

**2008 Annual Report Form
College of Micronesia**

I. Report Overview (5183 Characters)

The College of Micronesia-FSM Cooperative Research and Extension program covers agriculture and food science relate research and outreach efforts in the four states of the FSM, Yap, Chuuk, Pohnpei and Kosrae. During fy'08, Extension programs were active in all four states. Research was only conducted in Yap and Kosrae due to prolonged problems recruiting researchers for Chuuk and Pohnpei. Program areas addressed in the FSM were: Small Island Agriculture; Food, Nutrition and Health; Families, Youth and Communities; and Aquaculture. During the year, more activity took place in programs for Families, Youth and Communities due to the initiation of the program in Kosrae focused on Entrepreneurship. The Region 9 Water Quality Grant provided funds for summer student activities to improve FSM student's interest in studying Natural Sciences. A team effort by Agriculture Professionals to recruit high school students to college programs in Natural Sciences was successful. Under special funding from the Resident Instruction in the Insular Areas Grant the Certificate in Agriculture was offered for the first time at Pohnpei Campus.

Stakeholder input is sought throughout the country. Under COM-FSM policy and procedure, a nation-wide Cooperative Research and Extension committee has been formed to provide a structured input mechanism from all campuses on a quarterly basis. State level Advisory Councils are required under this network and Terms of Reference for such committees has been developed. Stakeholder input and the National Economic Development Plan for the Agriculture Sector were used as the basis for the Plan of Work. Stakeholder input is also used in the identification of and hiring for positions as needed.

The largest program for the FSM is been Small Island Agriculture. Every state addresses this need and all researchers in their capacity of Extension specialists dedicate 25% FTE to this program area. A total of 11.75 FTEs were dedicated to this area across the four states. Primary Knowledge Areas addressed were Plant Management Systems (205); Animal Welfare and Wellbeing (315) and Economics of Agriculture Production (601) with lesser time spent on other areas. Major accomplishments include improved black pepper production in Pohnpei, evaluation of fermented breadfruit as an energy source for pig feed, increased staple food production through the provision of improved planting materials in Pohnpei, Chuuk and Kosrae and crop enhancement in Yap through the promotion of Noni, study f nematode control in Swamp Taro and hydroponics systems as a management tool.

Aquaculture is being developed as an alternative commercial effort in Pohnpei and Yap. On Pohnpei there is a major effort in Black Pearl production as a commercial enterprise. The effort is funded through various sources while **one FTE Extension agent was fully involved. Four community run commercial efforts have been started. Seven thousand oysters were successfully distributed to the farms.** Regular training in all aspects of pearl production is conducted in the four communities. Aquaculture in Yap state focused on the study and control of tilapia as an invasive species. Extension advise was also provided in the production of marine reef species and in production of mangrove and coconut crabs for specialty markets. The Aquaculture Extension Agent completed his Graduate Certificate at the University of the South Pacific.

Food Nutrition and Health Program is of critical interest in all sites. Diabetes and heart related diseases contribute to the escalating cost of health care throughout the country. The Extension services in all states provided nutrition related training through CSREES EFNEP programs and independently in collaboration with state Departments of Health, Dept. of Education, and with NGOs such as the Island Food Community of Pohnpei. **Primary Knowledge areas addressed by the 4 FTEs are 702; 703 and 712 in all states.** Accomplishments in the food and nutrition areas will only become evident in the future as medical problems and off-island referrals decrease. Studies conducted and reported by the Island Food Community of Pohnpei with assistance from Extension agents indicate an increase in the use of vegetables and a higher demand for the carotene rich bananas in markets.

Families, Youth and Communities are offered in Chuuk, Yap and Kosrae. Kosrae received support from a special CYFAR Grant for Entrepreneurship Training for youth. On Pohnpei, young people benefited from alternative funding sources which supported educational activities, recruitment and formal education in Agriculture. A volunteer Food technologist collaborated with the extension service in Pohnpei to promote new value added food products from local commodities. Specific youth rehabilitation programs are conducted in Chuuk to reintroduce troublesome children back to school. On Chuuk and Kosrae there is a strong effort in small scale entrepreneur development through the teaching of sewing, food processing and handicrafts to producers and community groups. **Knowledge areas 802 and 806** addressed are the main indicated areas.

II. 2. Enter the Total Actual amount of professional FTEs/SYs for the State.

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	49.1		11.9	
Actual				

III. Merit Review Process

1. Select the Merit Review Process that was employed for this year. (Check all that apply).

- Internal University (college) Panel
- External University Panel
- External Non-University Panel
- Combined Internal and External University Panel
- Combined Internal and External University and External Non-University Panel
- Expert Peer Review
- Other _____

2. Tell us about your Merit Review and/or Peer Review Process completed this year. (3200 characters). (834Characters)

During this period a College of Micronesia- FSM system wide Cooperative Research and Extension Committee was established in accordance with the requirements of the COM-FSM Governance Policy, Board of Regents and the Accreditation Commission standards. Terms of Reference for a state level Advisory council have been developed as local oversight for each state CRE unit. State level stakeholders were involved in the position evaluation and interviews for all hiring efforts.

All Hatch Research project proposals were submitted to scientifically acceptable peer review. All special project proposals were subject to peer review within the college and by state stakeholders.

Quarterly reports are provided to two Boards of Regents on a Quarterly basis. Reports are included in a compiled report to the state and national governments and are posted on-line in the COM-FSM webpage.

Volunteers Leadership Trainings were conducted by COM-CRE

CRE has continued to reach out to churches, church youth and women groups

YINEC or the Yap Interagency Nutrition Education Council overview and feed in CES nutritional education policies and activities.

YFO or the Yap Farmers Organization feed in CES land agriculture policies and activities. Announcements, invitation and surveys are effective, and the above action groups act as forums or stages where on stakeholder participation is encouraged.

III. Stakeholders Input

1. Actions taken to seek stakeholders input that encourages their participation. (Check all that apply.)

- 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 Individual from general public
- Survey of traditional stakeholder groups
- Survey of traditional stakeholder individuals
- Survey of general public
- Survey specifically with non-traditional groups

- Survey specifically with non-traditional individuals
- Survey of selected individuals from the general public
- Other observation of popular press

Briefly explain how you encouraged stakeholder participation (3200 characters).

Volunteers Leadership Trainings were conducted by COM-CRE. These leaders were recruited from the different organizations including the churches. As an offshoot of this training, several projects were implemented i.e. EFNEP, Agriculture, sewing and handicraft. Stakeholders have also been responsible in organizing, information dissemination, and referral for COM-CRE programs and projects. Meetings/discussions have been held with the schools authority, church leaders, parents and the general public for the implementation of home gardens/sustainable agriculture project. CRE, Chuuk has continued to reach out to churches and women groups for health, nutrition, sewing and handicraft projects.

YINEC or the Yap Interagency Nutrition Education Council overview and feed in CES nutritional education policies and activities.

YFO or the Yap Farmers Organization feed in CES land agriculture policies and activities. Announcements, invitation and surveys are effective, and the above action groups act as forums or stages where on stakeholder participation is encouraged.

The Pohnpei Farmers Association and NGO organizations are used to identify priorities while most input comes from direct client contact during extension activities and through collaborative work with other agencies. State government input comes directly from participation on interagency councils.

2(A). A brief statement of the process that was used by the recipient institution to identify individuals and groups who are stakeholders and to collect input from them. (Part – 1)

1. Method to identify individuals and groups. (Check all that apply)

- Use Advisory Committee
- Use Internal focus Group
- Use External Focus Groups
- Open Listening Sessions
- Needs Assessments
- Use Surveys
- Other _____

Briefly explain your methods for identifying individuals and groups. (3200 characters)

Strategic action plans, interagency activities, community associations and direct client contact and through needs assessment surveys directly in the field. Meetings/discussions have been held with the schools authority, church leaders, parents and the general public for the implementation of home gardens/sustainable agriculture project.

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

1. Methods for collecting stakeholders input. (Check all that apply).

- Meeting with traditional Stakeholders 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 _____

Briefly explain your methods for collecting stakeholder input. (3200 characters)

Surveys and field observations in combination with farmer association meetings and surveys of women’s farmers have been used to develop research projects which in turn focus the extension activities especially in Yap. Youth program are developed through discussions with school, church and community groups and through direct assistance to government agencies such as the Departments of education in the Early Childhood Education (ECE) recruitment programs. Stakeholders are directly involved in identifying positions and hiring new upper level staff. College of Micronesia needs and assessments are provided through Cabinet level meetings, Board of Regent reviews, State Campus meetings and the annual Presidents Retreat and during student recruitment campaigns.

