2011 American Samoa Community College Combined Research and Extension Plan of Work

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I. Plan Overview

1. Brief Summary about Plan Of Work

American Samoa Community College (ASCC) Division of Community and Natural Resources (CNR) is submitting this joint Extension and Research Plan of Work Update for the period 2011-2015.

Food Security continues to be the priority. In 2009, Governor of American Samoa, Togiola Tulafono, signed the executive order establishing the American Samoa Food Policy Council. The Chair of the Council is the Director of the ASCC CNR or the land grant program. The Council is an advisory council to the Governor.

This plan focuses on the Hatch and Smith-Lever projects being implemented as a result of stakeholder and program inputs. The "Planned Programs" include Small Farms, Ecosystem, Human Health and Well-being and Families, Youth and Communities. New issues beginning in FY 2010 include aquaculture, aquaponics, hydroponics, promoting local backyard fruit trees, and addressing the local obesity problem. CNR will continue to promote vegetable gardening and planting of improved cultivars of taro, bananas, sweet potatoes (yams), and fruit trees in an effort to address food security and nutrition issues in American Samoa. This can be made a reality by taking on a coordinated and multi-sectoral approach including inter-agency networking, public-private partnerships, village collaboration, and even regional cooperation. There remain under-served and marginalized segments of the population in American Samoa and CNR will continue its work on helping to improve the quality of life for Families, Youth, and Communities especially in the area of non-communicable chronic diseases, obesity, and malnutrition.

Because of increasing food prices, unstable economic conditions, climate change, fuel price upheavals, and a heavy reliance on imported and processed foods. American Samoa must consider Food Security a priority. CNR must also play a major role in reclaiming traditional and cultural knowledge in local harvesting and production. Food security exists when all people at all times have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life.

The Land and the People

American Samoa is an unincorporated, unorganized Territory of the United States of America. It is the only American soil south of the equator. It is comprised of five mountainous, volcanic islands and two coral atolls in the 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.

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 three islands of the Manu'a group comprise 22 square miles with Aun'uu Island, 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 offshore. The climate is hot and humid with over 200 inches of rain annually with temperatures ranging from a high of 94^{O} F in February to a low of 73^{O} F in August. 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 destroyed approximately 50% of agricultural development and rainforest. A year later, Hurricane Olaf wreaked destruction in the Manua Islands. With gusts of 190 miles per hour, the category 5 storm sent waves 30 - 40 high onto the shores of Ta'u, Ofu and Olosega Islands destroying homes, schools, roads and a large area of agriculture crops.

In September 2009, an earthquake generated in the Tongan Trench about 150 miles away, generated a tsunami that struck American Samoa within 15 minutes killing 34 people and causing much agriculture damage in the low lying village plantations. In February 2010, Hurricane Rene passed thru the Samoas causing some agriculture damage in the Manu'a Islands

In the last 35 years, the population grew from 27,159 to 65,500 (estimate for June 2005), and the population density more than doubled from 357 to an estimated 862 people per square mile. According to the 2000 Population Census of American Samoa, the population is 88.2% Samoan with the median age being 21. The average household size was 6.1 people. The per capita income was $4,357 with 5,072 of the 8,706 families (58.3%) with income below the poverty level.

Agriculture and Natural Resources

According to the 2003 Agriculture Census of American Samoa, (The results of the 2008 Agriculture Census for American Samoa are still unavailable), there were 7,094 farms that generated $58,196,832 in agricultural commodities. These commodities, either sold on the local market, used for family consumption, or as contributions to *faalavelave* (cultural events including funeral, births, weddings, and chief title bestowals), were valued at an average of $8,204 per farm. The average farm size declined from 7.1 acres in 1990 to 2.8 acres in 2003. The number of farmers, however, increased during that period from 1,126 to 7,094, in part due to the number of native Samoans returning from the US mainland after retirement to farm their communal lands. As population pressure forces farming up the steep slopes, issues regarding erosion, landslides, flooding, habitat destruction, and watershed loss become more important. Traditional methods of soil conservation and crop sustainability are no longer viable. With less land available for farming, for example, soil is no longer allowed to lay fallow for a few growing seasons to recover lost nutrients.

Human Health and Well-Being

Obesity and overweight, poor nutrition and lack of exercise, and food safety issues are major health problems in American Samoa (AS). In 2003, the World Health Organization in its publication "Diet, Food Supply and Obesity in the Pacific" found that 83.6% of the males and 87.6% of the females in AS had a body mass index greater than 25. In a similar yet to be published study in 2005, Davison et.al. found in a stratified random sample of 380 AS adolescents aged 11 to 18 years old that 32% and 34% were overweight and obese respectively. "These are by far, the highest rate documented for children of any ethnic group, now or in the past." the authors write in the study conducted in 2005. Moreover, a survey of 424 children between the ages of 1-10 years old in AS conducted in 2003 by a team from the University of Hawaii and Uniformed Services University, Maryland reported that: 11% of the 1-4 years old were too heavy for their height, 30% of the 5-10 year old children were overweight, and 15% were at risk of being overweight. The survey also found that 9% had blood sugar levels higher than recommended and more than 55% had blood cholesterol levels higher than recommended. The diets in AS are high in meats, starches, sugars, and fats and tend to be very low in vegetables, fruits and dairy products

Families, Youth and Communities

Resource management (poverty), parenting, culture, and youth at risk issues are major areas of concern in American Samoa. More than 58.3% of American Samoa's families are considered poor and below the U.S. poverty level (American Samoa 2000 Census). Additionally, 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 (Population Census 2000), people need to manage family resources wisely and take advantage of economic opportunities to maintain and increase their quality of life.

Parent and child relationship is a critical issue in American Samoa. Lack of supervision for children and youth due to working or absent parents is a major concern. There is a need to help parents become better parents and for the children to remain respectful of their parents. As American Samoa becomes more westernized, families are forced to reconcile their traditional culture of respect for elders and communal living with the often directly opposite western value of individualism. The Samoan youth are expected to serve their elders with respect and obedience with no back-talk. However, youth who grew up in Hawaii and the mainland United States have difficulties in accommodating their American lifestyles and expectations of parents and other family members.

Attitudes toward the Samoan culture or *fa'aSamoa* are changing as Samoans attempt to balance and reconcile Western (or American) and Samoan values. Therefore, learning opportunities should be provided to preserve the Samoan culture, language, and family values. According the Population Census 2000 the median age was 21. The American Samoa 2001 Youth Risk Behavior Survey of 914 high school students in six schools reported: 21% of the students carried a weapon, 37.3% smoked cigarettes, 8.7% drank alcohol, 21.7% used marijuana, 23.4% had sexual intercourse, and 20.9% attempted suicide.Juvenile crime is increasing. High school dropout in 2003 was 3%. Addressing the youth at risk issues will help the youth of American Samoa become productive, self-reliant, and contributing members of the community.

Issues

Because of its geographic isolation and the Territory's limited resources, there are no services making available different line of pigs to prevent inbreeding.Inbreeding in our swine industry is one cause of low production and slower growth rates.Typically, in the US mainland, pig farmers can purchase stud service from others, easily purchase different lines of pigs from other farmers, or purchase frozen semen and artificially inseminate their own stock. In American Samoa, most farmers raise Samoan pigs of a similar breed. Off-island stock was brought in to address this problem just three times in the past 25

twice in the form of live animals and once through artificial insemination.These introductions brought genetic variability to our livestock industry. More genetic variability needs to be introduced to prevent further inbreeding. The agriculture extension plan to revive the pig program has been hampered by the lack of qualified local expertise. Positions advertised locally go unfilled. When advertised elsewhere, the positions still go unfilled because of the low salary issue. The revived pig program will offer boar services, sell extension's animals to farmers to reduce their inbreeding, and buy or trade stock with farmers so that inbreeding is reduced. Also frozen semen will be imported for artificial insemination to benefit all.

