling. A six to twelve-month follow-up would be conducted to assess the impact of the program after it is concluded.
- ❑ The number of currently existing fruit and vegetable production fact sheets will be inventoried. New ones added will be counted towards the increase in materials. Changes in recommended fruit and vegetable varieties and methods production, dealing with pests, diseases and weeds will be communicated to all staff participating in the program. These changes will be based on the latest research recommendations. Printed materials would also be updated and translated based on current research.

I. Program Duration

- ❑ Long term (over 2 years)

J. Allocated Resources

The allocated resources are based on the approved ASCC Final Budget FY 2004 of \$1,644,500. Funds from other sources are not included. Payroll, employee benefits and other fixed costs are about \$1,494,500 with \$149,500 for equipment, materials and supplies to support the programs and projects.

Human resources include researchers, extension agents, research assistants, and extension assistants directly involved in programming; and the administrative, clerical, and farm staff who offers support to the projects. The research is limited to agricultural research supporting producing local produce, as there is no nutrition researcher on staff. The prime responsibility for this goal would be the agriculture research staff and the agriculture, and families, 4-H, and nutrition and forestry extension staff.

Fiscal resource expenditures include payroll for research, extension, and supporting staff; fixed costs; materials, supplies, and equipment to support research and extension projects and programming promoting the consumption of local produce to improve health. In addition, funds will be spent on both for local and off-island training to support the staff in carrying out their programs.

Goal 4: Greater harmony between agriculture and the environment. Enhance the quality of the environment through better understanding of and building on agriculture's and forestry's complex links with soil, water, air, and biotic resources.

. Statement of the Issue

The health of American Samoa's natural resources is rapidly deteriorating. Wetland areas have been reduced by more than 25% in the past 40 years; an additional 15% of the United States' only paleotropical rain forest has become "disturbed" during the last 25 years; and several marine and terrestrial species are threatened or endangered.

Over 96% of the Territory's 57,000 people live on the largest island, Tutuila. About 65% of Tutuila's 33,920 acres have a slope greater than 30%, resulting in an effective population density of about 2,500 persons per square mile. This population is increasing at about 2.0%, a decrease from a rate of 3.7% at the 1990 census.

Agriculture is primarily multicrop subsistence farming with coconut, banana, taro, and an assortment of garden vegetables grown for the immediate needs of the family and for use as gifts. Owing to the rough terrain, there is little mechanization. The volcanic soils are fertile and well drained, but long-term use eventually exhausts nitrogen, potassium, and phosphorous. New plantations are periodically established by slashing, but not burning, native or secondary forests. Transportation costs make U.S. manufactured agrochemicals expensive, so many farmers import fertilizers and smuggle in non-USEPA-approved pesticides from the neighboring Independent State of Samoa where they are available at subsidized prices.

Through public education programs, many people are aware of Integrated Pest Management strategies, and of our many successful biological control programs. As a result, some farmers have dramatically reduced their use of insecticides. Herbicides are widely used, but fungicide use is restricted to control of black leaf streak disease on bananas.

Because of our unique situation in the U.S. agricultural system, research results from other institutions are usually only marginally or completely inapplicable to American Samoa. Therefore, most research must be derived locally. Yet our research program is constrained by a shortage of scientists. A low salary scale hampers recruitment, while the retention rate depends in large part upon an individual's ability to adjust to the isolation of island life. Consequently, our few scientists must assume responsibilities for Chapter 3(d) programs (see Section D. below) as we perform Hatch-Act-sponsored research.

Stakeholders repeatedly emphasized a concern that pesticide use should be minimized, primarily because of the lack of effective measures to ensure produce is residue-free. They applauded our focus on biological methods for pest control, and encouraged our continued cooperation with other agencies, especially EPA, in striving toward this goal. They also urged CNR to examine traditional production practices for their efficacy in controlling pests and promoting soil fertility. Finally, although they appreciated the benefits of using biological control

agents, they wished us to strengthen the review process before introducing new organisms into the island environment.