3. How the input was considered. (Check all that apply).

- In the Budget Process
- To identify emerging issues
- Redirect Extension Programs
- Redirect Research Program
- In the Staff Hiring Process
- In the action plans
- To Set Priorities
- Others _____

Briefly explain how you used the input given by stakeholders (3200 characters).

In review of strategic action plans, hiring of senior research and administrative positions establishing of research programs, focusing of special projects such as the Water Quality and Sustainable Agriculture projects and to identify clients and programs for youth such as the Youth at Risk programs and CYFAR programs in Chuuk and Kosrae. Budgets were developed around the priorities set by clients for special projects. State agencies help develop programs and focus budgets for all activities supported by state matching funds through Memorandums of Understanding.

Key Stakeholder input items for CSREES Attention: What did you learn from your Stakeholders? (3200 characters)

Information from participation in the government surveys of the outer island indicate Sea Level Rise due to environmental changes is a critical concern, especially on the atoll islands. Salt water intrusion into traditional growing areas is a result.

Collaborative surveys with NGO’s and government agencies indicate the general population is seriously affected by rapid price rises in staple food items and due to this, there is an increase in use of traditional foods either through increase gardening activities or through increase collection of available foods. Near shore reef food sources are at risk from environmental changes and increased harvesting pressures.

Student recruitment activities indicate an untapped interest in formal agricultural training at the certificate level.

IV (A): Planned Program (Knowledge Area)?

Name of Planned Program: Aquaculture

1. Enter the program Knowledge Areas (up to 20) and a percentage for each (total of each column must equal either 100% or 0%).

KA Code	Knowledge Area	%1862 Extension	%1862 Research
135	Aquatic and Terrestrial Wildlife	10	10
136	Conservation of Biological Diversity	10	10
301	Reproductive Performance of Animals	20	20
302	Nutrient Utilization in Animals	10	10
307	Animal Management Systems	20	20
308	Improved Animal Products (Before Harvest)	10	10
315	Animal Welfare/Well-being and Protection	10	10
511	New and Improved Non-Food Products and Processes	10	10
Total		100	100

IV (B). Planned Program Inputs

1. Enter the actual amount of professional FTEs/SYs expended for this Planned Program.

	1862	Extension 1890	1862	Research 1890
Plan	6.9		5.0	
2007				

2. Enter Actual dollars Expended in this Planned Program during FY 2007 (includes Carryover Funds from previous years). The values must be whole number i.e. no commas or decimals are allowed.

	Extension			Research
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
2007	0	0	0	0
	1862 Matching	1890 Matching	1862 Matching	1890 Matching
2007	0	0	0	0
	1862 All Other	1890 All Other	1862 All Other	1890 All Other
2007	0	0	0	0

IV. (C): Planned Program (Activity and Participation)

1. Brief description of Activity (What was done?): (3200 characters)

- One Staff development was completed with a Postgraduate diploma in Marine Science (special area of interest was Aquaculture).
- Continued to seek funding for a pearl oyster/hatchery center project for Yap State from state and national governments, NGO's and overseas grants.
- The tilapia fish is the major invasive aquatic pest in Yap and has made the listed of the ten worst invasive species for the State with major infestation areas in the mangrove and coastal water systems.
- Progress was made to initiate a demonstration/trial project with a local community to reduce tilapia population and enhance rabbitfish and other native fish species population simply by the constant capture and removing of tilapia from the water. Technical assistance was provided to the community that resulted in the formulation of a proposal seeking funding from the Global Environmental Facility Small Grant Programme-Micronesia.
- Another initiative to address the tilapia invasive pest problem is to encourage the use of this fish for pig and livestock feed. Through collaboration, a community-based project has been planned out to address the need of increasing/improving pig production using the tilapia invasive species.
- Information dissemination and technical advice continues on other aquaculture species such as mangrove crabs, sea cucumber, giant clams, freshwater prawns, and rabbitfish.
- Black Pearl research and extension is the focus of aquaculture activities in Pohnpei, although tilapia has also been designated as invasive in this state
- Spawning trial no. 21 for especially spat rearing and algae culture routine work; four of 1,000 L tanks were started for 100% flow through with 756,500 spats for settling purpose; pearl staff and trainees doing spat bag changed and sorting of juvenile oysters into lantern nets with over several thousands of juvenile oysters currently transferred from the hatchery to the farms;
- Over 102,911 spats included adult oysters cleaned and sorted during the farm skill training at Nett Point. More time and labor are needed to accomplish that task of sorting.
- 90% survival rate during the days with spat collectors deployed for spat settlement.
- There was another tank changed, which obtained about 500,000 spats included resettlement group into 1.5 ton raceway tank. At this stage, survival rate after tank changed was 90% (500,000 spats) after spawning, there were about 1,000 baby oysters still culturing in a 4x10 foot flow through raceway tanks at the hatchery.
- Approximately 201 spat collectors have been transferred from the culturing tanks to Net farm. Sorting and bag change were done bi-weekly, which were later being transferred to Pakin and seeded.
- Ten trainees were involved in farm maintenance operation to gain more hands-on training for ocean grow-out farm and maintenance of pearl farming, surface long line, sorting/thinning and shell cleaning; relocating all oysters to accommodate over 80, 000 recent survival spats.
- The Pearl Project team took three days to maintain the Pearl farm in Pakin such as shell cleaning and recording

2. Brief description of the target audience. (3200 characters)

Aquaculture and marine resources development and conservation is rapidly gaining interest and support from government and private sector, stakeholders, communities, NGO's and individuals. The major constraint to aquaculture development in Yap is the lack of information, knowledge and understanding of this new emerging technology. Thus, the aquaculture program targeted a wide range of audience including stakeholders, government leadership (State legislature), heads of relevant government agencies (Marine Resources, Fisheries, Agriculture, EPA etc.), NGO's and community-based groups, businesses and private sector, fishermen, farmers and individuals and in general who have interest in raising or culturing Black Pearl both on the main islands and outlying atolls.

IV (D): Planned Program (Outputs).

1. Enter the actual number of persons (contacts) to be reached through direct and indirect methods. (Standard Extension Output).

Direct Contacts Adults		Indirect Contacts Adults		Direct Contacts Youth		Indirect Contact Youth	
Year	Target	Target	Target	Target	Target	Target	Target
Plan	350	1000	150	1000	0	0	0
2007	0	0	0	0	0	0	0

2. Number of patents (Standard Research Output).

Patents Received

Year	Target
Plan	0
2007	

If patents received, please list them here.

3. Publications (Standard General Output Measure).

Number of Peer Reviewed Publications.

	Extension	Research	Total
2007			

IV (E): State Defined Output Measure

1. Output Target

Number of demonstration farms established.

Year	Target	Actual
2007	6	

1. Output Target

Number of publications for lay use.

Year	Target	Actual
2007	4	

1. Output Target

Number of conference paper and publication/presentation.

Year	Target	Actual
2007	5	

1. Output Target

Expected Professional Journal publications.

Year	Target	Actual
2007	3	

1. Output Target

Expected Gray Literatures.

Year	Target	Actual
2007	6	

1. Output Target

Expected publications for lay use.

Year	Target	Actual
2007	5	

IV (E): State Defined Outcome Measures

1. **Outcome Target:** Increase awareness in the communities and prospective and existing industry about sustainable, site-specific, and low energy aquaculture technologies.

2. **Outcome Type**

Change in Knowledge Outcome Measure

Change in Action Outcome Measure

Change in Condition Outcome Measure

Enter by Quantitative and/or Qualitative Method Below as appropriate.

Quantitative Outcome

Year	Quantitative Target (If appropriate)	Actual
2007	30	

Qualitative Outcome or Impact Statement

Knowledge base has increased from the technical information being provided.

Twenty-one plus 20 causal trainees participated and attended trainings conducted by core staff at the Black Pearl Nursery at Nett Point.