In FY 2009, the CNR piggery was renovated through a cooperative agreement with ASEPA to demonstrate the animal waste options that are being recommended to the local pig farmers. The first option -the portable pigpen that will accommodate up to two large pigs or a litter of piglets; the second option - the dry litter system (using a 6% sloped floor and wood chips to compost the manure) along with collection alley and bins for composting the wood chip/manure mix; the third option and the washdown system with locally made solid waste separator, a septic and a drainfield; and the fourth option another wash down system with a double solid waste separator with a holding tank for the liquid effluent (using gravity flow the liquid effluent will be fed to fruit tree and vegetable crops). Using wood chips to compost the pig waste is a component part of all of the ASEPA recommended options. CNR has been demonstrating the use of composted pig manure in the growing of taro, and vegetable crops. These demonstrations of the waste management systems began, resulting in 26 pig farmers being approved by the USDA-NRCS Environmental Quality Incentive Program for implementing the dry litter piggery waste management option. An animal specialist has not yet been hired to spearhead the effort in addressing this issue.

For the crop industry, cultivars of leaf blight resistant taro and black leaf resistant bananas will continue to be introduced in tissue culture, tested and released to the farming community to increase genetic variability. Field tests of imported tissue-cultured plantlets and taste tests will be continued in the effort to introduce a broad based disease resistant genetic diversity to the territory in addition to finding varieties that taste like the preferred Samoan varieties of old, i.e. Talo Niue and Talo Manu'a. These varieties and banana varieties of the FHIA lines are being disseminated in an effort to address the food security issue.

We have reestablished the vegetable seed sales to our clients. Vegetable variety demonstrations to identify cultivars that will perform well in our hot, humid and wet tropical environment will continue. Thus far, 5 varieties of tomatoes, 6 varieties of long beans, 3 varieties of green peppers, 2 sweet corn varieties, 4 head cabbage varieties, and 4 varieties of eggplant have been identified, with their names and sources being forwarded to the local department of agriculture and to the ACE American Industries, the local business that is the only seller of agriculture seeds.

For the fruit industry, the priority was to rejuvenate the program's fruit tree orchard by introducing new fruit tree varieties. For the varieties that performed well, workshops would have been conducted to teach farmers and interested homemakers the different methods of asexual propagation so that each home will have a diverse variety of fruits for the children to enjoy. A fruit tree greenhouse to spearhead the "Fruits for Life" project is currently under construction. With a variety of fruit trees in the back yard to enjoy, parents would not have to purchase apples and oranges, peaches and pears or other imported fruits. We were hoping that this would affect an import replacement scheme for the Territory. The program has been hampered by the inability to recruit a fruit tree specialist. Pesticide efficacy tests of reduced risk chemicals will continue to complement the IPM strategies for the different economic crops. Because of its geographic isolation and relative small natural resource base, there has been no effort to develop an agriculture export industry. Instead, the American Samoa Marketing and Local Producers' directories was to have been revived to address the local marketing issue. This program has been on hold because a marketing person has not yet been identified to spearhead this effort.

Because of the steep slopes and high rainfall, a natural terracing demonstration has been installed using vetiver grass (*Veteverial zizanioides*) as a vegetative barrier. Work on this will continue with vegetables planted in the alley between the barriers.

Monitoring the health of our streams will continue to be a focus. In addition to stream water chemistry, flora, and fauna, we have added coliform and *E. coli* monitoring. It is hoped that with the water quality program, ASCC-CNR and their partners will be able to assist villagers and landowners in identifying sources of contamination through GIS mapping of piggeries and advise leaders on either relocating point-sources of contamination or mitigating their impact on streams through approved sewage treatment systems. Information on water quality will also be provided to aquaculture farmers utilizing indigenous species, who use the streams as a source of water for their operations. ASCC-CNR will continue to be strong advocates for promoting watershed stewardship practices, especially among school children, by making the public aware of the rich inheritance of stream animals that sustained their ancestors and that may offer commercial opportunities for present and future generations.

Aquaculture provides a means to alleviate compromised fisheries, create opportunities for displaced fishermen, and provide a sustainable and nutritionally important staple for impoverished and traditional cultures alike. The environmental conditions in American Samoa are ideal for culturing both marine and freshwater tropical fish and invertebrates. Additionally, the availability of fishmeal from local tuna canneries makes the formulation of low-cost feeds for aquatic organisms feasible in order to reduce a major portion of operational expenses. There are currently efforts to produce Nile tilapia, giant clams, Pacific threadfin, and mangrove crab. The success of such ventures will rely heavily on the expertise, technical assistance and presence of a Sea Grant Extension Agent based in American Samoa.

The proposed scope of work for the Extension Agent focuses on combining research, teaching and extension activities

as well as collaboration with governmental and non-governmental agencies to address the needs of the aquaculture community and college students. Support for the American Samoa Extension Project will result in the development of economically-viable, sustainable aquaculture ventures throughout American Samoa, which includes the economically-depressed outer islands of Aunu'u and the Manu'a island group. In addition, by supporting education and public outreach efforts, Land Grant demonstrates its continuing commitment to foster strong ties with educational institutions such as ASCC in the Pacific region. This ensures that high quality educational and training programs in Marine Science that build capacity are provided for the students of American Samoa.

Families, 4-H and Nutrition (F4HN) professional and paraprofessional staff will continue to use an integrated approach to provide nutrition education program to youth, homemakers, community residents, and other traditional and nontraditional clients. The 4-H program also has been hampered by personnel attrition and the unsuccessful search for replacements. The Agriculture Extension Service staff will continue to emphasize the production of local vegetables in their effort to help F4HN clients begin gardening projects. F4HN staff will continue to conduct workshops, presentations, and demonstrations in the villages, schools, churches, to government agencies, and community groups on developing and testing recipes using locally grown produce. Recipes have been given out to the participants with the rationale that if more fresh vegetables are readily available, more will be used in home meals. More vegetables cooked at home translate to more vegetables eaten and improved health of families. The F4HN personnel will continue to distribute nutrition educational handouts such as the Pacific Food Guide Pyramid, newly published English/Samoan recipe book, calendars, posters, and other nutrition materials to food stamp recipients, students, teachers, homemakers, and other clients.

Community awareness programs on the negative impacts of obesity, overweight, poor nutrition, lack of physical activity, and food safety issues will be implemented. Sports, aerobics, and other exercise programs are planned for schools, work place, and village settings as alternative physical activity programs. Furthermore, F4HN staff will conduct 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 will be provided to school age children and adults on the correct way to wash hands to prevent food borne illness. F4HN personnel will continue to partner with local, regional, and national agencies, organizations, and institutions in planning, developing, and implementing programs to address obesity and overweight, poor nutrition and lack of physical activity, and food safety issues for both youth and adults in American Samoa. The inability of the F4HN program to recruit a nutritionist has greatly reduced the impacts of the program.

In all of the planned program areas, i.e. small farms, ecosystem, human health and well-being and families, youth and communities, interagency cooperation and collaboration will increase. More joint projects will be undertaken with the AS Department of Agriculture, the Samoan Affairs Office, AS Department of Education, AS Environmental Protection Agency, AS Public Health, AS Department of Commerce, the AS Soil and Water Conservation District and of course the USDA local offices of NRCS, FSA and RC&D. Cooperative work with other land grant universities in Hawaii, Guam, Northern Marianas and Micronesia will also increase.

A priority issue has been the recruitment of qualified professionals. Positions in plant pathology, nutrition, fruit extension, marketing extension, livestock extension, 4-H personnel, and F4HN agents have yet to be filled which have set back our program expectations and impacts tremendously. There is need for a two pronged approach where we must offer higher salaries for these positions so that these can be filled by off-island contractors. While this is being implemented, there is a need to build local capacity in staff development. Program funds must be allocated and approved for these capacity building efforts.

ASCC CNR has two offices in Manu'a, one on the large island of Ta'u and another in Luanu'u (Ofu and Olosega islands). The only office on the main island of Tutuila is at the CNR offices. Feedback from clients in the central and eastern districts of Tutuila have expressed a need for a satellite office more convenient to them. This has been placed on hold due to the lack of personnel.