A. Performance Goal

- ❑ To encourage each Hatch Grant recipient to annually publish at least one peer-reviewed paper.
- ❑ To encourage each Hatch Grant recipient to annually produce at least two locally distributed publications and media events designed to increase agricultural producer awareness, understanding, and information regarding the adoption of agricultural production practices that sustain and protect ecosystem integrity and biodiversity.

B. Key Program Components

- ❑ Major research efforts will focus on the ecological interactions occurring in the natural environment or in traditional farming systems in order to quantify short- and long-term indicators of sustainability and to identify internal regulating mechanisms of disease and pest management. In addition, each researcher will participate in a Chapter 3(d) project.

C. Internal and External Linkages

- ❑ We participate in several partnerships for sharing information and resources related to promoting low-input, environmentally being pest and disease management and nutrient cycling practices. They include the following:
 0. Within the Agriculture Experiment Station, Research and Extension staff participate in the following 3(d) programs:
 - a) Sustainable Agriculture Research and Education (SARE)
 - b) Water Quality Initiative
 - c) Integrated Pest Management (IPM)
 - d) Pesticide Applicator Safety Training (PAST)
 1. Forest Service—Forest health, agroforestry, watershed protection, , wetlands, native tree species.
 2. Natural Resources Conservation Service—Soil conservation and protection of riparian areas.
 3. Agriculture Development in the American Pacific Project—A research, extension, and instructional program of USDA/CSREES supporting the Land Grant institutions of the Pacific.
 4. American Samoa Department of Agriculture—Quarantine, regulation enforcement, and promotion of commercial agriculture.
 5. American Samoa Environmental Protection Agency—Water quality and environmental education programs.
 6. American Samoa Department of Commerce—Coastal zone management program.
 7. American Samoa Power Authority—Municipal Water, sewage, and solid waste management.
 8. American Samoa Department of Marine and Wildlife Resources—Fish and wildlife habitat preservation and protection.
 9. U.S. National Park Service—National Park of American Samoa.

10. Pacific Community—a consortium of 12 South Pacific nations working to enhance the economic and social well-being of the people of the South Pacific by fostering cooperation between governments and between international agencies.
11. University of the South Pacific (Alafua, Samoa)—Sharing of information on Taro Leaf Blight research.

D. TARGET AUDIENCES

- Subsistence and commercial growers of American Samoa.

E. EVALUATION FRAMEWORK

- Evaluation of our program will be done by summing the total number of articles published annually, in addition to tracking individual researchers' involvement with CES activities. The Research division will also produce quarterly reports that detail ongoing projects and changes in activities.

F. OUTPUT INDICATORS

- Each researcher will produce at least one publication a year on research results. These may be in refereed journals or as technical reports forwarded to the Pacific Gray Literature Program at the University of Hawaii's Hamilton Library.
- Each researcher will produce at least two publications or participate in at least two events a year for the Cooperative Extension Service. These may include brochures, newspaper articles, demonstrations, TV news spots, and video clips.

G. OUTCOME INDICATORS

- The number of publications produced each scientist-year as reported on CRIS Form AD-421. Recruitment efforts to hire more researchers should reflect an increase in the total number of publications.
- The number of brochures, newspaper articles, demonstrations, TV news spots, or video clips involving each scientist each year, as tabulated by the CES staff. Efforts to hire more researchers and to solicit external partner participation will reflect an increase in the total number of publications, media events, or both.

H. PROGRAM DURATION

- Long-term (over 2 years).

I. ALLOCATED RESOURCES

The allocated resources are based on the approved ASCC Final Budget FY 2004 of \$1,644,500. Funds from other sources are not included. Payroll, employee benefits and other fixed costs are about \$1,494,500 with \$149,500 for equipment, materials and supplies to support the programs and projects.