Issue (Who cares and Why?): (500 Char Max)

It has been one of the college mandates to provide technical assistances to the communities as requested in order to improve health, status and the environment. Trainings provided would improve skills, knowledge and confident of participants to pursuit in black pearl farmer. Aquaculture is still underdeveloped in Yap. However interests are rapidly gaining as a result from the need to conserve biological resources and to find economic opportunities.

What has been done: (500 Char Max)

Information and technical advice were offered to interested individuals

Skill trainings conducted for the participants interested in pursuing black pearl farming

Results: (1000 Char Max)

Individuals are planning their venture/project and are seeking ways to develop their ideas.

Participants have greatly improved skills and knowledge which will be very helpful in the pearl industry. Participants now with confident can perform outstandingly for spat sorting, shell cleaning, and for making spat protected nets called tackle nets.

3. Associate KAs from the Planned Program. (Check all that apply).

	KA Code	Knowledge Area
x	135	Aquatic and Terrestrial Wildlife
x	136	Conservation of Biological Diversity
	301	Reproductive Performance of Animals
	302	Nutrient Utilization in Animals
x	307	Animal Management Systems
x	308	Improved Animal Products (Before Harvest)
	315	Animal Welfare/Well-being and Protection
	511	New and Improved Non-Food Products and Processes

IV (F): State Defined Outcome Measures

1. Outcome Target - Adoption of sustainable aquaculture technologies by commercial and community groups.
2. Outcome Type
 - Change in Knowledge Outcome Measure
 - Change in Action Outcome Measure
 - Change in Condition Outcome Measure

Enter by Quantitative and/or Qualitative Method Below as appropriate.

Quantitative Outcome

Year	Quantitative Target (If appropriate)	Actual
2007	10	

Qualitative Outcome or Impact Statement

The government is supportive of the pearl oyster project and participating in its planning and development. Six communities within Pohnpei proper and outer islands have participated in the activities of black pearl farming.

Issue (Who cares and Why?): (500 Char Max)

A pearl oyster venture would provide economic benefits to the involved communities creating employment and increase income.

It has been one of the college mandates to provide technical assistances to the communities as requested in order to improve health, status and the environment. Trainings provided would improve skills, knowledge and confident of participants to pursuit in black pearl farming.

What has been done: (500 Char Max)

A proposal has been completed and is being submitted to several funding sources for consideration. Continuous training and hands-on work in black pearl farming trade for selected participants

Results: (1000 Char Max)

Long lines were deployed at Nett Point demonstration farm to accommodate about 80, 000 recent survival spats in the farm. There will be more spats and oysters for distribution to farmers. And as a result, more people will be attracted to the pearl farming due to high number of seed stocks.

3. Associate KAs from the Planned Program. (Check all that apply).

	KA Code	Knowledge Area
x	135	Aquatic and Terrestrial Wildlife
x	136	Conservation of Biological Diversity
	301	Reproductive Performance of Animals
	302	Nutrient Utilization in Animals
x	307	Animal Management Systems
x	308	Improved Animal Products (Before Harvest)
	315	Animal Welfare/Well-being & Protection
	511	New and Improved Non-Food Products and Processes

IV (G): State Defined Outcome Measures

1. Outcome Target: Number of established aquaculture operations.
2. Outcome Type
 - Change in Knowledge Outcome Measure
 - Change in Action Outcome Measure
 - Change in Condition Outcome Measure

Enter by Quantitative and/or Qualitative Method Below as appropriate.

Quantitative Outcome

Year	Quantitative Target (If appropriate)	Actual
2007	3	

Qualitative Outcome or Impact Statement

Three trainees from Pakin and one from Mwoakilloa have participated during the bag changed and setting up long lines at the farm. The Pearl staff and trainees were doing some spat bag changed and sorting of juvenile oysters into lantern nets. Additionally, eight participants plus 20 causal trainees attended trainings conducted by core staff at the Black Pearl Nursery at Nett Point.

Issue (Who cares and Why?): (500 Char Max)

It has been one of the college mandates to provide technical assistances to the communities as requested in order to improve health, status and the environment. Trainings provided would improve skills, knowledge and confident of participants to pursuit in black pearl farmer.

What has been done: (500 Char Max)

Over several thousands of juvenile oysters currently transferred from the hatchery to the farms. More time and labor are needed to accomplish that task of sorting with sorting and bag change were done bi-weekly.

Results: (1000 Char Max)

More long lines have been deployed at Nett Point demonstration farm to accommodate over 200, 000 recent survival spats in the farm. There will be more spats and oysters for distribution to farmers. And as a result, more people will be attracted to the pearl farming due to high number of seed stocks. There were 32, 000 spats sorted into collectors on the farm

3. Associate KAs from the Planned Program. (Check all that apply).

	KA Code	Knowledge Area
x	135	Aquatic and Terrestrial Wildlife
x	136	Conservation of Biological Diversity
	301	Reproductive Performance of Animals
	302	Nutrient Utilization in Animals
	307	Animal Management Systems
x	308	Improved Animal Products (Before Harvest)
	315	Animal Welfare/Well-being & Protection
	511	New and Improved Non-Food Products and Processes

IV (G): Planned Program (Outcome)

1. External factors which affected outcomes. (Check all that apply)

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriation changes
- Public Policy changes
- Government regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Population changes (immigration, new cultural groupings, etc.)
- Other

Brief explanation of external factors which affected the outcomes. (Opportunity to discuss Unmet Goals). (3200 characters).

Sites visits and monitoring have been disrupted to due bad weather and transportation limitation, especially to the other island of Pohnpei, namely, Mwoakilloa. Delivery of seed stock has been delayed and need for new patches are necessitated. (What about comment on other factors)

IV (H): Planned Program (Evaluation)

1. Evaluation studies Completed. (Check all that apply)

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Case study
- Comparisons between program participants (individual, group, organization) & non-participants
- Comparison between different groups of individuals or program participants experiencing different levels of program intensity;
- Comparison between locales where the program operates and sites without program intervention;
- Other(s) _____

What are your Evaluation Results? (3200 characters)

Targeted audience has gain and increase knowledge of their interests. Feedback from the communities has been positive and encouraging. Numbers of participants increased, skills and knowledge learned have built the confidence of the participants to pursuit into pearl farming.

Key Items of the Evaluation(s) for CSREES Attention. (3200 characters)

Invasive species are affecting the health of h aquatic systems of FSM
The economic changes are creating pressure to diversify income sources to include aquaculture activities

IV (I): Planned Program (Outcome)

1. External factors which affected outcomes. (Check all that apply)

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriation changes
- Public Policy changes
- Government regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Population changes (immigration, new cultural groupings, etc.)
- Other

Brief explanation of external factors which affected the outcomes. (Opportunity to discuss Unmet Goals). (3200 characters).

Aquaculture is new to Yap it is our goal to sell to the public its positive qualities like food security and profit generation. Natural disaster and lack of funds on account of policy and program changes will ward people off aquaculture.

IV (A): Planned Program (Knowledge Area)?

Name of Planned Program: Small Island Agricultural Systems

1. Enter the program Knowledge Areas (up to 20) and a percentage for each (total of each column must equal either 100% or 0%).

	KA Code	Knowledge Area	%1862 Extension	%1862 Research

	102	Soil, Plant, Water, Nutrient Relationships	10	10
	112	Watershed Protection and Management	10	10
	136	Conservation of Biological Diversity	10	10
	202	Plant Genetic Resources	10	10
	204	Plant Product Quality and Utility (Preharvest)	10	10
	205	Plant Management Systems	10	10
	212	Pathogens and Nematodes Affecting Plants	10	10
	216	Integrated Pest Management Systems	10	10
	315	Animal Welfare/Well-Being and Protection	10	10
	601	Economics of Agricultural Production and Farm Management	10	10
		Total	100	100

IV (B). Planned Program Inputs

1. Enter the actual amount of professional FTEs/SYs expended for this Planned Program.

	1862	Extension 1890	1862	Research 1890
Plan	19.8		7.0	
2007				

2. Enter Actual dollars Expended in this Planned Program during FY 2007 (includes Carryover Funds from previous years). The values must be whole number i.e. no commas or decimals are allowed.