Another issue continues to be a need to consult with our neighbors in addressing similar concerns and issues that are being experienced by the 22-member South Pacific Community (SPC). Being able to use program funds for foreign travel is of importance in learning from our neighbors who share much of our local problems, i.e. social issues such as nutrition and obesity, and agriculture issues the high cost of inputs because of the geographic isolation, the hot, wet and humid climate, tropical temperatures, soil types and year round pest problems. Addressing these important issues will greatly enhance our programs locally.

These are the priority issues that will be addressed by the Hatch and Smith-Lever Programs in American Samoa 2011-2015 Plan of Work.

Estimated Number of Professional FTEs/SYs total in the State.

Year	Extension		Research	
	1862	1890	1862	1890
2011	12.0	0.0	12.0	0.0
2012	12.0	0.0	12.0	0.0
2013	12.0	0.0	12.0	0.0
2014	12.0	0.0	12.0	0.0
2015	12.0	0.0	12.0	0.0

II. Merit Review Process

1. The Merit Review Process that will be Employed during the 5-Year POW Cycle

- Combined External and Internal University External Non-University Panel

2. Brief Explanation

Research and Extension initiatives are client-driven, that is, based upon the latest stakeholder input survey. Owing to our limited number of staff, which serves a population of 65,000, each researcher and Extension agent tries to match his/her knowledge skills and expertise to a high priority client concern that also would meet federal grant requirements.

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

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

III. Evaluation of Multis & Joint Activities

1. How will the planned programs address the critical issues of strategic importance, including those identified by the stakeholders?

Not required to report

2. How will the planned programs address the needs of under-served and under-represented populations of the

Not required to report

3. How will the planned programs describe the expected outcomes and impacts?

Not required to report

4. How will the planned programs result in improved program effectiveness and/or efficiency?

Not required to report

IV. Stakeholder Input

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

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

Brief explanation.

Where ever and when our stake holders gather for programs, they will be asked to evaluate and give inputs regarding followup workshops and direction . Stakeholders' participation will be encouraged 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..

2(A). A brief statement of the process that will be 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.

CNR will continue 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 programs' staff and administrators will also be utilized.

All workshops conducted by CNR extension will be evaluated for information regarding What next? and Where do we go from here? Focus groups are being planned for our underserved clients in the Manu'a Islands. All farm visits conducted by CNR Agriculture Service will be documented and will contain sections where farmers will identify

their problem areas.This information will be used to direct resources in research. The CNR advisory group's responsibility is to prioritize and bring focus to the stakeholder concerns.

2(B). A brief statement of the process that will be 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.

ASCC-CNR staff will continue to collect stakeholder inputs from clients through focus group sessions and survey questionnaires during workshops (schools, villages, community groups, government agencies, churches, CNR, other sites), demonstrations, presentations, pesticides courses, public and council meetings, 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

Brief explanation.

Inputs from stake holders will be used to direct and improve programs in both extension and research, with the CNR advisory group being the means to prioritze CNR resources. Once the priorities have been determined, the information will be forwarded to CNR administration and program managers to make changes in the budgets and programming. More specifically, inputs will be considered in recruiting and hiring of new staff; acquisition of new equipments and materials and supplies; improvement of existing programs and facilities; develpment and implementation of new programs; and construction of new facilities to address stakeholders inputs and recommendations.

V. Planned Program Table of Content

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Small Farms

2. Brief summary about Planned Program

According to the 2003 Agriculture Census of American Samoa, there were 7,094 farms that generated $58,196,832 in agricultural commodities. These commodities, either sold on the local market or used for family consumption including contributions to Samoan cultural events were valued at an average of $8,204 per farm. The average farm size declined from 7.1 acres in 1990 to 2.8 acres in 2003. The number of farmers, however, increased during that period from 1,126 to 7,094, in part due to the number of native Samoans returning from the US mainland after retirement to farm their communal lands. In addition, two-thirds of the territory's 76 square miles have slopes greater than 30% and annual rainfall ranges from 125 to 300 inches. As population pressure forces farming up these slopes, issues regarding erosion, landslides, flooding, habitat destruction, and watershed loss become more important. Traditional methods of soil conservation and crop sustainability are no longer viable.With less land available for farming, for example, soil is not allowed to lay fallow for a few growing seasons to recover lost nutrients.

The projects included in the SMALL FARMS planned program are aimed at helping subsistence and commercial farmers and ranchers increase yields and maintain sustainability. New varieties of disease-resistant vegetables and traditional crops are being imported to reduce inputs and maximize returns. Tissue cultured sweet potatoes from the Centre for Pacific Crops and Trees of the Secretariat of the Pacific Community have been imported and are being distributed to the farming community. A fruit tree greenhouse to spearhead the "Fruits for Life" project is currently under construction.

Inbreeding of swine is a cause of low production. We will reduce inbreeding by making boar services available, buying or trading stock between our extension program and the farming community and implementing artificial insemination services. To expand the marketing opportunities of our growers, the publication of the local producers' and marketing directories will be revived. Work on the efficacy of reduced risk pesticides will continue along with efforts to find biological control agents for the economically important pests. Our plant clinic identifies new and existing pests and diseases and recommends integrated management tactics.

We will continue to import leaf blight resistant taro breeding lines with improved taste and diverse resistance genes and to search for acceptable varieties of cooking bananas resistant to black leaf streak disease. This effort supports the development of a food securityprogram. New focus include but are not limited to projects in food security in collaborative projects with the local Department of Agriculture, the Office of Samoan Affairs, the local Department of Education and the local Soil and Water Conservation Distict to augment ongoing projects with other agencies.

Aquaculture is new this year as a formal program within ASCC-CNR. ASCC-CNR staff will work with the University of Hawaii Sea Grant College Program (UH Sea Grant) Extension Agent in continuing regional aquaculture activities. UH Sea Grant has had a permanent presence in American Samoa since 2002. Major challenges on island include identifying an economical solution to procuring aqua-feeds, identifying new aquafarmers, assisting new farmers in procuring start-up funding for their farms, reducing agricultural pollution, and poor education.

Off-island suppliers can provide feeds for those with sufficient funds. However, most of the farmers on island are not able to afford these feeds. ASCC-CNR has worked with UH Sea Grant to establish a feeds production lab on ASCC campus. Using the lab reduces the price of 50 pounds of feed from $25 to between $12 and $17 be allowing farmers to use locally available feedstuffs like taro, breadfruit, bananas, and fishmeal.

Many local residents are interested in aquaculture, but require demonstrations of successful aquaculture that they can mimic. CNR will construct a freshwater aquaculture demonstration facility that will demonstrate several potential species production systems and aquaponics. The facility will also demonstrate freshwater and marine aquarium systems to demonstrate potential culture of ornamental fish and invertebrate organisms for export into the global ornamental industry.

Interested residents quickly lose interest when they learn start-up funding is not readily available to them through Land Grant-CNR or UH Sea Grant. CNR will identify funding opportunities and broadcast them to interested clients.

The American Samoa Environmental Protection Agency is not concerned with effluent from aquaculture farms but is concerned with piggery effluent. CNR will provide technical support to help pig farms become ASEPA compliant by using pig effluent in concert with tilapia culture.