Human resources include researchers, extension agents, research assistants, extension assistants directly involved in programming and the administrative, clerical, and farm staff that offer support to the projects. The primary responsibility for this goal would be the agriculture and forestry research staff and the agriculture and forestry extension staff. Individuals in these units support projects and programming in environmentally friendly traditional farming and agricultural practices.

Fiscal resource expenditures include on payroll for research, extension, and supporting staff; fixed costs; materials, supplies, and equipment to support research and extension staff in conducting research and delivering extension programs promoting traditional farming and agricultural practices to preserve the environment. In addition, funds would be spent on both for local and off-island training to support the staff in carrying out their programs.

Goal 5: Enhanced economic opportunity and quality of life for Americans. Empower people and communities, through research-based information and education, to address economic and social challenges facing our youth, families, and communities.

A. Statement of the Issue

There are many economic and social challenges that face Samoan families, but there is one theme that seems to underlay almost every issue: the confrontation of two very different cultures. As American Samoa becomes more and more westernized, families and especially youth are forced to reconcile their traditional culture with what they learn in school, what they see on television, and what they hear from peers who have returned from the mainland. The *fa'aSamoa* and the value it puts on respect for elders and communal living often directly conflicts with the western value of individualism. As a result, American Samoans must deal not only with the types of social challenges found in the mainland, but must also attempt to do so in a way that fits into two very different cultures. Youth often bear the brunt of this challenge. The need to help ease the transition is indicated by an increase in juvenile crime of approximately 40 percent between 1995 and 1996, as well as an increase in drug use in the territory, as crystal methamphetamine from the mainland and marijuana became increasingly popular.

American Samoa's population is very young. The median age for the territory is about 21 years, compared to about 33 years for the U.S. In the 2000 census, 19,969 persons (35 percent of the population) were enrolled in school. Approximately 10 percent of elementary school aged children were not in school in 1990. Similarly, about 30 percent of high-school aged

children were not in school. There is a special need for organizations to assist these school-leavers in developing positive economic and life skills.

In addition to the cultural upheaval, American Samoa also faces the challenge of dealing with a rapidly growing population. The population as recorded in the 2000 U.S. Census was 57,291; reflecting an annual growth rate of 2.0%. With only about 76 square miles of land area, American Samoa has a population density of 736 people per square mile, although when steep slopes are accounted for inhabitable land is greatly reduced.

The average family size in 2000 was 6.24 individuals. The median household income for 2000 was \$18,219, resulting in a per capita income of \$4,357. Of the 8,706 families in 2000, 61 percent had incomes below the poverty level as determined by the U.S. Bureau of Census. More than 62.2 percent of families below the poverty level had children less than 18 years of age.

Coupled with low-income levels is the ever-increasing cost of living. Since 1982, the current index registered at 153.8 index points as of the fourth quarter of 1996. This means that the cost of living has increased by close to 54 percent, or an annual average of about 3.8 percent. A single household in American Samoa spent an average of about \$18,318 in 1988 compared to \$12,235 in 1982. More than 50 percent of average spending went to food and housing. Special expenditures such as church donations, customary gifts, and *fa'alavelave* (family affairs, such as funerals, weddings and title investitures) remained a significant portion of Samoan household spending.

A significant source of spending associated with *fa'alavelave* is the necessity for uniforms. Uniforms are needed for many occasions, ranging from church functions to civic organizations, as well as primary and secondary school uniforms. The uniforms cost from \$10.00 to \$30.00 at local sewing shops, not including the fabric and notions. For low-income families, these costs can be difficult to manage. The ability to sew can save the average family hundreds of dollars in sewing costs per year.

Unemployment in American Samoa is estimated at about 5.2%. There are few economic opportunities outside of the local government and the tuna canneries. Emigration to the mainland in search of jobs is common; for those left behind, there is a great need to offer ways to supplement family income.

