2013 Annual Report for the
College of Micronesia

Report Overview

1. Enter an Executive Summary for your Fiscal Year 2013 Report (6400 characters).

Integrated research and extension programs continued to address economic, social, and ecological issues facing the Micronesian region. These programs were extended through the cooperative research and extension offices at the three partner colleges: College of the Marshall Islands (CMI), College of Micronesia – FSM (COM-FSM), and Palau Community College (PCC). Dissemination of new knowledge and technologies to sustain and improve the quality of life of all Micronesian citizens in the Republic of the Marshall Islands (RMI), Federated States of Micronesia (FSM), and Republic of Palau (ROP) continued.

The sequestration had a negative effect on programs with about 10 percent reduction in funds for Micronesia. However, mitigation and adaptation programs on climate change continued as well as programs on food security, food safety and childhood obesity that were supplemented by programs on proper hygiene and healthy lifestyle that are important in safeguarding the well-being of citizens. The rising sea level due to climate change has become catastrophic to the low-lying atolls and sea level areas. The increasing cost of food and fuel has forced people to make adjustments necessary for the new economic, social and environmental conditions and find innovative methods of farming of crops, livestock, and aquaculture species. Research and extension activities promoted agricultural productivity and food security, self-sufficiency, and enhancing quality of life. The utilization, processing and development of new products from staple food crops that are acceptable to the native population and in local markets continued. Trials on taro varieties for their suitability to grow under atoll conditions continued and the micro propagation of elite (disease-free and high yielding) varieties that will improve the quality and quantity of certain crop varieties for food security were ongoing. Continued germplasm maintenance of staple root crops has insured genetic conservation of these valuable resources for future generations. This has also facilitated the continued supply of planting materials to growers and for in-vitro multiplication of other food crops.

Aquaculture demonstration projects continued to transfer the technical know-how to Micronesians for alternative source of income towards socio-economic improvement. Efforts were made to initiate and improve site-specific multi-species aquaculture and transfer simple and appropriate feeding technology for targeted aquaculture species to farmers to formulate and prepare their own feeds. Other projects provided stock enhancement to replenish depleted stocks and continuation of a project to develop the technology for the farming of sea cucumbers in the FSM to enable the replenishment of lagoons and reefs depleted as a result of over harvesting.

Outreach programs continued on issues ranging from food safety and quality, food security, families, youths and communities, water quality, and managing limited natural resources and the environment. Health and nutrition programs continued on the importance of healthy lifestyles, which included physical activity and consumption of safe and nutritious food to combat obesity, diabetes, heart diseases and other NCDs. The youth

development programs provided information to increase knowledge and appreciation of marine and terrestrial flora and fauna and more students are exposed to computers, which provided the opportunity to use the Internet as an introduction to electronic connectivity and information gathering. Water quality education programs continued as collaborative efforts with international and regional organizations, government agencies, and community groups. Sustainable agriculture and IPM programs provided farmers information on agricultural production practices that protect the fragile island ecosystem integrity and biodiversity. Programs continued on resistant crop varieties and practical biological pest control measures to provide useful tools for stakeholders to combat crop pests and diseases and increase productivity. The use of beneficial organisms was emphasized to reduce pest threats on crops.

Multi-state and multi-institutional efforts continued through the Center for Tropical and Subtropical Aquaculture (CTSA) on aquaculture projects with the University of Hawaii. A cost-sharing agreement with Pohnpei State Government continued, whereby extension agents from the Agriculture Station have been collaborating with Pohnpei CES staffs. Continuing shortage of necessary human resources and professional staff remained a top priority and several programs and activities toward developing this area were implemented, including a Financial Assistance and Scholarship Program for program staff and financial assistance from the CarriPac program to college students enrolled in agriculture and home economic. Other capacity building activities included sustainable agriculture workshops, tissue culture and nursery practice, IPM, health and nutrition, and basic sewing attended by farmers, homemakers, the youth and adult sectors of the society and the underprivileged.

(The color code: red for PCC; blue for COM-FSM and green for CMI.)

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

Year: 2013	Extension		Research		
	1862	**1890**	**1862**	**1890**	**Others***
Plan	**40**		**10**		
Actual	**10.3;no data/no cmi data**		**9.6;**		

I. Merit Review Process

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

_x__ 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).

Project proposals were developed as a result of meetings and consultation with stakeholders and also based on existing plans of work for research and extension. The proposals were submitted to a publication, merit or scientifically acceptable peer review committees for comments and suggestions. Other special project proposals were subject to peer review within and outside of the colleges by other stakeholders and also subjected to review by advisory committees. Proposals were also posted on websites. Once comments were incorporated into the proposals, the Vice-President of Cooperative Research and Extension then submitted them for review and approval at each college. Final proposals were submitted to the AES/CES Interim Director through the college Presidents for approval or disapproval.

III. Stakeholders Input

1. Actions taken to seek stakeholder's 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
_x__ 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 _____

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

When meetings were called to discuss research and extension planned activities, stakeholders such as community leaders, farmers, homemakers, traditional leaders and political leaders, were directly involved in the discussions. Many of their suggestions and comments were included in the planned research and extension activities. In some cases, research activities were done in farmers' fields and in so doing farmers participated directly in the implementation of projects. Scheduled meetings were also held in the communities to inform community leaders, farmers, and homemakers, political and traditional leaders about progress being made with research and extension activities. During these meetings, stakeholders were given the opportunity to ask questions, make comments, and share traditional knowledge and even suggested changes or other activities that are more important

and relevant to the needs of their communities. Other methods of encouraging stakeholder participation were done through direct meetings and workshops with different sectors of the population to solicit their inputs in identifying priority issues.

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
_x__ other __Referred by others__ Ongoing discussions with clients (socially disadvantaged communities)

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

Farmers, homemakers, political, traditional and community leaders were requested to identify names of individuals or groups in their respective communities who should be attending meetings and workshops. Other individuals were those working on similar programs with other agencies and those recommended by peers. Those identified were informed via letter, radio or through personal visits when meetings or trainings were held. Other methods were through strategic planning meetings, interagency collaboration, community associations and direct client contact and needs assessment surveys directly in the field. Meetings/discussions were also held with school authorities, church leaders, parents and the general public on the implementation of community projects.

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
_x__ 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)

Some of the methods used for collecting stakeholder input were one-on-one visits conducted in the communities and through discussions and interviews with community leaders. Surveys and field observations in addition to farmers association and other community meetings were also used. Youth programs were developed through discussions with schools, church and community groups and through direct assistance to government agencies such as the Early Childhood Education (ECE) recruitment programs. Stakeholders were directly involved in identifying positions and hiring of new upper level staff. Other methods used were questionnaires, need assessments, Board of Regents reviews, annual retreat, cabinet level meetings and student recruitment campaigns**.**

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

___ In the Budget Process
__ To identify emerging issues
__x__ 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).

During meetings with stakeholders, suggestions, comments and modifications from them were sorted out and those with positive impacts to research and extension project proposals were incorporated. It also helped with planning and prioritization of the next year's planned program activities. The review of strategic action plans, hiring of senior research and administrative positions, and focusing on special projects were also used to collect stakeholder inputs. State agencies assisted in developing programs and focus budgets for activities supported by matching funds through MOAs.