Science curriculum in local high schools can be enhanced with aquaculture activities, especially in resource-poor areas like Manu'a. Aquaponics systems are easy to maintain and provide an excellent tool for learning the scientific method as well as to generate interest in agriculture and marine science.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

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	2%		0%	
202	Plant Genetic Resources	7%		15%	
205	Plant Management Systems	20%		40%	
211	Insects, Mites, and Other Arthropods Affecting Plants	7%		20%	
212	Pathogens and Nematodes Affecting Plants	7%		10%	
215	Biological Control of Pests Affecting Plants	7%		5%	
306	Environmental Stress in Animals	1%		0%	
307	Animal Management Systems	10%		10%	
315	Animal Welfare/Well-Being and Protection	2%		0%	
401	Structures, Facilities, and General Purpose Farm Supplies	1%		0%	
601	Economics of Agricultural Production and Farm Management	7%		0%	
604	Marketing and Distribution Practices	7%		0%	
903	Communication, Education, and Information Delivery	22%		0%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

In the late FY 2006, ASCC-CNR staff assisted the American Samoa Environmental Protection Agency (ASEPA) in a territorial wide piggery survey identifying the location, the kind of operation, the total number of pigs, in addition to determining if the piggery was in compliance with the local laws. Of the 1,000 piggeries identified, 710 of them including the CNR piggery was not in compliance due to inadequate waste management system. This has necessitated a slight change in priorities. In FY 2009, the ASEPA funded CNR piggery renovation was completed. Extension and NRCS staff will continue to demonstrate to farmers the three waste management options that were approved by ASEPA. The portable pigpen that will accommodate up to two large pigs, the dry litter system (using a 6% sloped floor and wood chips to compost the manure) and the washdown system with solid waste separator and a drainfield (for feeding the liquid effluent to fruit tree and vegetable crops). These demonstrations will assist local pig farmers bring their operations into ASEPA compliance. CNR will assist pig farmers as they adopt any of these systems that will bring their swine operation into compliance with the local laws. This will be the first priority in the animal industry with the effort to address the inbreeding issue to follow as local operations become

compliant to the local laws. A livestock specialist is being sought to spearhead the effort in addressing this issue.

For the crop industry, cultivars of leaf blight resistant taro and black leaf resistant bananas will continue to be introduced in tissue culture, tested and released to the farming community to increase genetic variability. We have reestablished the vegetable seed sales to our clients. Vegetable variety demonstrations to identify cultivars that will perform well in our hot, humid and wet tropical environment will continue. For the fruit industry, the priority is to rejuvenate the program's fruit tree orchard by introducing new fruit tree varieties. For the varieties that perform well ,workshops will be conducted to teach farmers and interested homemakers the different methods of asexual propagation so that each home will have a diverse variety of fruit for the children to enjoy. Then parents will not have to purchase apples and oranges, peaches and pears to feed their children thereby effecting an import replacement scheme for the Territory. The program has been hampered as explained above in being able to recruit qualified personnel. Because of the steep slopes and high rainfall, soil erosion studies along with contour hedgerows and other soil conservation methods will be employed in trials and demonstrations. The demonstrations of 5 different species of planting materials have been replaced by vetiver grass (Vetiveria zizanioides), one of the five, which showed the greatest promise in reducing soil erosion and creating "natural" terraces. Pesticide efficacy tests of reduced risk chemicals are being conducted to complement the IPM strategies for the different economic crops.Aquaculture, a new emerging program within ASCC-CNR.

Aquaculture is new this year as a formal program within ASCC-CNR. ASCC-CNR staff will work with the University of Hawaii Sea Grant College Program (UH Sea Grant) Extension Agent in continuing regional aquaculture activities. UH Sea Grant has had a permanent presence in American Samoa since 2002. Major challenges on island include identifying an economical solution to procuring aqua-feeds, identifying new aquafarmers, assisting new farmers in procuring start-up funding for their farms, reducing agricultural pollution, and poor education.

Off-island suppliers can provide feeds for those with sufficient funds. However, most of the farmers on island are not able to afford these feeds. ASCC-CNR has worked with UH Sea Grant to establish a feeds production lab on ASCC campus. Using the lab reduces the price of 50 pounds of feed from $25 to between $12 and $17 be allowing farmers to use locally available feedstuffs like taro, breadfruit, bananas, and fishmeal.

Many local residents are interested in aquaculture, but require demonstrations of successful aquaculture that they can mimic. CNR will construct a freshwater aquaculture demonstration facility that will demonstrate several potential species production systems and aquaponics. The facility will also demonstrate freshwater and marine aquarium systems to demonstrate potential culture of ornamental fish and invertebrate organisms for export into the global ornamental industry.

Interested residents quickly lose interest when they learn start-up funding is not readily available to them through Land Grant-CNR or UH Sea Grant. CNR will identify funding opportunities and broadcast them to interested clients.

The American Samoa Environmental Protection Agency is not concerned with effluent from aquaculture farms but is concerned with piggery effluent. CNR will provide technical support to help pig farms become ASEPA compliant by using pig effluent in concert with tilapia culture.

Science curriculum in local high schools can be enhanced with aquaculture activities, especially in resource-poor areas like Manu'a. Aquaponics systems are easy to maintain and provide an excellent tool for learning the scientific method as well as to generate interest in agriculture and marine science.

The American Samoa Marketing and Local Producers' directories will be revised to address the local marketing issue.This program has been on hold because a marketing person has not yet been identified to spearhead this effort.

2. Scope of the Program

- In-State Extension
- In-State Research

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Programs that we will implement are what the farmers need and want to improve their operations.
Farmers want to improve their operations and will participate in the programs made available to them.
Farmers will invest time and money to improve their operation.
Funding for CNR activities will remain adequate.
Priorities will not change.
CNR will have the qualified personnel necessary to maintain its activities.
There will be a need for Samoan translations.

2. Ultimate goal(s) of this Program

To increase farm returns and the well-being of rural farm life, while improving sustainability and protecting the environment and human health.

To improve crop quality/crop security through pest and disease monitoring and genetic diversity.

To improve public understanding of agriculture and marine science, including their impacts on the land and sea

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2011	6.0	0.0	4.0	0.0
2012	6.0	0.0	4.0	0.0
2013	6.0	0.0	4.0	0.0
2014	6.0	0.0	4.0	0.0
2015	6.0	0.0	4.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Multiplication, evaluation and distribution of improved taro and banana varieties.
Laboratory bioassay for foliar plant diseases.
List of plant-parasitic nematodes on taro, their distribution and management.
Vegetable variety evaluation demonstrations
Budding, grafting and airlayering workshops for citrus and other fruit trees
Pig project to reduce inbreeding of farmers' animal operations - buying/selling or trading of stock, boar services, artificial insemination (work with U.H. in re-starting this program).
Tissue culture of traditional staples and increasing genetic diversity to improve crop security.
Plant clinic diagnoses and recommendations
Pest surveys
Testing of reduce-risk pesticides
Biological control studies of 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
Manu'a High School aquaponics course
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. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
● Education Class	● Public Service Announcement
● Workshop	● Newsletters
● Group Discussion	● TV Media Programs
● One-on-One Intervention	● Other 1 (Brochures)
● Demonstrations	● Other 2 (video)
● Other 1 (Plant Clinic Diagnoses)	
● Other 2 (On-farm research plot)	

3. Description of targeted audience

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

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	1100	6500	700	3000
2012	1100	6500	700	3000
2013	1100	6500	700	3000
2014	1100	6500	700	3000
2015	1100	6500	1000	7000

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

2011:0 **2012:**0 **2013:**0 **2014:**0 **2015:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	0	0	0

Year	Research Target	Extension Target	Total
2012	0	0	0
2013	1	0	1
2014	0	0	0
2015	1	0	1

V(H). State Defined Outputs

1. Output Target

- Number of research projects completed

2011:1 **2012:**1 **2013:**1 **2014:**1 **2015:**1

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

2011:30 **2012:**30 **2013:**30 **2014:**30 **2015:**30

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

2011:4000 **2012:**5000 **2013:**6000 **2014:**6000 **2015:**6000

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

2011:30 **2012:**30 **2013:**30 **2014:**30 **2015:**30

- Number of vegetable variety demonstrations completed

2011:5 **2012:**5 **2013:**5 **2014:**5 **2015:**5

- Number of new fruit tree varieties introduced

2011:3 **2012:**5 **2013:**5 **2014:**5 **2015:**5

- Number of fruit tree propagation workshops

2011:3 **2012:**5 **2013:**5 **2014:**5 **2015:**5

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

2011:40 **2012:**40 **2013:**45 **2014:**45 **2015:**45

- Number of directories published

2011:1 **2012:**2 **2013:**2 **2014:**2 **2015:**2

- NUmber of pesticide efficacy tests conducted

2011:1 **2012:**1 **2013:**1 **2014:**1 **2015:**1

- Number of Pesticide Applicator's Training workshops conducted

2011:4 **2012:**4 **2013:**4 **2014:**4 **2015:**4

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

2011:0 **2012:**0 **2013:**1 **2014:**0 **2015:**1

- Number of video production

2011:2 **2012:**2 **2013:**2 **2014:**3 **2015:**3

- Number of Tilapia released from breeding program

2011:50 **2012:**50 **2013:**50 **2014:**50 **2015:**50

- Number of candidate species culture trials completed

2011:2 **2012:**2 **2013:**2 **2014:**2 **2015:**2

- Number of tilapia feed trials completed

2011:1 **2012:**1 **2013:**1 **2014:**1 **2015:**1

- Number of semesters that MSC 200 was taught

2011:2 **2012:**2 **2013:**2 **2014:**2 **2015:**2

- Number of collaborative projects with other government agencies

2011:5 **2012:**7 **2013:**7 **2014:**7 **2015:**7

V(I). State Defined Outcome

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.