Families, 4-H & Nutrition (F4HN) Community Survey

The F4HN has made a lot of improvements to include more clients and other community members who never participated in this effort before. A total of 750 adults and 250 youth contributed to the stakeholder input process. The surveys and focused group discussions provided the following program priorities for CNR to address:

- More nutrition education in the school systems with more health fairs including the private schools
- Need Healthy lifestyle programs that include nutrition and activity or exercise
- Develop short financial and parenting programs that can be offered in the villages

- Train the Health teachers in Sexuality Education so they can incorporate it into their curriculum
- Develop a new MOU to offer more training for the child care providers
- Get a stronger youth development program going with a variety of projects, more village clubs and more after school programs (to accommodate students and working parents)
- Continue “Sewing for Kids” after school program and revive basic sewing program
- Strengthen collaboration with other government agencies and civic organizations who do similar programs
- Increase all exposure to the media for community awareness or programs
- Review and reorganize nutrition education for American Samoa to include experiential learning
- Teach more entrepreneurship and home-based business workshops

Families, 4H and Nutrition (F4-HN) Program is now extending to include basic sewing education as a result of many requests. The program “Sewing for Kids” is teaching 10 – 12 year olds to sew and entrepreneur skills to earn money for purchasing their own sewing machines. The schools as well as the village community have a chance to once again enjoy making their own clothing. F4HN anticipates including more civic groups (youths and adults) in the community to get involved in some of the programs. They are taking advantage of the media (TV, radios & newspapers) to promote public awareness and to teach sexuality education and parenting education principles. In fact this process has already begun. The American Samoa Financial Coalition was organized after obtaining the results of the stakeholder input. F4HN keeps adjusting its yearly programs depending on the community need being addressed as a result of program evaluation and stakeholder input contribution.

Our office met with stakeholders in order to gather input about programming that could address some of these social issues. Stakeholders indicated the need to offer programs in the following areas: Youth at Risk issues, Parenting, Entrepreneurship, Home-Based Businesses, Science and Technology, Family Finances, Environmental Education, Samoan Culture and Arts/Crafts, Sewing, *Elei* Fabric Art Printing, Vegetable Gardening, Consumer Education, Child Care, Youth Development, and Indoor Air Quality. They also suggested organizing fairs, bazaars and open houses that would allow youth, homemakers, and other program participants to display and showcase their projects and/or sell their produce and products. The stakeholders recommended that public awareness programs be held, as well as more collaboration with other organizations in program delivery. Inclusion of the Samoan Culture in program development and delivery was strongly recommended.

B. Performance Goal

- To help ease the difficulties created by social transition by increasing workshops in Culture Awareness.
- To increase social stability by increasing workshops in Parenting and sexuality education.
- To increase economic opportunity by increasing the number of Homemakers participating in the following programs:
 - 0. Entrepreneurship
 - 1. Home based businesses
 - 2. Elei Fabric art printing
 - 3. Vegetable gardening
 - 4. Sewing
 - 5. Family Finances
 - 6. Parenting
- To increase social stability by increasing the number of youth participating in the following programs.
 - 0. Drug Abuse
 - 1. Sexuality Education and Teenage Pregnancy Prevention
 - 2. Career Development

Key Program Component (s)

- Programs will be implemented and delivered to the target audiences in schools, villages, churches and other social settings. Partnerships and collaborations with local government and non-government organizations, regional institutions and CSREES-USDA in program development and delivery are key components to the success of the programs. Program Development and delivery must also be consistent and sensitive to the Samoan Culture and traditions. Awareness programs utilizing the mass media and other avenues are important for program publicity and image building.

Programs will be offered in the following content area (s):

- 0. Community Service
- 1. Consumer Education
- 2. Cottage Industry
- 3. *Elei* Fabric Art Printing
- 4. Entrepreneurship
- 5. Environmental Education
- 6. Family Finances
- 7. Home Based Business
- 8. Indoor Air Quality
- 9. Parenting and Sexuality Education
- 10. Samoan Culture in Arts and Crafts
- 11. Sewing
- 12. Vegetable Gardening
- 13. Youth At Risk
- 14. Youth Development

Internal and External Linkages.