	Extension			Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen	
2007	0	0	0	0	
	1862 Matching	1890 Matching	1862 Matching	1890 Matching	
2007	0	0	0	0	
	1862 All Other	1890 All Other	1862 All Other	1890 All Other	
2007	0	0	0	0	

IV. (C): Planned Program (Activity and Participation)

1. Brief description of Activity (What was done?): (3200 characters)

This Program is to increase agriculture production and consumption of local produces through recruited clients from the four states of Micronesia via conducted groups and individual workshops and awareness of the program. These clients were provided with agriculture basic techniques and knowledge on backyard gardening as container gardening, conventional rows and raised-bed gardening. Where appropriate, alternative hydroponics is promoted. These clients were also provided with selective seedlings for the first time in order to start their gardens. Agents also did site visits to provide technical assistance at the garden sites as needed. Agents assisted clients to establish mini nurseries if requested using appropriate technology including low cost, local materials. Training modules have been prepared both for crop and livestock production. Non formal education conducted were on water quality (2 times), home gardening. Demonstration Gardens have been maintained and improved to provide seeds, seedlings and cuttings of variety of crops to neighboring clients and school gardens. Water Quality Project: approximately one hundred and sixty youths (160) have been trained on how to test safety of drinking water, treating unsafe water and saving water. Installation of the first flush to keep water clean was also learned. Livestock production training was focused on Swine management including one state level para-vet training in collaboration with the Secretariat of the Pacific Community veterinarian. Farmers learned proper management practices in swine husbandry and shared their thoughts, problems and successes in hog rearing. The training was divided into two parts. Part I include presentations and part II involving practical/hands-on on drug administrations, compost making, and castration. Three farm level studies provided basic information on the use of fermented breadfruit and copra as local sources of energy feeds in combination with high-protein supplements. Livestock programs also included training in response methods in the event of potential suspected Avian Influenza outbreaks. Cash crops were included in this program: Pohnpei Black Pepper, Kosrae citrus, Banana products throughout the country, and noni (*Morinda citrifolia*) as an alternative crop. Distribution of selected Colocasia taro planting materials, distribution of sweet potato planting materials as a rapid recovery food for atoll gardens; swamp taro (*Cytosperma*) improvement studies and surveys advanced on Yap with the identification of effective methods to reduce nematode damage. Hydroponics systems are included in community development systems in yap and citrus canker resistant rootstock and grafting materials have been acquired for research on Kosrae. All Extension staff collaborated to encourage schools, church groups, youth groups and individuals to develop gardens in response to the FSM President's call for more local food production. Sustainable production and control of invasive species as well as the use of locally available soil amendments was highlighted. Extension brochures on nematode control and noni production are produced

2. Brief description of the target audience. (3200 characters)

The majority of FSM Citizens depend to a greater or lesser extent on local production for either home consumption or for support of cultural activities. Direct contact was maintained with the commercial farmers (Bananas, vegetables, noni, root crops and citrus) as well as the subsistence sector. Individual farmer visits were the main link, however, adult group training, youth group activities and faith based and gender based training meetings were also used. The general public was exposed through participation in frequent community and state agricultural fairs and competitions.

IV (D): Planned Program (Outputs).

1. Enter the actual number of persons (contacts) to be reached through direct and indirect methods. (Standard Extension Output).

Direct Contacts Adults		Indirect Contacts Adults		Direct Contacts Youth		Indirect Contact Youth	
Year	Target	Target		Target		Target	

Plan	600	3000	300	600
2007	0	0	0	0

2. Number of patents (Standard Research Output).

Patents Received

Year Target

Plan	0
2007	

If patents received, please list them here.

3. Publications (Standard General Output Measure).

Number of Peer Reviewed Publications.

	Extension	Research	Total
2007			

IV (E): State Defined Output Measure

1. Output Target

Expected Professional Journal Publications.

Year	Target	Actual
2007	0	

1. Output Target

Expected Gray Literatures.

Year	Target	Actual
2007	0	

1. Output Target

Expected publications for lay use.

Year	Target	Actual
2007	0	

1. Output Target

Conference presentations.

Year	Target	Actual
2007	0	

1. Output Target

Conference publication.

Year	Target	Actual
2007	0	

1. Output Target

Number of publications for lay use.

Year	Target	Actual
2007	0	

1. Output Target

Number of conference paper publication/presentations.

Year	Target	Actual
2007	0	

1. Output Target

Number of demonstration farms established.

Year	Target	Actual
2007	0	

IV (F): State Defined Outcome Measures

3. Outcome Target - Number of persons with increased knowledge on appropriate production technologies.

4. Outcome Type

Change in Knowledge Outcome Measure

Change in Action Outcome Measure

Change in Condition Outcome Measure

Enter by Quantitative and/or Qualitative Method Below as appropriate.

Quantitative Outcome

Year	Quantitative Target (If appropriate)	Actual
2007	2400	

Qualitative Outcome or Impact Statement

Survey results gave additional information about plant-parasitic nematodes affecting food crops. Soil Solarization experiment revealed significant reduction (up to 35 percent) in the number of eggs and juveniles of root-knot nematodes.

Issue (Who cares and Why?): (500 Char Max)

Survey results help farmers to take necessary precautions during cultivation of various crops to reduce nematode infestation.

The information generated from the noni research will help Yap Farmers to select potent forms of noni for commercial production and nematode resistant cultivars of taro.

What has been done: (500 Char Max)

Field survey gave additional information about plant-parasitic nematodes. Soil Solarization experiment showed up to 35 percent reduction in the number of eggs and juveniles in the soil.

Vegetative noni cuttings were established in nursery settings and their morphological characters were compared with that of plants from natural population.

Women farmers help the Project Director to identify swamp taro cultivars.

Collection of local and imported germplasm of banana, sweet potato, taro and citrus has been done.

Results: (1000 Char Max)

Based on the results of experiments on nematodes, two extension leaflets were compiled and circulated among various stakeholders Data collected from nursery grown plants and natural population clearly showed differences in morphological characters. Whether these differences reflect in their chemical principles will be the thrust area of future research under this project. Fourteen cultivars of swamp taro are identified so far. They were further scrutinized for final field experimentation.

High efficiency protocols and nursery techniques have been developed for mass-multiplication of different varieties of banana, taro and sweet potato.

3. Associate KAs from the Planned Program. (Check all that apply).

	KA Code	Knowledge Area
x	102	Soil, Plant, Water, Nutrient Relationship
	112	Watershed Protection and Management
x	136	Conservation of Biological Diversity
x	202	Plant Genetic Resources
x	204	Plant Product Quality and Utility (Preharvest)
x	205	Plant Management Systems
x	212	Pathogens and Nematodes Affecting Plants
x	216	Integrated Pest Management Systems
x	315	Animal Welfare/Well-Being and Protection
x	601	Economics of Agricultural Production and Farm Management

IV (G): State Defined Outcome Measures

- 3. Outcome Target - Number of program participants adopting recommended practices.
- 4. Outcome Type
 - Change in Knowledge Outcome Measure
 - Change in Action Outcome Measure
 - Change in Condition Outcome Measure

Enter by Quantitative and/or Qualitative Method Below as appropriate.

Quantitative Outcome

Year	Quantitative Target (If appropriate)	Actual
2007	10	

Qualitative Outcome or Impact Statement

35 adults and youths were directly impacted on agriculture production and new technologies. 25 or 71% were demonstrating follow-up activities in agricultural production. These 25 clients were doing vegetable crop, traditional crops, or a combination of both.

Issue (Who cares and Why?): (500 Char Max)

Farmers who require availability of disease-free and elite seedlings, through mass multiplication and distribution of banana, taro, sweet potato, noni and kava seedlings.

What has been done: (500 Char Max)

More than 6,400 elite seedlings of different varieties of banana, taro, kava and sweet potato were produced through micropropagation and nursery management system.

Results: (1000 Char Max)

Total 2,338 seedlings of different varieties of banana, taro and sweet potato were distributed to 86 interested farmers. Distribution of new and imported banana and sweet potato varieties, multiplied through tissue culture has also been started.

3. Associate KAs from the Planned Program. (Check all that apply).

	KA Code	Knowledge Area
	102	Soil, Plant, Water, Nutrient Relationship
	112	Watershed Protection and Management
	136	Conservation of Biological Diversity
x	202	Plant Genetic Resources
x	204	Plant Product Quality and Utility (Preharvest)
x	205	Plant Management Systems
x	212	Pathogens and Nematodes Affecting Plants
	216	Integrated Pest Management Systems
	315	Animal Welfare/Well-Being and Protection
	601	Economics of Agricultural Production and Farm Management

IV (H): State Defined Outcome Measures

- 3. Outcome Target - Number of established farms and farm related businesses by individuals and cooperatives.
- 4. Outcome Type
 - Change in Knowledge Outcome Measure
 - Change in Action Outcome Measure
 - Change in Condition Outcome Measure

Enter by Quantitative and/or Qualitative Method Below as appropriate.