O. No.	Outcome Name
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 Target

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

2. Outcome Type : Change in Action Outcome Measure

2011:100 **2012:**100 **2013:**100 **2014:**100 **2015:**100

3. Associated Knowledge Area(s)

- 202 - Plant Genetic Resources
- 205 - Plant Management Systems
- 212 - Pathogens and Nematodes Affecting Plants
- 601 - Economics of Agricultural Production and Farm Management

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2011:20 **2012:**20 **2013:**20 **2014:**20 **2015:**20

3. Associated Knowledge Area(s)

- 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

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

Number of farmers growing improved vegetable cultivars

2. Outcome Type : Change in Action Outcome Measure

2011:100	**2012:**100	**2013:**100	**2014:**100	**2015:**100

3. Associated Knowledge Area(s)

- 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

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 4

1. Outcome Target

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

2. Outcome Type : Change in Condition Outcome Measure

2011:20	**2012:**30	**2013:**40	**2014:**40	**2015:**40

3. Associated Knowledge Area(s)

- 202 - Plant Genetic Resources
- 205 - Plant Management Systems
- 601 - Economics of Agricultural Production and Farm Management
- 604 - Marketing and Distribution Practices

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 5

1. Outcome Target

Number of pig farmers upgrading their stock

2. Outcome Type : Change in Condition Outcome Measure

2011:10	**2012:**10	**2013:**10	**2014:**10	**2015:**10

3. Associated Knowledge Area(s)

- 307 - Animal Management Systems
- 601 - Economics of Agricultural Production and Farm Management

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 6

1. Outcome Target

Number of reduced risk pesticides recommended for use.

2. Outcome Type : Change in Condition Outcome Measure

2011:1	**2012:**1	**2013:**1	**2014:**1	**2015:**1

3. Associated Knowledge Area(s)

- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 215 - Biological Control of Pests Affecting Plants

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 7

1. Outcome Target

Number of pesticide applicators trained and certified

2. Outcome Type : Change in Action Outcome Measure

2011:40	**2012:**40	**2013:**40	**2014:**40	**2015:**40

3. Associated Knowledge Area(s)

- 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

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 8

1. Outcome Target

Number of farmers growing improved genetic stocks of tilapia

2. Outcome Type : Change in Action Outcome Measure

2011:5	**2012:**5	**2013:**5	**2014:**5	**2015:**5

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 9

1. Outcome Target

Number of farmers upgrading their farms to aquaponics

2. Outcome Type : Change in Action Outcome Measure

2011:1	**2012:**2	**2013:**2	**2014:**2	**2015:**2

3. Associated Knowledge Area(s)

- 205 - Plant Management Systems

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 10

1. Outcome Target

Number of farmers making their own tilapia feeds

2. Outcome Type : Change in Action Outcome Measure

2011:2	**2012:**2	**2013:**2	**2014:**2	**2015:**2

3. Associated Knowledge Area(s)

- 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

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 11

1. Outcome Target

Number of students enrolled in MSC 200

2. Outcome Type : Change in Knowledge Outcome Measure

2011:15	**2012:**20	**2013:**20	**2014:**20	**2015:**20

3. Associated Knowledge Area(s)

- 903 - Communication, Education, and Information Delivery

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 12

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2011:10	**2012:**10	**2013:**10	**2014:**10	**2015:**10

3. Associated Knowledge Area(s)

- 903 - Communication, Education, and Information Delivery

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 13

1. Outcome Target

Number of farmers integrating their piggeries with tilapia culture

2. Outcome Type : Change in Action Outcome Measure

2011:2	**2012:**2	**2013:**2	**2014:**2	**2015:**2

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 14

1. Outcome Target

Number of farmers/stakeholders involved with collaborative projects

2. Outcome Type : Change in Action Outcome Measure

2011:500	**2012:**750	**2013:**750	**2014:**800	**2015:**800

3. Associated Knowledge Area(s)

- 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

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

- Other (Staff Recruitment)

Description

Impacts of earthquake, tsunami, hurricanes, drought and other natural disasters hitting American Samoa

Loss of staff reduced program capacity

Staff or funding changes, i.e. loss of USDA-CSREES formula funds

Introduction of exotic pests

Changes in institutional priorities and access to research and extension facilities, equipment and land.

Changes in ASCC and/or CNR policies detrimental to planned programs

Unresolved experiment station land boundary issues

Loss of funding for UH Sea Grant personnel

Networking with other government agencies does not bear fruitful agreements

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)

Description

All workshops, demonstrations, field days will be evaluated for summative and formative information.

Qualitive information gathered from farm visits and interviews

Sampling data on pest infestation levels

Qualitative (banana) and quantitative (taro) evaluation of disease resistance

Quantitative sampling data from feed trials and candidate species culture trials

2. Data Collection Methods

- Sampling
- Whole population
- Telephone
- On-Site
- Structured
- Unstructured
- Tests

Description

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Ecosystem

2. Brief summary about Planned Program

We plan to continue monitoring streams for coliform and E. coli which lie outside the interest of the ASEPA and to share our data with that agency. We hope to assist villagers and landowners in identifying sources of contamination through GIS mapping of piggeries and advise village leaders and ASEPA on either relocating point-sources of contamination or mitigating their impact on streams through approved sewage treatment systems. We plan to provide pertinent information to villagers interested in small-scale aquaculture projects utilizing indigenous species, using streams as a source of clean water. We plan to continue to be strong advocates for promoting watershed stewardship practices, especially among schoolchildren, by making the public aware of the rich inheritance of stream animals that sustained their ancestors and that may offer commercial opportunities for the present and future generations.

3. Program existence : Intermediate (One to five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : No

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	60%		30%	
133	Pollution Prevention and Mitigation	40%		70%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

The integrity of American Samoa's streams continues to be an important issue with the public and several federal and local government agencies. The abuse of streams and drainage channels as receptacles of household trash and piggery effluent have led to flooding caused by clogged conduits and bridges, and a handful of deaths attributed to the water-borne bacterial disease, leptospirosis, found in the urine of infected pigs, dogs, and rats. The AS Environmental Protection Agency monitors the mouth of several streams and adjacent beaches for coliform, each month notifying the public which beaches have unacceptably high bacterial counts. ASEPA also monitors reservoirs for outlying villages dependent upon streams for their potable water. Again, several times each year these villagers are advised to boil their drinking water owing to excessive bacterial counts. The Natural Resources Conservation Service works with many pig farmers through its EQIP program to mitigate the pig waste load in streams, diverting it, instead, towards improving on-site soil fertility. Recently, the AS Dept. of Commerce established an Ocean Resource Management Council, headed by the Lt. Governor, that focuses on stream waste management and control. Our recent studies of stream water chemistry, flora, fauna, and currently coliform and E. coli contamination, have made us a leading agency for advising policy makers on watershed resources and a prime conduit of water quality information for the public.