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

We learned that farmers, homemakers, fishermen, community groups and others are good sources of traditional knowledge which can be applied and used to improve social, agricultural and environmental issues. Entrepreneurs interested in business development lack marketing strategies and training is necessary for them to be successful.

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	15	15
302	Nutrient Utilization in Animals	10	10
307	Animal Management Systems	15	15
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
608	Community Resource Planning and 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.

	Extension		**Research**	
	1862	**1890**	**1862**	**1890**
Plan	**3.0**		**2.0**	
2013	2.6;no data; no data		1.9;No data	

2. Enter Actual dollars Expended in this Planned Program during FY 2013 (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 Evans-Allen	1890 Extension	Hatch	
2013	$	0	$	0

	1862 Matching	1890 Matching	1862 Matching	1890 Matching
2013	0	0	0	0

	1862 All Other	1890 All Other	1862 All Other	1890 All Other
2013	0	0	0	0

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

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

PCC: Research on seed production of mangrove crabs and rabbitfish continued. Some of the crablets produced were released to mangrove conservation areas while the rest were kept in nursery tanks for distribution to local farmers. Hatchery produced rabbitfish fingerlings were given to local farmers for grow out while others were kept in the hatchery for display to visitors. Meetings were held with fish farmers and methods on how to grow crabs, rabbitfish, milkfish and clams were discussed. A concept on how to establish local production of milkfish fry to address the issue of sustainability in milkfish farming we also presented. Schools were encouraged to send their students for summer work program, hands on training and field trips to the hatchery. Relevant aquaculture activities were featured in local newspapers while posters and exhibits were displayed in local and international events.

CMI: Two trial runs for the production of pearl oyster spats were conducted; spats were brought to three pearl farms. The maintenance of rabbit fish and other brood stocks continued. Extension agents visited nine islands and conducted outreaches to schools and local communities. We continued to participate with RMI mobile team, FAO and Marine Resources for food security initiatives and extension services.

COM-FSM: We continued to refine the hatchery production of Sandfish Sea Cucumber and initiated the technology of Black Teat Sea Cucumber with more hatchery runs. The settled juveniles were stocked in the “Habitat Simulator” Raceways for further growth observations. A total of 2,638 juveniles of sand fish were transferred for restocking. Sixty Black Teat juveniles were settled in the raceway tank and spawning trials were carried out. The juveniles were measured by their growth development on a monthly basis.

Six brood stock searches and surveys were conducted on sea cucumber. Earlier stocked Sandfish juveniles were re captured and measured to monitor their growth. Cutting and regeneration experiments on Green fish were carried out as well.

The program continued to cooperate with Marine Science and Aquaculture Programs and three Interns were trained. Twenty eight college students visited the Pearl Hatchery where they were briefed on the general operation of the hatchery. Workshops on sand fish sea cucumber, half-pearl and micro-algae culture were conducted. Topics discussed included: The protocol for hatchery work; including spawning induction for sand fish and black teat sea cucumber; how to set up spawning and rearing tanks, collecting larvae and taking sampling for counting eggs; and procedure for feeding and monitoring of larvae development at the hatchery. Also discussed was marketing of valuable half-pearls for income generation and strengthen partnership and train community members in handicraft making and half-pearl seeding techniques. An outer island community was granted $48,000 to support their farm projects. One farmer from Pakin earned $560 from selling half-pearls and another from Peniou had also earned about $1000 from selling half-pearls.

The staffs visited demonstration sites to assess cultured specimens. Inspection of harvested pearls was carried out to coincide with juvenile sorting, accessory grading and pricing of half pearls. The aquaculture team traveled to outer islands to provide technical support required for the pearl projects.

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

PCC: Existing hatchery operators and fish farmers are the main target audience. Others included potential fish farmers, school children, high school and college students, tourists, traditional leaders and policy makers.

CMI: The targeted groups were, children, students, youths, adults, church members, local governments, community members and traditional leaders.

COM-FSM: Target audiences include community groups, schools, individuals, fishermen, farmers, and resource owners, entrepreneurs, businesses, government agencies, and non-government organizations. Traditional leaders and organized community groups were given special focus.

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	500	3000	350	3000
2013	120;64;	1000;33;	118;86	1000;5

2. Number of patents (Standard Research Output).
Patents Received

Year Target

Plan	0
2013	0

If patents received, please list them here.

3. Publications (Standard General Output Measure).

Number of Peer Reviewed Publications.

	Extension	Research	Total
2013	0	0	0

IV (E): State Defined Output Measure

1. Output Target
Number of demonstration farms established.

Year	Target	Actual
2013	10	5;1;1

1. Output Target
Number of publications for lay use.

Year	Target	Actual
2013	4	4;0;0

1. Output Target
Number of conference paper and publication/presentation.

Year	Target	Actual
2013	4	1;0;0

1. Output Target
Expected Professional Journal publications.

Year	Target	Actual
2013	2	1/0/0

1. Output Target
Expected Gray Literatures.

Year	Target	Actual
2013	15	0/0/0

1. Output Target
Expected publications for lay use.

Year	Target	Actual
2013	5	4;0;0

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
   _x_ 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

2013	850	238;0;0

Qualitative Outcome or Impact Statement

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

PCC: Mangrove crab farmers lack knowledge in proper farming technology. Milkfish and rabbitfish farmers are not aware that fry can be produced locally.

CMI: People still lack knowledge and experience about aquaculture.

COM-FSM: Aquaculture has not been appreciated and promoted. Main reason for this is the lack of practical and effective demonstration that shows feasibility of rearing many of the important and valuable species, applicability to local conditions, and its economic and environmental sustainability. Conservation of sea cucumber resources and increasing the stock through aquaculture enhancement was highlighted to the public.

What has been done: (500 Char Max)

PCC: Hatchery-bred crablets were produced and grow-out techniques were taught to farmers. Hatchery production of rabbit fish was continued and milkfish breeding was initiated.

CMI: Community outreach and education programs to empower people with better approaches in the farming of fish and other marine species.

COM-FSM: Hatchery production of sandfish (Holothuria scabra) and Black teat fish (H. whitmaei) and pearl oysters were continued for restocking and for training purposes. Workshops on aquaculture awareness were carried out at the Marine lab and other demonstration sites. Tilapia control management and aquaponic demonstration trainings were conducted.