Quantitative Outcome

Year	Quantitative Target (If appropriate)	Actual
2007	0	

Qualitative Outcome or Impact Statement

Household food intake is 50% subsistence - living of the land and the surrounding waters. Westernization has brought in the other 50% that's growing large day by day. Western expertise has established that not all imported foods are superior, though they are extremely convenient to prepare and consume. The consumers need to be educated about imported foods as well as the first 50% coming off the land. The FSM President officially recognized the need to GO LOCAL.

Issue (Who cares and Why?): (500 Char Max)

To reduce the dependency on imported food, targeted number of youths and adults from farmers and home-gardener communities will start their own home-gardens and/or develop their land into agriculture farms and will start crop production.

What has been done: (500 Char Max)

2,338 seedlings of different varieties of banana, taro and sweet potato were distributed to 86 interested farmers.

Results: (1000 Char Max)

Ten youths and adults have started establishing their farms and are cultivating different varieties of banana, soft taro and sweet potato. All the banana plants are showing healthy growth at the banana evaluation and demonstration plots and are being maintained regularly.

3. Associate KAs from the Planned Program. (Check all that apply).

	KA Code	Knowledge Area
	102	Soil, Plant, Water, Nutrient Relationship
	112	Watershed Protection and Management
	136	Conservation of Biological Diversity
x	202	Plant Genetic Resources
x	204	Plant Product Quality and Utility (Preharvest)
x	205	Plant Management Systems
x	212	Pathogens and Nematodes Affecting Plants
	216	Integrated Pest Management Systems
	315	Animal Welfare/Well-Being and Protection
	601	Economics of Agricultural Production and Farm Management

IV (I): Planned Program (Outcome)

1. External factors which affected outcomes. (Check all that apply)

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriation changes
- Public Policy changes
- Government regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Population changes (immigration, new cultural groupings, etc.)
- Other

Brief explanation of external factors which affected the outcomes. (Opportunity to discuss Unmet Goals). (3200 characters).

Frequent rains, at times, hindered field survey. Progress of the work is slow owing to lack of additional funding. Two research assistants are needed to carry out field surveys effectively. Land tenure and ownership disputes affect secure access to available properties and islands are dispersed over 1.5 million sq. miles of ocean.

IV (J): Planned Program (Evaluation)

1. Evaluation studies Completed. (Check all that apply)

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Case study
- Comparisons between program participants (individual, group, organization) & non-participants
- Comparison between different groups of individuals or program participants experiencing different levels of program intensity;
- Comparison between locales where the program operates and sites without program intervention;
- Other(s) monthly observations

What are your Evaluation Results? (3200 characters)

Results of the survey periodically compared with similar survey results available from other Pacific Islands. Comparative evaluation helped to identify information about common plant parasitic nematodes.

The extension activities have improved knowledge, created awareness and developed skills of participants in sustainable agriculture systems. The project activities have made extension agents capable of organizing trainings, teaching farmers and providing technical assistance, and apply gained knowledge and skills in the field. Ultimately the project has developed positive attitudes, zeal for learning techniques and farming aspects, and has changed the behavior of the participants.

Key Items of the Evaluation(s) for CSREES Attention. (3200 characters)

Nematodes can be controlled through management practices. There are differences in noni variety efficacy. High efficiency protocols have been developed for rapid multiplication of different varieties of banana, sweet potato and taro. Initial grafting experiments on citrus are encouraging and showing positive results. The extension activities have improved knowledge, created awareness and developed skills of the participants in sustainable agriculture systems.

IV (A): Planned Program (Knowledge Area)?

Name of Planned Program: Families, Youths & Communities

1. Enter the program Knowledge Areas (up to 20) and a percentage for each (total of each column must equal either 100% or 0%).

KA Code	Knowledge Area	%1862 Extension	%1862 Research
608	Community Resource Planning & Development	30	30
801	Individual and Family Resource Management	10	10
802	Human Development and Family Well-being	30	30
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	10	10
806	Youth Development	20	20
	Total	100	100

IV (B). Planned Program Inputs

1. Enter the actual amount of professional FTEs/SYs expended for this Planned Program.

	Extension		Research	
	1862	1890	1862	1890
Plan	12.4		0.0	
2007				

2. Enter Actual dollars Expended in this Planned Program during FY 2007 (includes Carryover Funds from previous years). The values must be whole number i.e. no commas or decimals are allowed.

Extension			Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
2007	0	0	0	0
1862 Matching		1890 Matching	1862 Matching	1890 Matching
2007	0	0	0	0
1862 All Other		1890 All Other	1862 All Other	1890 All Other
2007	0	0	0	0

IV. (C): Planned Program (Activity and Participation)

1. Brief description of Activity (What was done?): (3200 characters)

4H and Youth Development is downsized into the following mini-programs: (1) 4H Gardening at the elementary schools and youth club level, (2) Community Beautification at the village youth club level, (3) Sports and Physical Exercise at team and league level, and (4) Arts and Crafts at youth club level. Handicraft and sewing projects were undertaken. Counseling and skill training was provided to children and parents that are actively participating in the CYFAR program during the year. CES staff conducted training to provide knowledge and skills to the participating youth as entrepreneur activities to help themselves and also their families and communities. The 3 months “youth at risk” project has been advertised and so far 34 have applied to participate. Ten 4H groups have been organized with leaders from each group identified. Water Quality project meetings were conducted with youth leaders and approximately 160 youths. Lesson presentations on food processing and preservation with demonstrations on jam making using a variety of local crops such as banana, papaya and apple. Other vegetables were also used when teaching preservation techniques on kimchee and chili base. Student recruitment efforts and Career Days were conducted resulting in one new Certificate Level program being offered at Pohnpei Campus.

2. Brief description of the target audience. (3200 characters)

The participants include youngsters of the 9 to 19 years of age. Art and Craft sessions for youngest participants; Community Beautification involved all age groups cooperating through cleaning and beautifying village roads, stone paths and community centers; Sports and gardening were included. Young mothers with children, gardeners/farmers who are capable to produce family foods and students to learn skills and apply knowledge. The CYFAR Program involved students and their parents. The participants to the sewing and handicraft classes were all women/homemakers and youths from the different regions and municipalities of Chuuk. The youth participants to 4-H project and water quality were also from the different regions in Chuuk State.

IV (D): Planned Program (Outputs).

1. Enter the actual number of persons (contacts) to be reached through direct and indirect methods. (Standard Extension Output).

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contact Youth
Year	Target	Target	Target	Target
Plan	900	2700	1200	3600
2007	0	0	0	0

2. Number of patents (Standard Research Output).

Patents Received

Year Target

Plan	0
2007	

If patents received, please list them here.

3. Publications (Standard General Output Measure).

Number of Peer Reviewed Publications.

	Extension	Research	Total
2007			

IV (E): State Defined Output Measure

1. Output Target

Number of training conducted targeting youths.

Year	Target	Actual
2007	12	

1. Output Target

Number of training conducted targeting families and youths in the communities.

Year	Target	Actual
2007	6	

1. Output Target

Total number of youth clubs organized.

Year	Target	Actual
2007	3	

IV (F): State Defined Outcome Measures

5. Outcome Target - Number of youth with increased awareness and understanding of roles and relationship with parents.

6. Outcome Type

Change in Knowledge Outcome Measure

Change in Action Outcome Measure

Change in Condition Outcome Measure

Enter by Quantitative and/or Qualitative Method Below as appropriate.

Quantitative Outcome

Year	Quantitative Target (If appropriate)	Actual
2007	900	

Qualitative Outcome or Impact Statement

50% participants will learn new and improved food processing and preservation techniques, handicraft arts and sewing of clothing and apply new skills. The number of youth with awareness and understanding of roles and relationship with parents will be increased.

An increased number of youth will select Agriculture and Natural Sciences as their major at COM-FSM

Issue (Who cares and Why?): (500 Char Max)

Food production and food security is declining and families are relying more on imported food products. Food Processing helps food security while selling quality products generates income for families.