2. Scope of the Program

- In-State Extension
- In-State Research

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

ASEPA will continue efforts to enforce the law requiring piggeries to be set back from streams and human dwellings by 50 feet or more.

Village mayors will prevent residents from using streams for the disposal of household trash, motor oil, and scrap metal.

The likelihood of contracting leptospirosis and other infectious diseases will not be a serious deterrent to using streams as a source of water for aquaculture.

Samoan Translation of materials will be needed.

2. Ultimate goal(s) of this Program

To mitigate stream water pollution and contamination in order to reduce the threat of infectious diseases, prevent flooding, and expand economic opportunities in the wise use of clean water.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2011	2.0	0.0	3.0	0.0
2012	2.0	0.0	3.0	0.0
2013	2.0	0.0	3.0	0.0
2014	2.0	0.0	3.0	0.0
2015	2.0	0.0	3.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Collect stream water samples for determining coliform and E. coli levels; identify point sources of sewage pollution and gauge extent of non-point sources attributed to feral pigs in headwaters; continue to share our expertise with other agencies and the public.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods

● Education Class	● Public Service Announcement
● Workshop	● Newsletters
● Group Discussion	● TV Media Programs
● One-on-One Intervention	● Web sites
● Demonstrations	● Other 1 (video production)

3. Description of targeted audience

Pig farmers, government agencies, volunteer groups, schoolchildren.

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	50	100	50	2000
2012	50	100	50	2000
2013	50	100	50	2000
2014	50	100	50	2000
2015	50	100	50	2000

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

2011:0 **2012:**0 **2013:**0 **2014:**0 **2015:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	0	0	0
2012	0	0	0
2013	0	0	0
2014	0	0	0
2015	0	0	0

V(H). State Defined Outputs

1. Output Target

- Percent of streams sampled

2011:90 **2012:**90 **2013:**90 **2014:**90 **2015:**90

- Percent of schools visited

2011:40 **2012:**50 **2013:**50 **2014:**60 **2015:**60

V(I). State Defined Outcome

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 Target

Number of streams with reduced loads of coliform bacteria.

2. Outcome Type : Change in Condition Outcome Measure

2011:15	**2012:**20	**2013:**20	**2014:**20	**2015:**20

3. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management
- 133 - Pollution Prevention and Mitigation

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Number of streams with high biotic integrity.

2. Outcome Type : Change in Condition Outcome Measure

2011:15	**2012:**20	**2013:**20	**2014:**20	**2015:**20

3. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management
- 133 - Pollution Prevention and Mitigation

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Competing Public priorities

Description

Feral pigs may continue to pollute streams even after piggeries which discharge effluent directly into streams are removed.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Time series (multiple points before and after program)

Description

Monthly monitoring of stream mouths for coliform and E. coli contamination will allow us to determine whether or notbacterial loads are reduced.

2. Data Collection Methods

- Sampling

Description

Collect 100 mL water samples each month and determine most probable number (MPN) of bacteria per 100 mL using IDEXX brand Colisure and Enterolert enzyme substrate tests.

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Human Health and Well-being

2. Brief summary about Planned Program

Projects under the Human Health and Well-being planned program are tailored to address obesity and overweight, poor nutrition, lack of physical activity, food safety and food security issues, and vector control against dengue, leptospirosis and other diseases. F4HN professional and paraprofessional staff will continue to use an integrated approach to provide nutrition education program to youth, homemakers, community residents, and other traditional and nontraditional clients. The Agriculture Extension Service staff will continue to emphasize the production of local vegetables in their effort to help F4HN clients begin gardening projects. Agriculture Extension will continue their efforts in disseminating the disease resistant varieties of taro and bananas, vegetable seeds/seedlings, and sweet potatoes to help address the food security issue. Once a tropical fruit person is on board, the emphasis will include propagating fruit trees for the back yard. Improved fruit trees stocks and high nutritional value citrus and acai palms will be imported and propagated for distribution to the public. The Fruit tree greenhouse is currently under construction. F4HN staff will conduct workshops, presentations, and demonstrations in the villages, schools, churches, government agencies, and community groups on developing and testing recipes using locally grown produce. Recipes will be given out to the participants with the rationale that if more fresh vegetables are readily available, more will be used in home meals. More vegetables cooked at home translate to more vegetables eaten and improved health of families. TheF4HN personnel will continue to distribute nutrition educational handouts such as the Pacific Food Guide Pyramid, newly published English/Samoan recipe book, calendars, posters, and other nutrition materials to students, teachers, homemakers, and other clients. Community awareness programs on the negative impacts of obesity, overweight, poor nutrition, lack of physical activity, and food safety issues will be implemented. Sports, aerobics, and other exercise programs will be implemented in the schools, work place, and village settings as alternative physical activity programs. Furthermore, F4HN staff will continue to conduct 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 will be provided to school age children and adults on the correct way to wash hands to prevent food borne illness. When a nutitionist is hired, the partnering with local, regional, and national agencies, organizations, and institutions in planning, developing, and implementing programs to address obesity and overweight, poor nutrition and lack of physical activity can be addressed. ASCC CNR will continue to join forces with the local departments of public health, EPA, agriculture, and USDA NRCS in developing a media campaign focused on what people can do to safeguard their families from contracting leptospirosis. When an animal extension person is on board, work will continue on the leptospirosis issue. Because of our success in bringing programs and information to the villages, the local office of homeland security has asked ASCC CNR to join with them in developing an overall avian influenza strategy for the Territory. ASCC CNR Entomologist and staff will participate in collaborative research on disease-carrying mosquitoes to strengthen the scientific basis for vector control efforts against endemic filariasis and potential exotic threats, including dengue, Ross River virus, West Nile virus, and chikunganya virus.

How successful the effort in addressing the issues in this planned program will be, is dependent on the recruitment of a nutritionist, a tropical fruit person and a livestock person. How long term the impacts will be will also be dependent on the capacity building efforts for the local staff, i.e. using Smith Lever funds to send staff off-island to Hawaii or the US mainland for Bachelor's, Masters and PhD degrees. As explained in the overview, American Samoa has had problems hiring and retaining qualified professionals.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : No

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

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Obesity and overweight, poor nutrition and lack of exercise, food safety issues, dengue, and leptospirosis are major health problems in American Samoa (AS). Food security, also, is of great concern as 95 - 97% of all foods are imported. This will be a continued focus in the 2011 - 2015 POW.

In 2003, the World Health Organization in its publication "Diet, Food Supply and Obesity in the Pacific" found that 83.6% of the males and 87.6% of the females in AS had a body mass index greater than 25. In a similar yet to be published study in 2005, Davison et.al. found in a stratified random sample of 380 AS adolescents aged 11 to 18 years old that 32% and 34% were overweight and obese respectively. Moreover, a survey of 424 children between the ages of 1-10 years old in AS conducted in 2003 by a team from the University of Hawaii and Uniformed Services University, Maryland reported that: 11% of the 1-4 years old were too heavy for their height, 30% of the 5-10 year old children were overweight, and 15% were at risk of being overweight. The survey also found that 9% had blood sugar levels higher than recommended and more than 55% had blood cholesterol levels higher than recommended.

The diets in AS are high in meats, starches, sugars, and fats and tend to be very low in vegetables, fruits and dairy products. Food safety related issues such as improper food handling and storage contributed to 1,299 cases of unspecified diarrhea reported in 1994. Furthermore, 14 cases of salmonellosis and six cases of food poisoning reported by LBJ (2004) could be attributed to improper food handling. Many cases of food borne illness are self treated and are not reported.

The new focus in food security is being addressed by making available staple food planting materials to anyone who has available land and is interested in cultivating them. Disease resistant cultivars of taro and bananas in addition to nutrient dense traditional crops including Soa'a, and Sulasula bananas and sweet potatoes (yams) are being disseminated.