Results: (1000 Char Max)

PCC: People became aware of the different farming techniques and that hatchery bred crablets can be produced. Fish farmers learned that hatchery techniques for rabbitfish and milkfish are available and supported the idea to establish local fry production.

CMI: People are now aware of the proper timing of harvesting marine and land species for food. The attitudes have changed to safeguard their food in a sustainable manner. They are now fully aware of the negative impacts that will directly affecting the future of their respective communities with scarcity of food. Moratoriums are now in place for export and a proposed legislation on overfishing and overharvesting is now on its way for the parliament consideration.

COM-FSM: Steps have been initiated to develop laws which differentiate wild caught and hatchery based fishery of marine resources. Hatchery production of sea cucumbers were

refined to suit local conditions and results disseminated to interested clients. Half pearl seeding technology was transferred to some communities. Local individuals have partnered with foreign investors to initiate sea cucumber aquaculture. Yap communities were aware of the negative impacts of invasive fish species like Tilapia.

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
X	301	Reproductive Performance of Animals
	302	Nutrient Utilization in Animals
X	307	Animal Management Systems
X	308	Improved Animal Products (Before Harvest)
x	315	Animal Welfare/Well-being and Protection
x	511	New and Improved Non-Food Products and Processes

IV (F): State Defined Outcome Measure

1. Outcome Target – Number of participants who adopted sustainable aquaculture technologies.

2. 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
2013	350	93;64;0

Qualitative Outcome or Impact Statement
Issue (Who cares and Why?): (500 Char Max)

PCC: Mangrove areas were depleted of crabs. Some farmers lost interest in farming crabs and rabbit fish. Milkfish production became unsustainable due to was dependence on imported fry.

CMI: Local governments are not keen and enthusiastic to start a pearl farming. More marine species are overharvested and have huge impact on food security.

COM-FSM: With less Compact funding, there is a need to look for alternative sources of income generation. The State and National Governments began to talk about developing community based and business based aquaculture.

What has been done: (500 Char Max)

PCC: Crablet production and grow-out techniques were presented to farmers. Fingerling production of rabbit fish was disseminated. Local milkfish fry production was encouraged.

CMI: Continuation of seed production of pearl oyster had successfully under gone two spawning and spats were kept at Arrak farm as well as delivering 80 % of the production to the farmers.

COM-FSM: Half-pearl seeding, accessory making and grading trainings were given to the outer islands. Sea cucumber hatchery trainings were conducted for Micronesian trainees.

Results: (1000 Char Max)

PCC: Forty farmers were interested to grow mangrove crabs and there were more requests for the release of crablets in their respective States. Nine hatchery operators and technicians showed interest to adopt the hatchery technique for mangrove crabs and rabbit fish. Thirty milkfish farm operators and technicians have supported the establishment of local milkfish fry production.

CMI: This year's pearl farmers have continued expanding and a lead local government has been advising three other potential local governments who have expressed their interest to set-up their own pearl farms.

COM-FSM: Two farmers have consolidated their aquaculture business and producing half pearls of high value. Sea cucumber farming has been initiated by one of these farmers in addition to pearl farming. National Government, State are in the process of developing aquaculture development plans. Communities and NGO's have expressed interest in doing sea cucumber and pearl aquaculture in their Marine Protected Areas in and around Pohnpei State. In Yap, Tilapia capture has become more efficient with 80 % invasive stock reduction from the previous year. Tilapia was used as a cheap protein source for locally prepared chicken feed.

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
x	301	Reproductive Performance of Animals
	302	Nutrient Utilization in Animals
X	307	Animal Management Systems
X	308	Improved Animal Products (Before Harvest)
x	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
   _x__ Change in Condition Outcome Measure

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

Year	Quantitative Target (If appropriate)	Actual
2013	35	15/0/0

Qualitative Outcome or Impact Statement
Issue (Who cares and Why?): (500 Char Max)

PCC: Low production, lack of seed stock , and technology discouraged farmers to grow mangrove crab and rabbit fish. Milkfish farmers cannot sustain production due to unreliable sources of fry.

CMI: Because of time, efforts and hard labor associated with pearl farming, there is less passionate to move into and make commitment in pursuing the pearl industry.

COM-FSM: There has been several interest both in the community and commercial level for sea cucumber and half pearl farming. Sustained efforts of two farmers in Pakin and Peniou in Pohnpei State has resulted in them getting consistent source of income . Training was provided to a community on developing aquaculture in their Marine Protected area

What has been done: (500 Char Max)

PCC: Crablet and rabbit fish fingerling production was improved and alternative grow out techniques were disseminated. Milkfish farmers were encouraged to support the production of local fry.

CMI: Project continues to inform stakeholders especially the local governments the importance of the project with guaranteed income for the less fortunate and underserved individuals in the outer islands. There are now four farmers; two local governments and two individuals.

COM-FSM: A management committee was established to work with the project team in implementing activities under the management plan. The COM pearl project team had provided some technical advice such as workshop and demonstrations for the community .

Results: (1000 Char Max)

PCC: Five crab farms were established and 2 conservation areas were stocked with hatchery bred crablets. Another 20 prospective farmers were interested to start their crab farms. One farmer had started to grow rabbit fish in tanks and cages while 4 milkfish farms continued to operate.

CMI: There are three more local governments interested in pearl farming. Successful second spawning will supply more than enough spats for all interested parties. An established farm was put up in one of the small islands in Majuro lagoon.

COM-FSM: Forty trainees participated in the aquaculture technology development program activities. They earned income through participating in the project activities. Two farmers got $ 1000 and $ 560 by selling their half pearls from local displays of their products during trade shows. Pakin Community got grant funds to develop further their half pearl farming project and get to commercialization phase. Sea cucumber juveniles were released in the wild and given to one farmer for stock enhancement and aquaculture development. Recapture data shows that these restocked sea cucumbers were growing well in these areas thereby providing hope and promise for the farmers to make additional income. In Yap, a community harvested 80 lbs of rabbit fish from a low-input fish pond.

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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
x	301	Reproductive Performance of Animals
x	302	Nutrient Utilization in Animals
x	307	Animal Management Systems
X	308	Improved Animal Products (Before Harvest)
x	315	Animal Welfare/Well-being & Protection
x	511	New and Improved Non-Food Products and Processes

IV (H): Planned Program (Evaluation)

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

___ After Only (post program)
___ Retrospective (post program)
_x__ 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)

PCC: The success in producing rabbit fish fingerlings and crablets have initiated the development of the aquaculture industry in Palau. Existing farmers were able to stock their farms and were assured of the source of crablets and fingerlings for future expansion. Milkfish farmers continued their operation..