Parents, teachers, local leaderships in the community of Yap are concerned with cultural disintegration and youth problems. All Natural Resources agencies need qualified replacement staff. Employment is very limited in FSM so any income generated by entrepreneurs in the community is important.

What has been done: (500 Char Max)

Twenty food processing sessions were conducted at CES office. More than 50% of the program clientele could make jam using different banana varieties, papaya and apples. Four community-fair activities held through the year, and program clientele took part, displayed locally produced jams and demonstrated fruit punch drink to more than 300 community people.

Counseling and skill trainings was provided to both kids and parents that are actively participating in the CYFAR program during the year.

The 4H program guided more sport and physical fitness programs. A total of 13 elementary schools and 397 students have been impacted by the program. There are 50 active gardening 4H'ers.

Youth club government provide ample opportunity for leadership development, volunteer development and the actual hands on process of a project cycle: project planning, implementation, and project evaluation.

Results: (1000 Char Max)

Behavior and attitude had been improved and kids gained knowledge in repairing green machines and sewing machines, basics of planting vegetables, oriented with the money fundamental and money moves curriculum. Program found more responsible youngsters respecting not only their parents, but their peers as well and readily taking the leadership in supervising younger club members in youth activities.

Women were proud to display banana and papaya jams at agriculture fairs and displays. Eighty per cent (80%) of the trained women are making jams for their families. Shelf life of the banana jam produced by CRE program is more than one year.

3. Associate KAs from the Planned Program. (Check all that apply).

	KA Code	Knowledge Area
x	608	Community Resource Planning & Development
x	801	Individual and Family Resource Management
x	802	Human Development and Family Well-being
x	804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures
x	806	Youth Development

IV (G): State Defined Outcome Measures

- 5. Outcome Target - Number of families adopting interpersonal skills to improve quality of life and harmony in the family.
- 6. Outcome Type
 - Change in Knowledge Outcome Measure
 - Change in Action Outcome Measure
 - Change in Condition Outcome Measure

Enter by Quantitative and/or Qualitative Method Below as appropriate.

Quantitative Outcome

Year	Quantitative Target (If appropriate)	Actual
2007	300	

Qualitative Outcome or Impact Statement

The 350 participating families were able to achieve cohesiveness and harmony through adoption of interpersonal reinforcements resulting in improved quality of life in the family, the peer groups and the community. Positive communication is essential in all relationships, families and cultures including Yap wherein silence is looked upon as virtues of humility and patience.

166 homemakers have learned the skills in sewing and handicraft as shown by the different projects that they were able to accomplish i.e. boy's and girl's wear, men and women's wear necklaces, trays and wall décor.

Food Safety was promoted while conducting food preservation methods.

There were 14 vegetable gardens developed for the CYFAR participants & their families.

Youth were prepared for returning to school or recruited and focused toward study of natural sciences through recruitment campaigns and participation in the summer Water Quality programs

Issue (Who cares and Why?): (500 Char Max)

Use food safety gloves during food demonstration and any food handling activities to reduce spreading of micro organisms in food. Not all people are fully aware of the importance of food safety gloves.

Approximately 98% of the CYFAR participants and families have very little knowledge of backyard gardening.

In all mini-project activities, parents showed support, praise and enthusiasm for their participating children through attendance in sport competitions.

What has been done: (500 Char Max)

Parents spent valuable quality time with their youngsters doing things they like and interested them the most.

It was emphasized in food preservation training to use food safety disposable gloves all times when handling food.

The CES coordinated trainings to the CYFAR participants (ages 15-19) on backyard gardening. Trainings on

Entrepreneur, business planning, marketing pricing and advertising were conducted to the 14 active participants.

Water Quality youth projects were used to interest youth in the study of natural sciences.

Results: (1000 Char Max)

Through the 20 lessons conducted on food processing and food preservation training, all participants were wearing gloves when participated in the food processing activities, women are buying and using the gloves when handling food during parties and any community functions. 75% of the participating youth have started to think positive and have turned their interest in the type of entrepreneurial activities they would like to pursue. A certificate in Agriculture course was opened at Pohnpei campus

3. Associate KAs from the Planned Program. (Check all that apply).

	KA Code	Knowledge Area
x	608	Community Resource Planning & Development
x	801	Individual and Family Resource Management
x	802	Human Development and Family Well-being
x	804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures
x	806	Youth Development

IV (H): State Defined Outcome Measures

3. Outcome Target - Total number of families and youths benefiting from the use of learned skills.

4. Outcome Type

___ Change in Knowledge Outcome Measure

___ Change in Action Outcome Measure

x Change in Condition Outcome Measure

Enter by Quantitative and/or Qualitative Method Below as appropriate.

Quantitative Outcome

Year	Quantitative Target (If appropriate)	Actual
2007	300	

Qualitative Outcome or Impact Statement

Increased interest is shown in continuing studies in Natural Sciences.

Homemakers have learned the skills in sewing and handicraft. At least two mini businesses were established after attending food processing and preservation training. Ninety percent (90%) of the total participants have gained knowledge from both the entrepreneur and skill trainings.

Issue (Who cares and Why?): (500 Char Max)

The whole community cares, because the new skills and potential for income generation will decrease dependency on relatives and friends. Individual family members improve life by increased self sufficiency and food security or by added income for sale of produce or processed items.

New students mean better qualified applicants for open positions, and employed family members improve the total family lifestyle.

What has been done: (500 Char Max)

Participants in the food processing training were given Vitamin A rich banana varieties for planting on their farms and were guided toward sources of funding support and entrepreneurial training. Water Quality funding was provided for youth club activities studying Natural Sciences. Other USDA funding was provided for scholarships and in support of recruitment and formal programs.

Results: (1000 Char Max)

Fourteen new students have identified agriculture certificate as their field of study at COM-FSM. One student was sponsored to University of Guam, One accepted to University of Hawaii Hilo and four received scholarships to attend the University of the South Pacific Agriculture school. 166 homemakers have learned the skills as shown by the different projects that they were able to accomplish. All program participants have banana farms and received Vitamin A rich banana varieties during the training. Two ladies were participated in the crop competition during community fair and won the best award on Vitamin A rich banana. Other banana varieties were harvested more and were used for jam and other recipes.

3. Associate KAs from the Planned Program. (Check all that apply).

	KA Code	Knowledge Area
x	608	Community Resource Planning & Development
x	801	Individual and Family Resource Management
x	802	Human Development and Family Well-being
x	804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures
x	806	Youth Development

IV (I): Planned Program (Outcome)

1. External factors which affected outcomes. (Check all that apply)

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriation changes
- Public Policy changes
- Government regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Population changes (immigration, new cultural groupings, etc.)
- Other

Brief explanation of external factors which affected the outcomes. (Opportunity to discuss Unmet Goals)

Natural disasters and lack of funding are the primary external causes affecting outcomes. Prices of commodities and gasoline have gone up tremendously. Participants were not able to repeat jam recipes for they cannot afford the high cost of kerosene used for cooking jam. Family members have to meet student’s obligation, social commitments, i.e. funerals, weddings etc. All these affected attendance and the outcome of the projects. COM-CRE receive lower “Compact” budget compared with the Dept. of Education and Health thus has limited outreach. Weather is another factor.

IV (J): Planned Program (Evaluation)

2. Evaluation studies Completed. (Check all that apply)

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

- Comparisons between program participants (individual, group, organization) & non-participants
- Comparison between different groups of individuals or program participants experiencing different levels of program intensity;
- Comparison between locales where the program operates and sites without program intervention;
- Other(s) _____

What are your Evaluation Results? (3200 characters)

Participants and families have gained knowledge and are slowly beginning to consider establishing individual businesses. 100% of participants successfully completed two sets of entrepreneur training conducted. All the girls were able to complete the sewing course while the boys repair all the eight (8) broken weed eaters and 5 electrical sewing machines. 30% of the participants have changed in behavior, attitude and participated in the community and Church activities. 100% of the participants have developed knowledge and skills on handicraft making and sewing. 8 program participants have prepared and sold local jams. All certificate level students either have continued on in agriculture in the second semester or have received scholarships to transfer to higher level programs.