- We share information and resources relating to the various programs to promote culture awareness programs and decrease youth at risk problems. They include the following: Department of Education, WIC, Department of Human Social Services, Tropical Medical Center, Public Health, Department of Commerce, Women's Business Center, Small Business Development Center, Private Industry (Canneries), Governor's Office, Samoan Affairs, Youth and Women's Affairs, and the Faith Community.
- Within the ASCC and CNR, staff participates in various programs to help accomplish a set goal. They include the following:
 0. Homemaker - Workshops and training in sewing, elei (fabric painting), safe cooking, family finances, parenting education, teaching your kids sexuality.
 1. EFNEP - Workshops and training in Nutrition.
 2. Food Safety - Workshops and training in safe handling and preparing food.
 3. Agriculture Extension - Workshops in vegetable gardening.
 4. Research - Updated information on various types of diseases and insects that are harmful to gardens.
 5. SAMPAC - Information and workshop in Culture Awareness.
 6. Institutional Advancement - Publishes information to help promote programs.
 7. 4-H - Workshops and training in Youth At Risk, Parenting, Culture and other programs to the youth.
- 0. External Linkages are through the various government and non-government agencies. They are the following:
 - Department of Education - access to the youth through the curriculum and classroom setting.
 - Forestry input: The Americorps Volunteer Program is no longer in existence. Program is discontinued.
 - U.S. Peace Corps - Has partnered with our 4-H office in establishing 4-H clubs in the Independent State of Samoa.
 - Red Cross - training in Disaster Awareness & Preparedness.
 - Public Health – workshop in Health Awareness.
 - Social Services – information and workshop on Youth at Risk and Domestic Violence Awareness.
 - Early Childhood Education – school setting for conducting workshops in the following areas:
 - Vegetable Gardening
 - Food Safety
 - Health
 - Behavior Management

Target Audiences

- Children, Youth, Homemakers, Parents, Families, School Teachers, Volunteers, Non-Government Organizations. Also the programs and services will be extended to other ethnic minorities (95 % of the population in 2000 were Samoans), disabled population, and other under-served and under-represented individuals and organizations.

Output Indicators. Forestry input for POW changes and additions

The number of children and youth who will participate in youth at risk programs.

Baseline	Target	Actual
2005	100	
2006	150	

The number of parents who will participate in Home Economics programs.

Baseline	Target	Actual
2005	150	
2006	200	

The number of youth and parents who will participate in Culture Awareness programs.

Baseline	Target	Actual
2005	250	
2006	300	

Outcome Indicators

- Conduct survey of Youth at Risk Program participants six months after completion of the program to determine if program was effective in resisting peer pressure.
- Conduct an informal telephone assessment of parents to determine if program workshops and trainings offered ve had a positive impact in their daily life.
- Conduct survey or follow up on cultural awareness in families and schools to evaluate if there is improvement in the lives of the clients after completing trainings and workshops.
-

A. Program Duration.

- Long Term (over 2 years).

A. Performance Goal

- To offer programming that enhances family economic and social stability.

Key program Component(s)

- Programs will be offered in the following content area:

- 0. Youth at Risk
- 0. Parenting
- 0. Youth Development
- 0. Entrepreneurship
- 0. Home-based business
- 0. Cottage industry
- 0. Family Finances
- 0. Environmental Education
- 0. Samoan Culture & arts/crafts
- 0. Sewing
- 0. *Elei* Fabric art printing
- 0. Vegetable gardening
- 0. Consumer education
- 0. Indoor Air Quality
- 0. Community Service

- Programs will be implemented and delivered to the target audiences in schools, villages, churches, and other social settings through the following methods:

- 0. Training/Workshops
- 0. After school programs
- 0. Hands on Learning
- 0. Summer program
- 0. School enrichment
- 0. Mentoring
- 0. Field trips/tours
- 0. Presentations
- 0. Meetings
- 0. Demonstrations
- 0. Group discussions
- 0. Newspaper articles
- 0. TV and radio programs
- 0. Project visitations
- 0. Service Learning
- 0. Printed materials/Posters
- 0. Fairs/Arbor Celebrations/open houses

- Partnerships and collaborations with local government and non-government organizations, regional institutions, and CSREES-USDA in program development and delivery are key components to the success of the programs. Program development and delivery must also be consistent and sensitive to the Samoan culture and traditions. Awareness programs utilizing the mass media and other avenues are important for program publicity and image building.

B. Internal and External Linkages

- N/A

C. Target Audiences

- Children, Youth, Homemakers, Parents, Families, School Teachers, Volunteers, Non-Government Organizations (NGO's). Also the programs and services will be extended to other ethnic minorities (95% of the population in 2000 were Samoans), disabled population, and other under-served and under-represented individuals and organizations.

D. Evaluation Framework

- Evaluation instruments such as pre/post tests, surveys, questionnaires, enrollment reports, record books, success stories, meeting minutes, personal contacts and interviews, project and visitation reports, accomplishment reports and other evaluation tools will be utilized to determine and evaluate the impacts of the programs as reflected in the output and outcome indicators.

G. Output Indicators

- Number of children and youth who completed youth at risks programs, number of youth at risk issues developed into modular educational packages, number of community organizations in collaborations and coalition members that use the materials to address these issues, and number of youth that benefited from youth at risk issues where 4-H has been the clearing house of information and services available within the territory.
- Number of persons completing programs, number of these persons who plan to adopt one or more principles, behaviors, or practices, and the number of these persons who actually adopt one or more principles, behaviors, or practices within six months after completing one or more of these programs:
 0. Parenting
 1. Youth Development
 2. Entrepreneurship
 3. Home based business
 4. Cottage industry
 5. Family Finances
 6. Environmental Education
 7. Samoan Culture & arts/crafts
 8. Sewing
 9. *Elei* Fabric Art Printing
 10. Vegetable Gardening
 11. Consumer Education

12. Indoor Air Quality

. Outcome Indicators

- ❑ CHILDREN will have many of their basic physical, social, emotional, and intellectual needs met.
- ❑ YOUTH will demonstrate knowledge, skills, attitudes, and behavior necessary for fulfilling contributing lives.
- ❑ PARENTS will take primary responsibility for meeting their children's physical, social, intellectual needs and provide moral guidance and direction
- ❑ FAMILIES will promote positive, productive, and contributing lives for all family members
- ❑ HOMEMAKERS AND YOUTH will demonstrate knowledge and skills in home-based business management, family finances, entrepreneurship, sewing, *elei* fabric art printing, and Samoan culture and traditional arts/crafts.
- ❑ COMMUNITIES will provide safe and secure environments for children, youth, and families. Family economic and social stability will be enhanced.

A. Program Duration

- ❑ Long term (over 2 years)

B. Allocated Resources

The allocated resources are based on the approved ASCC Final Budget FY 2004 of \$1,644,500. Funds from other sources are not included. Payroll, employee benefits and other fixed costs are about \$1,494,500 with \$149,500 for equipment, materials and supplies to support the programs and projects.

Human resources include extension agents directly involved in programming, and the administrative, clerical, and farm staff that offer support to the projects. The prime responsibility for this goal would be the families, 4-H and nutrition extension agents. These persons have direct responsibility for programs that enhance family economic and social stability. While increasing farm income promote family economic stability, farming issues are addressed in Goals 1, 3, and 4. There is little research related to this goal due to the lack of research staff in this area.

Fiscal resource expenditures include payroll for research, extension, and supporting staff; and materials, supplies, and equipment to support extension programs that enhance family economic and social stability. In addition, funds will be spent on both local and off-island training to support the staff in carrying out their programs.