CMI: Existing pearl farms have benefitted from the oyster spats that were produced in the hatchery. More individuals are now interested in pearl farming. People in atolls are now aware about the importance of aquaculture. Students were able to witness the seeding production from an expert who came and seeded the pearls at two pearl farming sites.

COM-FSM: Feedback from the communities has been positive and encouraging. A number of trainees and inhabitants have been encouraged to acquired skills and knowledge that would foster confidence and assurance to enter entrepreneurial pearl and sea cucumber activities. While traditionally the beche-de-mer export industry has relied on wild stock populations in a “boom and bust” practice, state laws now provide opportunity for continuous but regulated harvest of sea cucumber from hatchery and ranching or farming. This presents an opportunity for aquaculture to provide a sustainable approach to this high demand industry. Through aquaculture, the potential for sustainable production, harvest and export of beche-de-mer can be realized and the economic benefits can be improved or sustained.
Tilapia is considered an invasive species in many coastal areas in FSM. Management control is very difficult. Communities where infestations are high have noticed a decline in their native fishery species and are looking for ways to address this situation. A farmer using tilapia as a source of protein to make his own local feed for his 10 laying chickens can stop importing commercial feed at cost of $44 per 50lb bag. Cost of processing local feed is estimated to be $20 per bag. Farmers save about 50% on feed expense. Aquaponics system, combining production of crops and raising of fish uses limited space, saves time and requires low-input. In addition aquaponics can serve as an effective educational tool for youths and adults.

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

PCC: There is a need to continue the crablet and rabbit fish fingerling production to support the growing interest of existing and prospective farmers. Transfer of technology to local hatchery operators needs to be continued so the industry will be sustained. Local production of milkfish fry is important in Palau so it would be no longer dependent on imported fry.

CMI: A close and continued examining of pearl farming is highly necessary and the need to have researcher/s is a must. Years have gone by and the expectation was for the pearl production at CMI to slowly mellowing down until someone can pick up the role to the next level for commercialization. The leading pearl farm local government has expressed its willingness to guide and assist the other three new local governments, establishing their new pearl farms. The role of Land Grant will continue in the spawning production and distributions to the farmers, for now.

COM-FSM: In Small Island economies, it is preferable to link programs such as the link between invasive species control of tilapia and reduced fed costs for animal feeds. Another link would be the introduction of entrepreneurial activities for youth with the pearl and sea cucumber industries. Economies of scale would be difficult to attain by concentrating on single program outputs.

IV (I): Planned Program (Outcome)

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

__x_ 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.)
__x_ Other,__poaching & vandalism_____

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

PCC: Unpredictable weather condition and extreme storm that affected Palau have adversely affected the seed production activities of mangrove crabs and rabbitfish fingerlings., Some of the milkfish and rabbit fish broodstock held in tanks died due to high turbidity of seawater source. Collection of good quality spawners became very scarce. Some facilities at the hatchery have been damaged due to the strong typhoon. Poaching and vandalism have also been experience that resulted to loss of milkfish broodstock kept in floating net cages.

CMI: Transportation to reach the people in the outer islands is a major setback. A good and well equip lab will make it easy to complete the research. Property is on a lease land and therefore might be affected at the end of the contract expiration.

COM-FSM: Sites visits and monitoring have been carried out, though disrupted due to bad weather and transportation limitation, especially to the other island of Pohnpei. At times activities were put on hold because of delayed in processing.

IV (A): Planned Program (Knowledge Area)?
Name of Planned Program: Childhood Obesity

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
703	Nutrition Education and Behavior	25	25
704	Nutrition and Hunger in the Population	25	25
724	Healthy Lifestyle	25	25
802	Human Development and Family Well-being	25	25
	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 2013	3.4 0.915; 0/0		0 0.665;0/0	

2. Enter Actual dollars Expended in this Planned Program during FY 2013 (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
2013	$ 0		$	0	

	1862 Matching	1890 Matching	1862 Matching	1890 Matching
2013	0	0	0	0

	1862 All Other	1890 All Other	1862 All Other	1890
All Other 2013	0	0	0	0

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

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

PCC: There was a decrease in childhood obesity/overweight children from 33% in 2010 to 30% in 2013 (MOH, 2013). As intervention program, diet modification and increased physical activity were encouraged. Nutrition education classes were conducted where participants did hands-on food preparation. Books on the utilization of taro, cassava, sweet potato, fish, coconut, and banana were prepared.

There was a decrease in childhood obesity/overweight children from 33% in 2010 to 30% in 2013 (MOH, 2013).

CMI: Extension activities for child obesity continue taking action in the pre-schools as well in the communities. Supports by the traditional leaders, politician, church leaders, school administrators and teachers were enormous. They make the outreach and visits to be possible and well attended by the people. Especially, those parents the program was involving with.

COM-FSM: Community awareness and school enrichment programs were conducted. Youth summer programs educating participants on benefits of fruits and vegetables and the importance of local foods and calories in food were highlighted through the Let's Go Local Food campaign. A baby food recipe book was developed and distributed to State Leaders and mothers engaged in the program. Collaboration with State Departments of Health and Education to conduct the Child Find Survey, to promote local foods and to review and improve gatherers' menus for Early Childhood Education(ECE) program. Conducted workshops to ECE parents and distributed educational materials and recipes translated into local language to help families better prepare local foods with less salt, fats and sugar using more fruits and vegetables.Target participants were informed about balanced diets, Body mass Index (BMI), food recalls and underwent training in gardening for physical activities and cooking healthy meals for the families. Public awareness activities included participation in community events such as World Food Day, COM-FSM Staff Development Day, Public Health and Chuuk Women's Council (CWAC) campaigns.

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

PCC: The targeted audiences include 2-8 years old children and their teachers, parents, and school administrators, policy makers, and coordinated efforts among agencies such as Ministry Of Education, Ministry Of Health, Palau Community College, Bureau of Agriculture, Head Start, Council of Chiefs, and Association of Principals in Palau.

CMI: Target audience includes housewives, young mothers, dropouts, youths and school aged children.

COM-FSM: The Micronesian people suffer from one of the highest rates of Non-communicable disease incidence (NCD) in the world. Health care services and budgets are severely and negatively affected by these conditions. A state-of-emergency has been declared in at least two states. Nutrition programs are a serious effort to reduce this problem. The targeted audiences include school children, youths, teachers, parents, gatherers, administrators and policy makers, women groups, ECE parents and homemakers program managers of other related agencies. The government and policy makers support childhood obesity initiative. The Public Health was the prime mover of reducing childhood obesity in Chuuk. An average household usually consists of three families with young children whose diets are dependent on the level of purchasing capacity of the head of the household and knowledge of mothers and guardians in balanced meals.

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				
2013	210/705/0	400/1410	146/229	400/678

2. Number of patents (Standard Research Output).

Patents Received

Year	Target
Plan	0
2013	0

If patents received, please list them here.