A 1999 survey by PacELF found 17% of residents had been infected with the parasite that causes lymphatic filariasis. Over 3,000 cases of dengue occurred in the territory during a 3-month period of the most recent dengue outbreak in 2001, and about 44% of the territory's people were infected in the 1979-1980 regional outbreak of Ross River virus. These diseases can be vectored by mosquito species occurring in AS. Source reduction&mdashthe elimination of water-holding containers that serve as breeding sites for the vectors&mdashis recommended as the best way to control these vectors. CNR research seeks to help improve mosquito control efforts in the territory by collaboratively working to answer key questions about the efficacy and feasibility of source reduction. Therefore, programs addressing obesity and overweight as major health problems; poor nutrition and lack of physical activity as unhealthy behaviors; food safety issues; dengue and other mosquito-borne disease threats; and leptospirosis are top priority issues for the next five years. Because of the additional hatch funding in FY 07, American Samoa is curretly finalizing plans for the ground breaking ceremony for the Research Health Center facility.

2. Scope of the Program

- In-State Extension

- In-State Research

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Funding and staffing will continue.

Community coalitions and agency collaborations and partnerships will continue.

Clients will learn and change behaviors and lifestyles.

Obesity and overweight can be prevented and managed.

If more vegetables are easily available in home gardens, more will be cooked, more eaten with better health resulting.

With more practical information on leptospirosis given out to the public by the various agencies, ecause we all "sing the same song" and no confusing, conflicting information is disseminated, people will implement what is recommended.

Priorities will not change.

Mosquitoes can be controlled

Samoan translation of materials will be needed

Need to seek CSREES approval of new facility to house health program

2. Ultimate goal(s) of this Program

To live healthier lifestyles.
To have a backyard garden in every household
To have a variety of fruit trees grown in every backyard.
To provide knowledge base for effective mosquito vector control.
To assure that local food production is encouraged to offset the down turn in the global economy.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2011	2.0	0.0	3.0	0.0
2012	2.0	0.0	3.0	0.0
2013	2.0	0.0	3.0	0.0
2014	2.0	0.0	3.0	0.0
2015	2.0	0.0	3.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

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.
Research biology and control of disease-carrying mosquitoes.
Communicate results via research reports, brochures, seminars, TV, and individual contacts with other agencies
Construct new facility for health programs.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
● Education Class	● Public Service Announcement
● Workshop	● Billboards
● Group Discussion	● Newsletters
● One-on-One Intervention	● TV Media Programs
● Demonstrations	● Other 1 (video produced program)
● Other 1 (Visitations)	● Other 2 (calendar)
● Other 2 (Public meetings)	

3. Description of targeted 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.

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	1500	7000	1500	8000
2012	1500	7000	1500	8000
2013	2000	7000	1500	8000
2014	2000	7000	1500	8000
2015	2000	7000	1500	8000

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

2011:0 **2012:**0 **2013:**0 **2014:**0 **2015:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	0	0	0
2012	0	0	0
2013	1	0	1
2014	0	0	0
2015	1	0	1

V(H). State Defined Outputs

1. Output Target

- Number of research projects completed

2011:1	**2012:**0	**2013:**0	**2014:**0	**2015:**1

- Number of Nutrition educational workshops

2011:50	**2012:**50	**2013:**50	**2014:**50	**2015:**50

- Number of vegetable gardening workshops

2011:5	**2012:**5	**2013:**5	**2014:**5	**2015:**5

- Number of vegetable gardens established

2011:50	**2012:**50	**2013:**50	**2014:**50	**2015:**50

- Number of different recipes using local produce given out

2011:20	**2012:**20	**2013:**20	**2014:**20	**2015:**20

- Number of food safety workshops conducted

2011:30	**2012:**30	**2013:**30	**2014:**30	**2015:**30

- Number of publications/brochures/posters/calendars

2011:5	**2012:**5	**2013:**5	**2014:**5	**2015:**5

- Number of exercise and physical activity programs completed

2011:40	**2012:**40	**2013:**40	**2014:**40	**2015:**40

- Number of nutrient-dense traditional crop varieties disseminated

2011:12	**2012:**12	**2013:**12	**2014:**12	**2015:**12

- Number of collaborative projects with other agencies/organizations

2011:3	**2012:**3	**2013:**4	**2014:**4	**2015:**4

V(I). State Defined Outcome

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 Target

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. Outcome Type : Change in Action Outcome Measure

2011:	**2012:**	**2013:**	**2014:**	**2015:**
1000	1000	1000	1000	1000

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2011:	**2012:**	**2013:**	**2014:**	**2015:**
300	400	400	400	400

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2011:	**2012:**	**2013:**	**2014:**	**2015:**
1000	1000	1000	1000	1000

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior
- 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2011:1000	**2012:**1000	**2013:**1000	**2014:**1000	**2015:**1000

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 5

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2011:1000	**2012:**1000	**2013:**1000	**2014:**1000	**2015:**1000

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 6

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2011:1000	**2012:**1000	**2013:**1000	**2014:**1000	**2015:**1000

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior
- 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 7

1. Outcome Target

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

2. Outcome Type : Change in Condition Outcome Measure

2011:300	**2012:**300	**2013:**500	**2014:**500	**2015:**500

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 8

1. Outcome Target

Number of program clients that lived healthier lifestyles

2. Outcome Type : Change in Condition Outcome Measure

2011:1000	**2012:**1000	**2013:**1000	**2014:**1000	**2015:**1000

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 9

1. Outcome Target

Number of clients involved in collaborative projects

2. Outcome Type : Change in Action Outcome Measure

2011:300	**2012:**400	**2013:**400	**2014:**500	**2015:**500

3. Associated Knowledge Area(s)

- 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

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 10

1. Outcome Target

Number of villages using ASCC CNR generated information to control mosquitoes

2. Outcome Type : Change in Knowledge Outcome Measure

2011:2	**2012:**2	**2013:**2	**2014:**2	**2015:**2

3. Associated Knowledge Area(s)

- 721 - Insects and Other Pests Affecting Humans

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect 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)

Description

Natural disasters: hurricanes, cyclones, tsunamis, flooding and others
Changes in funding (loss of formula funds)
Changes in staffing (loss of staff)
Changes in institutional priorities and access to facilities
Changes in collaborators' abilities or willingness to continue as partners
Clients' family and church obligations
Health
Politics
Cultural Acceptance
Exotic pests and diseases
Loss of staff reduced program capacity

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Sampling
- Telephone
- Structured
- Observation

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Families, Youth and Communities

2. Brief summary about Planned Program

4-H will continue to address the youth-at-risk issues with programs in 4-H clubs and church youth organizations in the community, clubs in the schools and summer youth programs. Using and modifying the educational materials developed for US mainland youth, these lessons will be brought to the territorial youth on issues including but not limited to cigarette, alcohol, and drug use, teen pregnancy, suicide and high school dropout. Other topics will include parenting, entrepreneurship, sewing, arts and crafts, vegetable gardening and marketing projects. These lessons will be taught in workshops, in group discussions, on-to-one interventions, demonstrations, 4-H fairs, camps and summer programs and will reach youth and adults including parents, village and church women, farmers along with business people. TV and newsletters and brochures will help to spread the word. These direct and indirect methods will be in both English and Samoan.

It is hoped that with youth involvement in these programs, they will acquire knowledge and develop entrepreneurial and job readiness skills, obtain knowledge to start their own home-based businesses to become self-reliant, productive and contributing members of society.

Additional 4-H agents need to be hired. Finding local qualified staff has been difficult. How great the outcomes and impacts will be is dependent on the ability to hire and retain qualified personnel. Program funds need to be made available for local staff to continue their studies to obtain Bachelor's, Masters and PhD degrees in counseling, human development, sociology and their related fields.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : No

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
801	Individual and Family Resource Management	40%		20%	
802	Human Development and Family Well-Being	10%		25%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	10%		40%	
806	Youth Development	40%		15%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Resource management (poverty), parenting, culture, and youth at risk issues are major areas of concern in American Samoa. More than 58.3% of American Samoa's families are considered poor and below the U.S. poverty level (American Samoa 2000 Census). Additionally, 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 (Population Census 2000), people need to manage family resources wisely and take advantage of economic opportunities to maintain and increase their quality of life.