Section II: Stakeholder Input Process

Stakeholder input was obtained through a variety of methods. There were face to face island-wide public meetings, district meetings, village meetings, program group meetings, and individual clients meetings. In addition, phone calls were made to stakeholders for input and client comments were obtained from extension agents farm reports. While all persons living in American Samoa had the opportunity to participate in this process, the vast majority of the participants were farmers, homemakers, 4-H leaders and 4-H members. These persons participate in the extension programs and receive direct benefit from the research projects. They have a vested interest in the programs and have strong ideas on how the financial resources should be allocated.

The media was used to help ensure attendance at the meetings. Public service announcements were on television, radio, and in the newspaper. Television interviews of the CNR staff appeared on the evening TV Samoan and English news. During the Tutuila (main island in American Samoa) island wide meeting, the TV news personnel taped parts of the meeting and interviewed the two staff members and a stakeholder to air on the evening news.

Since the population of American Samoa is 88.2% Samoan and 3.2% other Polynesian, most of the persons participating in the stakeholder input process are from this ethnic group. The other ethnic groups to a large extent form the merchant, technical and professional classes. Few persons from this “other” group participate in the AHNR programs.

The Samoan/Polynesian program participants cross all socio-economic groups especially the lower income levels and included some persons with questionable immigration status. There is good success in being able to serve those persons normally considered the “underserved” and persons from this category participated in the input process.

All persons residing in American Samoa (including the main island of Tutuila and the Manu’a Island Group of Ofu, Olosega, and Ta’u) were given the opportunity to participate in the stakeholder-input process. However, due to the public perception of CNR and the interaction of the CNR staff with their clients, most of the persons participating in the process fell into what would be considered the “normal client base”.

The meetings/interviews were usually held in the Samoan language. The goals for American Samoa were translated into Samoan and given to the participants and/or were placed on posters in the front of the room. Each goal area was discussed in turn. The information was recorded, translated into English, and distributed to each goal team leader. The team leaders used this information in developing the text for their goal area.

A total of 386 persons participated in the process. The four major islands of Tutuila, Ofu, Olosega, and Ta’u were covered. There were 35 villages visited, 361 individual visited and 12 phone interviews.

The following is a summary of the stakeholder inputs:

Goal 1

Eight methods were used to obtain agriculture and related topics from stakeholders. They were farm visitation, project demonstrations, farmers' office visitation, farmers' call-ins and farmers' group meetings, workshops, special celebrations and field days. The combination of these techniques provides a variety of issues that are used to device this plan of work. The stakeholders recommended the following topics to focus programs on: Traditional Crop production and Vegetable Gardening; Marketing of local produce and Record keeping; Farm Financing/grants; Swine Production and Management; Improved Seeds and seedling production; Technical assistance; Planting materials and improved cultivars (Taro, banana, giant taro & vegetable seeds); Improved boars for breeding; Slaughter house; Meat processing & curing; Crop & Vegetable Processing; Pests and Diseases of crops/vegetables; Farm tools & equipment; Pesticides and fertilizers; Tree production for firewood, windbreak, contour hedgerows, ocean mist barrier and soil improvement; Farmer training in all needed areas; and transportation of produce from Manu'a islands. The proposed plan of work has collectively reflected these inputs in the outreach action plan. The Cooperative Extension Service and the Experiment Station will continue to collaboratively work with both internal and external partnerships to insure our commitment to goal 1.

Goal 3

Stakeholders inputs strongly recommended the following programs and activities: Cooking Demonstrations; Vegetable Gardening Workshops; Health and Nutrition Workshops; Developing and promoting local vegetables and fruits recipes that are attractive, nutritious and acceptable to youth and families; Community Garden; and Radio & TV programs. The stakeholders also suggested the idea of organizing bazaars, fairs, and field days to allow the target audiences to display project items, compete in related categories and/or sell their produce and products. Stakeholders also shared the need to incorporate vegetable gardening, home economics, and health and nutrition in the early childhood and elementary school curriculum. Stakeholders expressed the need to encourage the local school lunch program to use locally grown vegetables and fruits for students' meals. Moreover, the Food Stamp recipients should be encouraged to purchase locally grown vegetables and fruits. Incentive programs to promote vegetable gardening such as; free seeds, seedlings, tools, fertilizers, and other inputs were recommended. Vegetable projects for villages, churches, schools, youth groups, and other organizations were also suggested.