3. Publications (Standard General Output Measure).

Number of Peer Reviewed Publications.

	Extension	Research	Total
Plan	2	0	2
2013	3	6	9(no data 4 com&cmi)

IV (E): State Defined Output Measure

1. Output Target

1. Output Target

Number of extension publications on childhood obesity.

Year	Target	Actual
2013	12	4/1/0

1. Output Target
Number of trainings on childhood obesity conducted.

Year	Target	Actual
2013	30	10/10/0

IV (E): State Defined Outcome Measures

1. Outcome Target**:** Number of persons who increased knowledge in healthy food and physical activity.

2.Outcome Type
_x_ 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
2013	2400	356;0/0

Qualitative Outcome or Impact Statement
Issue (Who cares and Why?): (500 Char Max)

PCC: People are not fully aware about the importance of proper nutrition and physical activity that are the causes of childhood obesity.

CMI: Child obesity also leads to what RMI is facing today with the highest NCDs ever recorded. Therefore, Marshall Islands has topped to be the number one country by WHO with high rate of NCDs. With this news to the leaders of RMI, President of the country has declared as State of Emergency on this matter regarding the NCDs. As Community in general is the target as increase of sicknesses affecting many that are related to diabetes, hypertension and childhood obesity, conditions that have continue to plagued generations.

COM-FSM: FSM is a leading country in the world in NCDs. Increased desire for healthy foods and physical activity is a good indication that people care about preventing future health complications associated with obesity.

What has been done: (500 Char Max)

PCC: Training materials on preparation of local food products were developed for extension activities to increase awareness among participants.

CMI: Agents along with RMI mobile team chartered boats to visits the 24 local communities and conducted different trainings related to NCDs.

COM-FSM: Nutrition education programs were organized in schools and communities on proper food preparation using local food, more fruits, vegetables, yellow food varieties with less salt, fats and sugar.

Results: (1000 Char Max)

PCC: Six educational materials were developed on the processing of nutritious local foods. Materials for increasing physical activities were prepared.

CMI: It is been noticed with more sport activities, walk-a-thons, gatherings, government declaring state of emergency for NCDs, Ministry of Health radio & news paper awareness programs and many other forums discussing the NCDs issues, where it did not take place in previous years.

COM-FSM: In one state 250 participants increased understanding of nutritive values, importance of fruits and vegetables; proper food preparation using less salt, fats and sugar; and yellow food varieties. Throughout FSM homemakers were trained to prepare healthy meals, fruit juices and healthy snacks for their families. In another state, one hundred twenty-four homemakers attended local food, fruit juices, and vegetable preparation and presentation and importance of physical activities. Additionally, 164 youths increased skills and knowledge on healthy snacks and physical activities. Participants increased awareness about the health complications of childhood obesity and obesity prevention.

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

KA Code	Knowledge Area
703	Nutrition Education and Behavior
704	Nutrition and Hunger in the Population
724	Healthy Lifestyle
802	Human Development and Family Well-being

IV (F): State Defined Outcome Measure

1. Outcome Target – Number of persons who adopted knowledge in healthy food and physical exercise.

1. 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
2013	500	210/0/0

Qualitative Outcome or Impact Statement
Issue (Who cares and Why?): (500 Char Max)

PCC: Childhood obesity in Palau can be attributed to poor nutrition and lack of physical activity.

CMI: The wrong food served to the young children makes it hard to change their attitudes when they grow up. The unbalance diet has many implications one that is important is the malnutrition also affecting young children.

COM-FSM: FSM is a leading country in the world in NCDs. Increased desire for healthy foods and physical activity is a good indication that people care about preventing future health complications associated with obesity.

What has been done: (500 Char Max)

PCC: Trainings on the preparation of nutritious local foods were conducted among 210 participants and physical activities were encouraged.

CMI: Agents, health educators and RMI mobile team, bring the child obesity and NCDs message to 10 local communities visited during the outreach programs.

COM-FSM: Community workshops, nutrition counseling, follow-up visits and guidance to food handlers to properly manage food were conducted. Nutrition programs and physical activities were introduced in selected schools and communities.

Results: (1000 Char Max)

PCC: Diet quality was improved through the use of nutritious local food among participants and increased physical activity was encouraged leading to the reduction of childhood obesity.

CMI: More involvements of the people including the government leaders took part in the different child obesity & NCDs social events, walk-a-thons. As a result of the declaration for NCDs, and establishment of a task force by the government received their blessing at a well attended ceremony during the RMI leadership conference.

COM-FSM: Homemakers are using less salt and fats in cooking as revealed in the follow up visits. Home gardens are in place and many families are eating fresh vegetables from their gardens. The school children are working on their school gardening. Public markets are selling more cooked local food and more schools are serving local food in their school cafeterias. Increased numbers of individuals and families prepare healthy and balanced meals, started small family garden plots or walked around in their neighborhoods which helps decreased childhood obesity and health problems

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

KA Code	Knowledge Area
703	Nutrition Education and Behavior
704	Nutrition and Hunger in the Population
724	Healthy Lifestyle
802	Human Development and Family Well-being

IV (G): State Defined Outcome Measures

1. Outcome Target: Reduction in the number of obese children.

2. 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
2013	250	210/0/0

Qualitative Outcome or Impact Statement
Issue (Who cares and Why?): (500 Char Max)

PCC: Processed and expensive imported foods are the usual diet of the Palauan families so there is a need to change eating habits and increase their physical activity.

CMI: More children with obesity is a continue treat for themselves and the NCDs outbreaks declared by the Head of State. Unbalance diets and processed food are the number one contributing factors for child obesity and malnourish in children's developmental growth.

COM-FSM: FSM is a leading country in the world in NCDs. Increased desire for healthy foods and physical activity is a good indication that people care about preventing future health complications associated with obesity

What has been done: (500 Char Max)

PCC: Parents, and teachers of obese / overweight children in Palau were trained on the preparation of nutritious diets from local food sources and physical activity.

CMI: For this year the extension agents, the RMI mobile team and health educators continue to educate people in the communities on healthy food and healthy lifestyles.

COM-FSM: One-to-one contacts, meetings, workshops, distribution of printed materials and food recalls were conducted. Follow-up visits of participants were conducted to monitor their BMI indicating their obesity status

Results: (1000 Char Max)

PCC: Participants of the ten trainings conducted practiced serving nutritious meals from local sources instead of the fattening and expensive imported foods. They also increased their physical activities, resulting in the decrease of childhood obesity in Palau from 33% to 30%.

CMI: Increase in the number of community scheduled walk-a-thons sports and preschool physical activities were carried out and joint by many participants.