Parent and child relationship is a critical issue in American Samoa. Lack of supervision for children and youth due to working or absent parents is a major concern. There is a need to help parents become better parents and for the children to remain respectful of their parents. As American Samoa becomes more westernized, families are forced to reconcile their traditional culture of respect for elders and communal living with the often directly opposite western value of individualism. The Samoan youth are expected to serve their elders with respect and obedience with no back-talk. However, youth who grew up in Hawaii and the mainland United States have difficulties in accommodating their American lifestyles and expectations of parents and other family members. Attitudes toward the Samoan culture or fa'aSamoa are changing and that people are losing their perspective and respect for high moral standards and ethical conduct. Therefore, learning opportunities should be provided to preserve the Samoan culture, language, and family values.

According the Population Census 2000 the median age was 21. The American Samoa 2001 Youth Risk Behavior Survey of 914 high school students in six schools reported: 21% of the students carried a weapon, 37.3% smoked cigarettes, 8.7% drank alcohol, 21.7% used marijuana, 23.4% had sexual intercourse, and 20.9% attempted suicide.Juvenile crime is increasing. High school dropout in 2003 was 3%. Addressing the youth at risk issues will help the youth of American Samoa become productive, self-reliant, and contributing members of the community.

2. Scope of the Program

- In-State Extension
- In-State Research

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Funding and staffing will continue.
Community coalitions and agency collaborations and partnerships will continue.
Clients will learn and change behaviors, attitudes, practices, and lifestyles.
Clients will take advantage of economic and educational opportunities.
Youth at risk issues can be prevented and treated.
Priorities will not change.
Volunteers will assist with program implementation
Materials will need to be translated into Samoan

2. Ultimate goal(s) of this Program

To become self-reliant, productive, and contributing members of the society
To acquire knowledge and develop entrepreneurial and job readiness skills
To become employable in the private and public sectors
To start home based and small businesses
To generate supplemental revenues
To improve parent and children relationship
To develop a sense of pride and appreciation of the Samoan culture

To makesuccessful transition from youth at risk behaviors to clean, healthy, and esteemed lifestyles

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2011	2.0	0.0	2.0	0.0
2012	2.0	0.0	2.0	0.0
2013	2.0	0.0	2.0	0.0
2014	2.0	0.0	2.0	0.0
2015	2.0	0.0	2.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

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 fairs, camps, and summer programs.
Youth at risk issues workshops, conferences, forums, and seminars.
Public awareness media (radio, TV, newspaper) programs.
Development, translation, and distribution of posters, brochures, and other educational materials.
Communicate results via accomplishment reports, brochures, presentations, seminars, TV, and individual contacts with other agencies.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
● Education Class	● Public Service Announcement
● Workshop	● Billboards
● Group Discussion	● Newsletters
● One-on-One Intervention	● TV Media Programs
● Demonstrations	● Other 1 (Brochures/Handouts)
● Other 1 (Competitions)	● Other 2 (videos)
● Other 2 (Summer programs)	

3. Description of targeted 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.

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	500	1000	700	1500
2012	500	1000	1000	1700
2013	500	1000	1000	2000
2014	500	1000	1000	2000
2015	500	1000	1000	2000

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

2011:0 **2012:**0 **2013:**0 **2014:**0 **2015:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	0	0	0
2012	0	0	0
2013	0	0	0

Year	Research Target	Extension Target	Total
2014	0	0	0
2015	0	0	0

V(H). State Defined Outputs

1. Output Target

- Number of entrepreneurial and job readiness workshops

2011:20 **2012:**20 **2013:**20 **2014:**20 **2015:**20

- Number of apprenticeship and career shadowing programs

2011:5 **2012:**5 **2013:**5 **2014:**5 **2015:**5

- Number of sewing workshops and demonstrations

2011:30 **2012:**30 **2013:**30 **2014:**30 **2015:**30

- Number of arts and crafts workshops and demonstrations

2011:20 **2012:**25 **2013:**25 **2014:**25 **2015:**25

- Number of vegetable gardening and marketing projects

2011:10 **2012:**10 **2013:**10 **2014:**10 **2015:**10

- Number of Samoan cultural workshops and demonstrations

2011:20 **2012:**25 **2013:**25 **2014:**25 **2015:**25

- Number of vegetable gardens established

2011:50 **2012:**50 **2013:**50 **2014:**50 **2015:**50

- Number of parenting and character counts workshops

2011:20 **2012:**20 **2013:**20 **2014:**20 **2015:**20

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

2011:3 **2012:**3 **2013:**3 **2014:**3 **2015:**3

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

2011:20 **2012:**20 **2013:**20 **2014:**20 **2015:**20

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

2011:10 **2012:**10 **2013:**10 **2014:**10 **2015:**10

- Number of publications/brochures/posters/calendars

2011:5 **2012:**5 **2013:**5 **2014:**5 **2015:**5

- Number of videos

2011:2 **2012:**2 **2013:**2 **2014:**2 **2015:**2

V(I). State Defined Outcome

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 Target

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

2. Outcome Type : Change in Condition Outcome Measure

2011:500	**2012:**550	**2013:**550	**2014:**550	**2015:**550

3. Associated Knowledge Area(s)

- 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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Number of participants generating revenues from resource management activities

2. Outcome Type : Change in Action Outcome Measure

2011:100	**2012:**100	**2013:**100	**2014:**100	**2015:**100

3. Associated Knowledge Area(s)

- 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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

Number of participants starting home-based and small businesses

2. Outcome Type : Change in Action Outcome Measure

2011:5	**2012:**6	**2013:**6	**2014:**6	**2015:**6

3. Associated Knowledge Area(s)

- 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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

Number of participants securing employment in the private and public sectors

2. Outcome Type : Change in Condition Outcome Measure

2011:5	**2012:**6	**2013:**10	**2014:**10	**2015:**10

3. Associated Knowledge Area(s)

- 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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 5

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2011:100	**2012:**100	**2013:**100	**2014:**100	**2015:**100

3. Associated Knowledge Area(s)

- 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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 6

1. Outcome Target

Number of program participants that improved parent and children relationship

2. Outcome Type : Change in Condition Outcome Measure

2011:100	**2012:**100	**2013:**100	**2014:**100	**2015:**100

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 7

1. Outcome Target

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

2. Outcome Type : Change in Condition Outcome Measure

2011:350	**2012:**350	**2013:**350	**2014:**350	**2015:**350

3. Associated Knowledge Area(s)

- 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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 8

1. Outcome Target

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

2. Outcome Type : Change in Condition Outcome Measure

2011:200	**2012:**200	**2013:**200	**2014:**200	**2015:**200

3. Associated Knowledge Area(s)

- 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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 9

1. Outcome Target

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

2. Outcome Type : Change in Condition Outcome Measure

2011:100	**2012:**150	**2013:**150	**2014:**150	**2015:**150

3. Associated Knowledge Area(s)

- 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

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Natural disasters: hurricanes, cyclones, tsunamis, flooding and others
Changes in funding (loss of formula funds)
Changes in staffing (loss of staff)
Changes in institutional priorities and access to facilities
Changes in collaborators' abilities or willingness to continue as partners
Clients' family and church obligations
Health
Politics
Cultural Acceptance
Loss of staff reduced program capacity
Sensitive topics (premarital sex, teen pregnancy, sexually transmitted diseases)

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- During (during program)

Description

Pre/Post tests
Summative and formative evaluations
Accomplishment reports
Enrollment forms
Visitation reports
Focus group sessions
Annual surveys by ASCC CNR CES
Qualitative information gathered from home and village visits and interviews
Business records and licenses
Employment records

2. Data Collection Methods

- Sampling
- Whole population
- Telephone
- On-Site
- Structured
- Unstructured
- Observation
- Tests

Description

{NO DATA ENTERED}