Key Items of the Evaluation(s) for CSREES Attention. (3200 characters)

Community and families are eager for entrepreneurial opportunities for training or beginning businesses.
 Funding is often a restriction
 Youth respond positively to encouragement and opportunity.

IV (A): Planned Program (Knowledge Area)?

Name of Planned Program: Food, Nutrition & Health

1. Enter the program Knowledge Areas (up to 20) and a percentage for each (total of each column must equal either 100% or 0%).

KA Code	Knowledge Area	%1862 Extension	%1862 Research
701	Nutrient Composition of Food	10	10
702	Requirements and Function of Nutrient and Other Components	20	20
703	Nutrition Education and Behavior	10	10
711	Ensure Food Products Free of Harmful Chemicals, including, Residues from Agricultural and Other Source	20	20
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxin	20	20
724	Healthy Lifestyle	20	20
	Total	100	100

IV (B). Planned Program Inputs

1. Enter the actual amount of professional FTEs/SYs expended for this Planned Program.

	1862	Extension	1890	1862	Research	1890
Plan	10.0			0.0		
2007						

2. Enter Actual dollars Expended in this Planned Program during FY 2007 (includes Carryover Funds from previous years). The values must be whole number i.e. no commas or decimals are allowed.

Extension			Research	
Smith-Lever 3b & 3c		1890 Extension	Hatch	Evans-Allen
2007	0	0	0	0
1862 Matching		1890 Matching	1862 Matching	1890 Matching
2007	0	0	0	0
1862 All Other		1890 All Other	1862 All Other	1890 All Other
2007	0	0	0	0

IV. (C): Planned Program (Activity and Participation)

1. Brief description of Activity (What was done?): (3200 characters)

Yap Island-wide nutrition education activities are coordinated through the Yap Interagency Nutrition Education Council (YINEC). The CRE/HE Agent is physically located at the Agriculture Station in Colonia to be in the midst of her nutrition, diet and health clientele. Food production and physical fitness are stressed in nutrition education. Physical exercises are a necessary component of nutrition education and the food pyramid, and food production through gardening is a needed part of her educational EFNEP activities to assist farmers put the recipe-required vegetables on the table.

EFNEP: Non-communicable diseases have been escalating at an alarming rate. EFNEP lessons and cooking demonstrations focused on healthy food choices and the use of local foods. The entry and exit data for EFNEP 12 Step Lessons program showed impacts on improvement of dietary habits and practices.

Food Safety: Food Safety training was undertaken at two levels. At the public and commercial institution level there was collaboration with Environmental Health and Sanitation, Dept. of Health Services, to present a one week training on Food Safety for Supervisors and staffs of restaurants, stores and public institutions. At the community level, food safety was incorporated into the EFNEP program and the food processing demonstrations.

School Nutrition Enrichment Program and Child Find Survey: The rationale behind this project is to reach the household members thru the students in high school. The focus of the education is on prevention of NCD thru proper diet. The EFNEP extension asst participated in Child Find surveys conducted in all villages through the collaboration of the Public Health, Early Childhood Education Program, Dept of Education and the Cooperative Research and Extension.

Follow-up of clients thru anthropometric measurements and dietary counseling is conducted as requested by individuals or in collaboration with health clinics such as the Diabetes & Hypertension Awareness & Prevention Week, International Women's Day Celebration, World Food Day and similar state and national efforts.

CES Agent continued with photo shootings, reviewing and revising of the EFNEP recipe book, and the work been carried out by the JOCV volunteer on food processing, trainings and presentation.

2. Brief description of the target audience. (3200 characters)

The target audience includes young breastfeeding, pregnant mothers, home-makers, males and females of all walks of life, and interest groups (NGOs, Women Group, Community Group, etc.) women/homemakers, women leaders, church leaders, high school students, school staffs, youths and the whole community, school teacher and parent groups, youth clubs and island/atoll populations, generally low income families relying on the ocean and the land to subsist and supplement their required food intake.

IV (D): Planned Program (Outputs).

1. Enter the actual number of persons (contacts) to be reached through direct and indirect methods. (Standard Extension Output).

Direct Contacts Adults		Indirect Contacts Adults		Direct Contacts Youth		Indirect Contact Youth	
Year	Target	Target	Target	Target	Target	Target	Target
Plan	600	3000	300	1500			
2007	0	0	0	0			0

2. Number of patents (Standard Research Output).

Patents Received

Year	Target
Plan	0
2007	

If patents received, please list them here.

3. Publications (Standard General Output Measure).

Number of Peer Reviewed Publications.

	Extension	Research	Total
2007			

IV (E): State Defined Output Measure

1. Output Target

Number of community workshops conducted.

Year	Target	Actual
2007	12	

1. Output Target

Number of coalitions strengthens.

Year	Target	Actual
2007	6	

1. Output Target

Number of intervention conducted to individuals or small groups.

Year	Target	Actual
2007	134	

IV (F): State Defined Outcome Measures

7. Outcome Target - Number of program participants who increase awareness of nutrition related health issues.

8. Outcome Type

Change in Knowledge Outcome Measure

Change in Action Outcome Measure

Change in Condition Outcome Measure

Enter by Quantitative and/or Qualitative Method Below as appropriate.

Quantitative Outcome

Year	Quantitative Target (If appropriate)	Actual
2007	900	

Qualitative Outcome or Impact Statement

Program participants are taught that non- communicable diseases (NCD) are on the rise in Yap. Program participants become proactive in the education of others in the area of food, nutrition and health. They are taught preference of local foods over imported foods and the importance of physical work and exercises, participants shared the recipes learned during the training/workshops. In the breastfeeding, about 20% of clients started breastfeeding their babies. The College of Micronesia - FSM mandates to provide technical assistances to the communities as

requested in order to improve health, status and the environment. Trainings provided improved skills, health, knowledge and better use of meager resources available to families.

Issue (Who cares and Why?): (500 Char Max)

Women associations, health authorities, educators, political and church leaders are alarmed at the rapid increase in non-communicable diseases impacting immediate family, neighbors and island atolls. Many citizens are referred to Philippines and Hawaii for medical care. Morbidity and mortality from NCD leave many disabled and quality of life is severely affected. Micronutrient deficiency among the preschoolers was found to be high, affecting their growth and performance.

What has been done: (500 Char Max)

CES Agents conducted training/workshops in the communities. Program leaders include former students in the education program and clientele of CRE to educate the populace on the severity of the NCD problem and the role of diet and healthy lifestyle i.e. physical activities to prevent and contain the disease. Healthy food choices and lifestyles, local foods as well as foods and habits such as smoking, alcohol, coffee and substance abuse to avoid are emphasized.

Results: (1000 Char Max)

Recipes based on local produce were shared during the training/workshops. About 20% of the clients started breastfeeding their babies after the breastfeeding workshops. Former nutrition education students are teachers and decision makers in the area of food, nutrition and health: the trained are the trainers. EFNEP's Entry and Exit data showed significant improvement in dietary habits and practices. Pre and post test during the food safety training also showed significant improvement. Evaluation during the workshops showed the improved knowledge the participants have on different knowledge and skill areas. During the community follow-up, the interview showed that there was retention of knowledge learned during the trainings; however, there was no improvement on the body mass index of the participants weighed during the follow-up. People are more selective in the type of bananas, taro, they use for baking or use in the homes, yellow varieties is preferred over other varieties.

3. Associate KAs from the Planned Program. (Check all that apply).

KA Code	Knowledge Area
701	Nutrient Composition of Food
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior
711	Ensure Food Products Free of Harmful Chemicals, including Residues from Agricultural and Other Sources
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxin
724	Healthy Lifestyle

IV (G): State Defined Outcome Measures

7. Outcome Target - Number of program participants adopting recommended practices after completing educational programs.
8. Outcome Type
 - ___ Change in Knowledge Outcome Measure
 - ___x_ Change in Action Outcome Measure
 - ___ Change in Condition Outcome Measure

Enter by Quantitative and/or Qualitative Method Below as appropriate.

Quantitative Outcome

Year	Quantitative Target (If appropriate)	Actual
2007	600	

Qualitative Outcome or Impact Statement

Capacity to perform a learned knowledge and skill are not real outcomes. Outcomes are fully realized when program participants actually adopt the learn skills and live them. Per and post interviews and tests – even 6 months thereafter, 25% of clients continue living the recommended and adopted practices. Participants shared the recipes learned during the training/workshops.