COM-FSM: Local foods and drinks and healthy snacks were increased in the consumption. The schools were not allowed to sell junk food but increased in selling healthy snacks. Approximately 10% reduction in the number of obese children among participants resulted from consistent multi-agency and multi-disciplinary collaboration, monitoring and evaluation of public campaigns about eating balanced diets and physical activities. Such condition would provide relief to families, communities and government for looming medical expenses from health complications of obese children.

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

KA Code	Knowledge Area
703	Nutrition Education and Behavior
704	Nutrition and Hunger in the Population
724	Healthy Lifestyle
802	Human Development and Family Well-being

IV (H): Planned Program (Evaluation)

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

___ After Only (post program)
___ Retrospective (post program)
_x__ 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)

PCC: Nutrition education programs are evaluated by the participants before and after the program through tests. Participants in the trainings were able to prepare diets from local foods resources. Reduction in childhood obesity is monitored by MOH.. Results showed there was a decrease in childhood obesity from 33% in 2010 to 30% in 2013.

CMI: Families continue to seek help, and evaluations were conducted before, after, and during each demonstration and outreach programs. Demands for new recipes were increased among mothers. Traditional leaders supported attendance at the outreach and program activities.

COM-FSM: As results of interviews and follow up visits, more gardens are in place and new recipes are practiced by homemakers. The post-evaluated surveys were better than the pre-survey based on the food and nutrition information indicating improved awareness. Evaluation results showed that childhood obesity is preventable with consistent public awareness campaigns through training, education, demonstrations, meetings, dissemination of information materials, feedbacks from surveys and collaborative efforts of communities especially the concerned families.

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

PCC: Incentives must be given to the agencies participating in reducing childhood obesity in the form of equipment. For example, schools should be given ovens to enable them to prepare nutritious food and exercise equipment or other facilities to expand their activities.

CMI: As these programs continued, it is difficult to cover all areas in the Marshall Islands because of islands remoteness. As many citizens are now relying more on imported food it is sad to note that local food are not very popular any more. More people do prefer to choose eating imported food because it easily accessible rather than acquiring a local food where more work has to be done in order to access it. This major setback must also be part of the situation contributing to the epidemic of childhood obesity and of high NCDs in the Marshall Islands.

COM-FSM: More focus on the role and responsibilities of obese children's families, communities and schools is important to ensure continuing public awareness and adoption of recommended balanced diets and activities. The questions on the adult survey based on 24

hour food recall and behavior checklists. The students' survey based on the behavior, food recall, intake of fruits and vegetables and sugar drinks.

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.)
__x_ Other, technology

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

PCC: The increasing number of obese children in Palau may be caused by developments in technology like too much television viewing and playing games in the computers. Sedentary lifestyles like access to cars instead of walking, and convenience of eating imported foods which are oftentimes fattening and not eating healthy local foods also lead to obesity.

CMI: Constraints of acquiring needed supplies on time to implement activities that were being scheduled, with delayed PO payment processing time. Continuing challenges of the distances between islands and with fuel being very expensive.

COM-FSM: There were few things which affected the delivery of the program include weather, funerals in the communities, and transportation. At times, procurements of supplies delayed the delivery of the program. Lack of public transportation limits access of the program to scattered numerous islands in the lagoon and outer islands. Natural disaster and the change in the population due to out-migration affected program results. Difficulties recruiting agents for vacant positions negatively affects expected outcomes.

IV (A): Planned Program (Knowledge Area)?
Name of Planned Program: Climate Change

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

KA Code	Knowledge Area	%1862 Extension	%1862 Research

111	Conservation and Efficient Use of Water	10	10
112	Watershed Protection and Management	5	5
125	Agroforestry	5	5
131	Alternative Uses of Land	10	10
132	Weather and Climate	10	10
133	Pollution Prevention and Mitigation	5	5
134	Outdoor Recreation	5	5
135	Aquatic and Terrestrial Wildlife	10	10
136	Conservation of Biological Diversity	10	10
141	Air Resource Protection and Management	5	5
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	5	5
315	Animal Welfare/Wellbeing	10	10
605	Natural Resource and Environmental Economics	10	10

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	1.80		2.20	
2013	2.415/no data/no		3.165/no/no	

2. Enter Actual dollars Expended in this Planned Program during FY 2013 (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
2013	$ 0	$ 0		

1862 Matching	1890 Matching	1862 Matching	1890 Matching
2013 0	0	0	0

1862 All Other	1890 All Other	1862 All Other	1890 All Other
2013 0	0	0	0

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

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

PCC: Sea level rise has led to salt water intrusion into taro patches which have been unfavorable for taro cultivation in Palau. Salt water intruded taro patches were surveyed and identified and sought ways to make these wetland taro patches productive once again. Prevention of salt water intrusion was done by raising dikes in the wetland taro patches. Secondary dikes were constructed inside the taro patch to hold and contain fresh water. Several taro varieties were planted in the salt water intruded taro patches to determine resistance to saline soil conditions. Some taro varieties were found tolerant to saline soil conditions. Farmers and communities affected by Typhoon Bopha were also assisted in land preparation and planting root and vegetable crops to ensure food security.

CMI: With the continued challenges of climate change with sea level rise and with king tides inundating the islands. The question on this issue is how much more we can do to remedy the situation. The continued extension services and the knowledge that people gained, how would it be solving the inundation of sea water into the land. During the droughts, Land Grant

extension agents were involved with collaborations by the RMI government, US Embassy, IOM, USAID and three NGOs.

COM-FSM: Micronesian islands are affected by global climate change phenomena. Farmers in the region are more vulnerable to the impacts of climate change because of their geographic exposure, low income, and greater reliance on agriculture as well as limited capacity to seek alternative livelihoods. Small farms and traditional agricultural systems are a part of the solution by contributing to climate change adaptation, mitigation, through carbon conservation, sequestration and substitution, and establishing ecologically designed agricultural systems can provide a buffer against extreme events. Small farms are not only productive and efficient but they address issues associated with ensuring access to food. Diversified small farms have important risk-minimizing effects that lead to strengthened food security and resilience. Smallholder farmers who produce a variety of crops can continually harvest food both for the family's own consumption and potentially for income generation at the market. The food security of the island nation rests in the hands of small scale farmers who have develops relationship with local environment, local markets and local customers. Small farms play a vital role in sustainable development and reducing hunger and poverty. Small-scale farming has the potential, especially for the vulnerable populations, respecting local cultures and local ecosystems, and ensuring food security. Providing appropriate outreach, technical assistance and education efforts help the community to adapt to changing climate and ensure food security effectively.

Agents collaborated with other government agencies and NGO's, to carry out 15 climate change outreach effort workshops in the communities during the year. Part of the workshop was to develop a climate change strategic development plan for the communities. More than 500 participants attended the workshop. Research on resiliency of cultivars of root crops to salt sprays and inundation was conducted. Elite cultivars of these root crops were distributed to communities. Demonstration plots using these cultivars were established also. Information about impacts of climate change and practical ways to cope with these impacts were provided during meetings, workshops, consultations and island visits.