Goal 4

Stakeholders recommended research programs to focus on the following areas: Crop (vegetable and traditional staples) Production; Major pests and diseases of local crops and livestock; Biological Control (breadfruit mealy bug); Pesticides Residues; Local crops

variety trials; Integrated Pest Management Practices (IPM); Pesticide Safety; Samoan Traditional Farming Practices; Agroforestry Practices; Non Timber Forest Products (medicine, perfumes, handicrafts, garlands); Firewood; Cultivation of local garland plants (Moso'oi, Lagaali, Avapui, Seasea); Fruit trees propagation; Processing of *nonu* plant (*Morinda citrifolia*) for its medicinal use and possible export to the US and other markets; Multiplication of taro *Colocasia esculenta* planting materials; Processing plants for meat (slaughter house for pigs) and plant products (taro chips, fruit juice, canned breadfruit); and Preservation of indigenous plant species.

Stakeholders also indicated the need to conduct workshops and awareness programs about research projects; and publicize research findings and experimental results through the media, meetings, field days, fairs, and distribution of printed materials.

Goal 5:

Feedback from the stakeholders indicated the need to offer programs in the following areas: Youth at Risk issues, Parenting, Entrepreneurship, Home-Based Businesses, Cottage Industry Program, Science and Technology, Family Finances, Environmental Education, Samoan Culture and Arts/Crafts, Sewing, *Elei* Fabric Art Printing, Vegetable Gardening, Consumer Education, Child Care, Youth Development, and Indoor Air Quality. The stakeholders also suggested the idea of organizing fairs, arbor celebrations, bazaars, and open houses to allow youth, homemakers, and other program participants to display and show case their projects and/or sell their produce and products. Moreover, the stakeholders recommended public awareness programs and collaborations in program delivery. Stakeholders requested that extension agents visit clients more often and spend more time with them. Inclusion of the Samoan Culture in program development and delivery was strongly recommended.

Section III: Program Review Process

A formal peer/merit review process for research and extension will be in place by October 1, 1999. To date, there have been informal peer review processes for research projects. The peer/merit review process would be similar for both research and extension. All proposed Hatch grants including the McIntire-Stennis program would be evaluated by a panel identified by the research program coordinator. The panel will include the director, the research program manager (except for his/her grants), and the extension program manager. Additional members will be selected on an ad hoc basis based on their expertise in the subject being reviewed. The research program coordinator with the approval of the director will select these persons. The ad hoc group involves a researcher, an ASCC science faculty member, a member of the local science community and/or a community member. The research program coordinator with input from the researchers, the extension program coordinator, and the director will be responsible for developing the merit/peer review evaluation form.

A similar procedure to the Hatch grant peer review will be developed for the Smith Lever program merit review. A panel identified by the extension program coordinator will evaluate all

proposed Smith Lever extension programs. The panel will include the director, the extension program manager (except for his/her programs), and the research program manager. Additional members will be selected on an ad hoc basis based on their expertise in the subject being reviewed. The extension program coordinator with the approval of the director will select these persons. The ad hoc group would involve an extension program manager, an extension agent, an ASCC faculty member, a member of the local professional community and/or a community member. The extension program coordinator with input from the extension program managers and extension agents, the research program coordinator, and the director will be responsible for developing the merit/peer review evaluation form.

Section IV: Multi State Research and Extension Activities

This section does not apply to formula funds received by American Samoa.

Section V: Integrated Research and Extension Activities

This section does not apply to formula funds received by American Samoa.