Fifty percent (50%) of program participants learned food storage techniques and understand Vitamin A and important roles it plays in the body. EFNEP Entry and Exit data showed significant improvement in dietary habits and practices. Pre and post test during the food safety training also showed significant improvement. During the community follow-up, the interview showed that there was retention of knowledge learned during the trainings.

Issue (Who cares and Why?): (500 Char Max)

Individuals and families care since NCD is a big problem. Participants were overweight and very overweight. The entry data show lack of vegetables in the diet, high intake of fried foods and processed meats, local tempura, carbonated drinks, candies and cookies, and the use of a lot of soy sauce. The college mandates to provide technical assistances to the communities as requested in order to improve health through training to improve skills, health, knowledge and better use of meager resources.

What has been done: (500 Char Max)

Program participants become decision makers to improve Community Training programs. Child Find Survey - The staff, with Health Services dietitian, interviewed mothers on the 24 hrs food recall of each child and provided nutrition counseling during the two weeks of survey. Anthropometric measurements were done to determine body mass index for each participant. Nutrition lessons include the relationships between obesity, NCD and other debilitating illnesses were discussed.

Results: (1000 Char Max)

Capable participants and graduates of programs are skilled and are educators and decision makers. Participants shared the recipes learned and about 20% of clients started breastfeeding their babies. Fifty per cent revealed that they applied the new food preparation techniques by using separate knives for vegetables and meat, separate cutting boards, stored perishable foods properly and served fresh food for their families. People select Vitamin A type bananas for baking or in the homes. More vegetable gardens are established by program families. The homemakers now understand the relationships between obesity and NCD and other debilitating illnesses i.e. gout. They have also internalized the relationships between a bad diet and NCD and to prevent or contain NCD, proper diet and physical fitness are necessary. Participants have also become aware that abuse of alcohol, coffee, betel nut is bad for the health. Above all they have learned to appreciate the merits of local foods.

3. Associate KAs from the Planned Program. (Check all that apply).

KA Code	Knowledge Area
701	Nutrient Composition of Food
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxin
724	Healthy Lifestyle

IV (H): State Defined Outcome Measures

- 5. Outcome Target – Annually increase the number of healthy food snacks or lunch programs in schools and communities.
- 6. Outcome Type
 - Change in Knowledge Outcome Measure
 - Change in Action Outcome Measure
 - Change in Condition Outcome Measure

Enter by Quantitative and/or Qualitative Method Below as appropriate.

Quantitative Outcome

Year	Quantitative Target (If appropriate)	Actual
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2007	6	
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Qualitative Outcome or Impact Statement

Healthy snacks should be prepared and be available for all family members. By policy school lunches are not provided in schools except the early childhood program. Still, balanced meals should be prepared and served for all family members and the parents are always supplementing the ECE menus with local vegetables and local foods.

Issue (Who cares and Why?): (500 Char Max)

There is no lunch program in schools. The Government together with educators called for the policy in our schools. Most people are relying on imported food with limited food dollar to provide healthy snacks for the family. The parents bear the major burden in feeding their kids while in ECE, elementary, and high schools.

What has been done: (500 Char Max)

The extension program conducted lessons of food safety on food storage and food preparation. Clients also learn home gardening where they can eventually use the products when preparing family food with fresh vegetables. The staff provided nutrition counseling to mothers and caretakers on the importance of balanced diet and healthy snacks and to use local food for nutritive value and the cost. The parents are fully aware of their children status.

Results: (1000 Char Max)

100% have learned food storage skills and 50% have actually applied new skills. Gardens are in place and all family members are working together in their gardens. Snacks are made available for children and other family members. Fresh products harvested from the family gardens were used when preparing snack for the family. More mothers are seen preparing locally produced crops as snacks for their children. More families are maintaining vegetable gardens and planting more Vitamin A banana plants around their houses and in the farms.

3. Associate KAs from the Planned Program. (Check all that apply).

KA Code	Knowledge Area
701	Nutrient Composition of Food
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxin
724	Healthy Lifestyle

IV (I): Planned Program (Outcome)

1. External factors which affected outcomes. (Check all that apply)

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriation changes
- Public Policy changes
- Government regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Population changes (immigration, new cultural groupings, etc.)
- Other

Brief explanation of external factors which affected the outcomes. (Opportunity to discuss Unmet Goals)

Natural disasters adversely affect programs. Public policies have been positive and supportive. Intra-State immigration of neighboring islanders affected nutrition education to the extent of competing with local funds for programs. Increased population shift public priorities. There is a lack of funding for equipments and supplies, for travel to the neighboring islands and program improvement/expansion. Erratic weather has always been a problem. In Micronesia where the highway is the sea, and pathways from and to villages are full of big rocks, bad weather affects attendance. Fuel costs and a big number of government employees were laid off. Many migrated to Hawaii and Guam, leaving the burden of keeping house and young family members to those left behind. This also affects attendance. Understaffing, limited funding and proper equipment and tools are the major constraints in the programs. Few people are able to afford the transportation cost to attend the training at CRE office. Imported foods are more available to most people.

IV (J). Planned Program (Evaluation)

1. Evaluation studies Completed. (Check all that apply)

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Case study
- Comparisons between program participants (individual, group, organization) & non-participants
- Comparison between different groups of individuals or program participants experiencing different levels of program intensity;
- Comparison between locales where the program operates and sites without program intervention;
- Other(s) _____

What are your Evaluation Results? (3200 characters)

More people are using the yellow bananas in their cooking, and also as baby foods. More markets are selling these yellow bananas and more people are buying. The women are changing a lot in what they are doing. They are using technique like using 2 different cutting boards and separating meats from the rest of the food. These are food safety techniques learned from the program. The women and the youths also read carefully what they are buying in the stores to keep their families healthier than ever. They are reading the food thermometers to find out if the foods, especially the meat are cooked well. These women and youths are really paying better attention of what their families are eating. Exit data during the year showed a significant improvement on food habits and practices i.e. an increase in the usage of vegetables and fruits. The participants have understood the concept of a balance diet which means that everyday, the meals should contain foods from the three groups. They have understood how saturated fats affect the circulatory system, how too much refined carbohydrates and sugars can damage the pancreas and the production of insulin, and how salt can raise the blood pressure. The participants have understood how inactivity together with bad food can cause obesity. Above all they have realized the superiority of local foods i.e. local starches. Community follow-up where anthropometric measurements were undertaken also showed retention of knowledge, although obesity remains a problem. Pre and post test during the food Safety Training also showed significant improvement in knowledge and skills. This was further proved during the practicum part of the training. All participants know what a food pyramid is, the role of vitamins, irons, fruits, dairy products, starch and the importance of food safety and food security. But like smoking, the daily choice is individualistic and hard to overcome. Homemakers fare better when they save time cooking rice rather than harvest, prep and cook local crops. Island wide is the preference for imported snacks to local fruit snacks.

Key Items of the Evaluation(s) for CSREES Attention. (3200 characters)

Based on the food recall and food behavioral checklist, it shows increased in knowledge and better eating pattern on the collected data. Learned skills and acquired knowledge are natural and automatic in nature. It's the behavioral outcome that slowly evolves to follow suit.

What's needed is the constant education and positive message impact. Slowly one's behavior evolves to follow suit. Increased awareness, skills and knowledge for participant groups and communities in regards to nutrition, health and management of meager resources available to them as compared with the non-participating groups or communities.

- Increase in the use of local foods i.e. starches, fruits and vegetables
- Increase in the use of vegetables and fruits,
- Decrease consumption of local tempura
- Regular use of chlorox, and pine sol
- Boiling water
- Decrease use of soy sauce
- Barbecuing and boiling fish instead of frying
- Decrease use of canned meat and hot dogs.
- Decrease of carbonated drinks and cookies.

V. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS) and Actual Total Formula, Matching and Other dollars Expended for FY 2007 (automatic addition from Planned Programs)

Year:	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Allocated	\$959,051	0	\$1,299,774	0

2. Total Actual dollars from Planned Programs input Screens

Actual Formula	0	0	0	0
Actual Matching	0	0	0	0
Actual Other	0	0	0	0
Total Actual Expended	0	0	0	0

3. Amount of Above Actual Formula Dollars Expended for FY 2007 which comes from Carryover funds from previous years.

Carryover	0	0	0	0
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