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

PCC: The research program on climate change in Palau caters to scientists, extension agents, agriculture students and professionals, federal, state and national agencies, conference publications, and scientific journals. Farmers, students, parents, state and federal government officials and private individuals are also beneficiaries of our climate change programs.

CMI: Continued efforts were carried out targeting the same approaches that focuses more on the low-lying atolls. During the droughts, the focus was on the 15 islands' communities that experienced the shortages food and water.

COM-FSM: Target audience included traditional leaders, farmers, gardeners, homemakers, policy makers, community leaders, policy makers, students, research collaborators, state and local governments and NGOs. Islanders residing in low-lying areas and atolls are vulnerable

to negative impacts of climate change. The government and line agencies are mandated to develop and implement mitigation and adaptation strategies. Farmers in the region are more vulnerable to the impacts of climate change because of their geographic exposure, low income, and greater reliance on agriculture as well as limited capacity to seek alternative livelihoods.

IV (D): Planned Program (Outputs).

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

Year	Direct Contacts Adults Target	Indirect Contacts Adults Target	Direct Contacts Youth Target	Indirect Contact Youth Target
Plan	**300**	**500**	**300**	**500**
2013	258/0/0	300/0	170/0	300/0

Number of patents (Standard Research Output).

Patents Received

Year	Target
Plan	0
2013	**0**

If patents received, please list them here.

3. Publications (Standard General Output Measure).

Number of Peer Reviewed Publications.

	Extension	Research	Total
Target 2013	0	2/0/0	2

IV (E): State Defined Output Measure

1. Output Target

Number of participants who increased their knowledge on climate change.

Year	Target	Actual
2013	2000	352/0/0

1. Output Target

Number of Extension publications on climate change.

Year	Target	Actual
2013	5	1/0/0

1. Output Target

Number of trainings conducted on climate change.

Year	Target	Actual
2013	12	5/0/0

IV (E): State Defined Outcome Measures

1. Outcome Target: Number of persons who increased knowledge and awareness of climate change impact and how to mitigate it.

1. Outcome Type

_x_ 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
2013	2000	352/0/0

Qualitative Outcome or Impact Statement
Issue (Who cares and Why?): (500 Char Max)

PCC: There is lack of knowledge on the impacts of climate change resulting into frequent typhoons, saltwater intrusion, excessive rainfall, flooding and soil erosion which affected some taro patches.

CMI: Marshall Islands continue to face the challenges of sea level rise with inundation of waters into dry lands. RMI experienced a closing of the airport and droughts affecting 15 islands' communities.

COM-FSM: Lack of knowledge about climate change adaptation among participants.

What has been done: (500 Char Max)

PCC: Communities affected by the super typhoon were visited and measures to reestablish their farms were discussed. Taro varieties were evaluated for tolerance to salt water intruded taro patches.

CMI: Extension agents with RMI mobile team visited the affected islands and survey the communities' vegetations, water catchments, and ground wells for the droughts in regard to sea level rise and record the affected areas.

COM-FSM: Meetings on climate change and dialogues with local leaders, distribution of vegetable and root crop planting materials and establishments of demonstration plots of promising cultivars resilient to climate change were done.

Results: (1000 Char Max)

PCC: Communities affected by the super typhoon experienced and learned the impacts of climate change and ways to cope with these impacts were discussed. Salt tolerant taro varieties were identified.

CMI: Mobilization of organizations such as RMI Chief Secretary's office, Resources and Development (R&D), International Office of Migration (IOM), USAID, Environmental Protection Agency (EPA) and many NGOs delivered the necessary relieve efforts to the islands affected. People understood the impact, but cannot stop the inundations of sea water in their land.

COM-FSM: Participants gained knowledge about how to improve farm management practices. 15 climate change outreach effort workshops were carried out in the communities during the year collaborated with other government agencies and NGO's. More than 500 participants attended the workshop and helped develop a climate change strategic development plan for the communities. Research on resiliency of cultivars of root crops to salt sprays and inundation was conducted. Elite cultivars of these root crops were distributed to communities. Demonstration plots using these cultivars were established also. Information

about impacts of climate change and practical ways to cope with these impacts were provided during meetings, workshops, consultations and island visits.

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

KA Code Knowledge Area

	KA Code	Knowledge Area	%1862 Extension	%1862 Research
x	102	Soil, Plants, Water, Nutrients Relationship		
	111	Conservation and Efficient Use of Water		
	112	Watershed Protection and Management		
	132	Weather and Climate		
	133	Pollution Prevention and Mitigation		
	141	Air Resource Protection and Management		
x	125	Agroforestry		
	131	Alternative Uses of Land		
	134	Outdoor Recreation		
	135	Aquatic and Terrestrial Wildlife		
x	136	Conservation of Biological Diversity		
x	202	Plant Genetic Resources		
	203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants		
x	205	Natural Resource and Environmental Economics		
x	216	Integrated Pests Management (IMP)		
x	315	Animal Welfare/Well-being & Protection		
x	403	Waste disposal, recycling, reuse		
	601	Economics of Agricultural Production & Farm Management		
		Total	100	100

IV (F): State Defined Outcome Measure

1. Outcome Target – The total number of program participants adopting sustainable food production technologies.

2. 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
2013	1000	0/0/0

Qualitative Outcome or Impact Statement
Issue (Who cares and Why?): (500 Char Max)

PCC: Community members were affected by the disastrous impacts of climate change such as frequent typhoons and salt water intrusion into taro patches.

CMI: People in the outer islands continue to be affected by inundation of salt water into many of their food crops.

COM-FSM: Island communities affected by salt intrusion had to abandon their damaged taro patches because they did not have cultivars that were productive and able to secure food sources, properties and lives.

What has been done: (500 Char Max)

PCC: Communities affected by the super typhoon were assisted in land preparation and given planting materials of root and vegetable crops. Several taro varieties were evaluated for tolerance to saline soil conditions.

CMI: Ongoing trainings and workshops to students, traditional leaders and people in the communities on climate change especially the issues that are facing the people of Marshall Islands were necessary. There were activities also involving students to plant local plants along the shorelines, including food trees that are salt tolerant.

COM-FSM: Research about salt tolerance of root crops with adaptation measures such as container gardening, planting in upland and composting for food security were conducted in collaboration with other agencies.

Results:

PCC: One hundred eighty two families were assisted in establishing farms and planted root and vegetable crops to ensure production and food security in communities and areas that have experienced the severe impacts of climate change. In addition, 132 backyard gardens were planted with vegetables to augment their food supply.

CMI: The agriculture demonstration site has produced enough local plants and food trees with the involvement of the students and they are ready to be distributed to the affected areas to minimize erosions. Others will be given to a re-plantation project at the airport.

COM-FSM: Communities participated in the program have improved farm management practices. Requests for demonstration and multiplication plots to be established increased and those that heard about these plots requested for selected planting materials or shared their plants different from the distributed varieties.

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

KA Code Knowledge Area

	KA Code	Knowledge Area
x	102	Soil, Plants, Water, Nutrients Relationship
	111	Conservation and Efficient Use of Water
	112	Watershed Protection and Management
	132	Weather and Climate
	133	Pollution Prevention and Mitigation
	141	Air Resource Protection and Management
x	125	Agroforestry
	131	Alternative Uses of Land
	134	Outdoor Recreation
	135	Aquatic and Terrestrial Wildlife
x	136	Conservation of Biological Diversity
x	202	Plant Genetic Resources
	203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
x	205	Natural Resource and Environmental Economics
x	216	Integrated Pests Management (IMP)
x	315	Animal Welfare/Well-being & Protection
x	403	Waste disposal, recycling, reuse
	601	Economics of Agricultural Production & Farm Management
		Total

IV (G): State Defined Outcome Measures

1. Outcome Target: Number of establish farms and farm products.

2. 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
2013	125	314/0/0

Qualitative Outcome or Impact Statement
Issue (Who cares and Why?): (500 Char Max)

PCC: Food security is a big problem in communities when frequent high intensity typhoons and salt water intrusion into taro patches occur as a result of climate change.

CMI: The inundation of sea water and droughts had affected foods crops in many of the atolls in the Marshall Islands. Sea level rise affected airport and houses especially in the capital.

COM-FSM: The long-term effects of climate change impacting food security, properties and lives are major concerns to the entire population due to lack of information and technologies to mitigate or adapt effectively to these impacts

What has been done: (500 Char Max)

PCC: Immediate replanting of root and vegetable crops as well as salt tolerant taro was done in communities affected by severe impacts of climate change after strong typhoons.

CMI: Awareness and informational sharing to the people were scheduled accordingly; food and waters were distributed to the people that were affected.

COM-FSM: Training and technical assistance was provided to farmers on innovative techniques and practices, soil media preparation, vegetable seed sowing and spacing and landscaping. Root crop cultivars evaluated for salt tolerance were distributed.

Results: (1000 Char Max)

PCC: As a result of immediate planting of root and vegetable crops in communities affected by the strong typhoon, there was an increase in food production. Adequate fertilization was

recommended and practiced to ensure high yield and productivity of root crops and vegetables.

CMI: With the assistance from outside donors, Reverse Osmoses were set ups in communities that were affected by the droughts. Food donations were given to the affected communities to supplement the local foods that were not available as a result of the droughts.

COM-FSM: Participating communities have cultivated crops varieties that were more resilient to climate change. As other neighboring islands learned about the establishment of demo and multiplication plots of promising cultivars of root crops not available yet in their places, they requested for such activities. Eight out of 40 municipalities in Truk lagoon availed of theses promising elite lines of root crops.

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

KA Code Knowledge Area

	KA Code	Knowledge Area	%1862 Extension	%1862 Research
x	102	Soil, Plants, Water, Nutrients Relationship		
	111	Conservation and Efficient Use of Water		
	112	Watershed Protection and Management		
	132	Weather and Climate		
	133	Pollution Prevention and Mitigation		
	141	Air Resource Protection and Management		
x	125	Agroforestry		
	131	Alternative Uses of Land		
	134	Outdoor Recreation		
	135	Aquatic and Terrestrial Wildlife		
x	136	Conservation of Biological Diversity		
x	202	Plant Genetic Resources		
	203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants		
x	205	Natural Resource and Environmental Economics		
x	216	Integrated Pests Management (IMP)		
x	315	Animal Welfare/Well-being & Protection		
x	403	Waste disposal, recycling, reuse		
	601	Economics of Agricultural Production & Farm Management		
		Total	100	100

IV (H): Planned Program (Evaluation)

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

What are your Evaluation Results? (3200 characters)

PCC: Climate change has severely affected food supply in vulnerable communities who experienced strong typhoons, salt water intrusion and coastal erosion. Immediate replanting of root and vegetable crops is an essential measure to ensure resilience to impacts of climate change.

CMI: As the percent of rain falls went up, a survey immediately got under way and it concluded that there will be more time for the vegetations to be restored and food crops to normally generate fruits again. Plans are now established to do look into the dry and salt resistance crops.

COM-FSM: Collaborating with the local governments, NGOs and community leaders proved effective and efficient in establishing demonstration and multiplication plots of elite lines of root crops. Climate change awareness in the communities needs to be continued for the better understanding of the effects especially how it changes the weather pattern. There is a keen awareness especially among atoll communities of their vulnerability

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

PCC: Small Pacific islands are vulnerable to climate change impacts especially strong typhoons and salt water intrusion into taro patches. Immediate planting of root crops and vegetables after the typhoon is essential to ensure adequate food supply. Farmers need salt tolerant taro varieties for resilience in salt water intruded taro patches.

CMI: Islands' vulnerability, it should be considered with urgency as these low-laying islands and atolls cannot survive along to live through climate change impacts. As these islands are known to only have 1-3 meter above sea level, it will be impossible for the people to survive. All food crops on land will no longer be accessible and many people will not survive.

COM-FSM: Communities are aware of the negative effects of climate change to their food sources, properties and lives. They secure information about adaptation practices and are interested to establish multiplication plots of new promising varieties of root crops for island-wide distribution.

IV (I): Planned Program (Outcome)

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

PCC: Replanted crops were destroyed during extreme weather conditions, sea level rise and salt water intrusion in taro patches.

CMI: Kept on top of different programs is a challenge, where few times deadlines are hard to catch-up with. If researchers will be onboard I am definitely sure things will be changed for better.

COM-FSM: Natural disasters and population changes affected the outcomes of program in that assistance and activities could not be carried out in isolated and remote areas, and with changes in population, pose a difficult situation in recruiting new clients. High costs of fuels for motor boats and inclement weather affected visits to island communities. The natural disasters highlight the effects of climate change and give stimulus to the conversations and immediacy to the research needs for these vulnerable island communities.

IV (A): Planned Program (Knowledge Area)?
Name of Planned Program: Food Safety

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
703	Nutrition Education and Behavior	20	20
711	Ensure Food Products Free of Harmful Substances	20	20
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxin	20	20
724	Healthy Lifestyle	40	40
	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	1.9		0.0	
2013	0.915/.5/0		0.665/0	

II. Enter Actual dollars Expended in this Planned Program during FY 2013 (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 Evans-Allen	1890 Extension	Hatch	
2012	$	0	$	0

	1862 Matching	1890 Matching	1862 Matching	1890 Matching
2013	0	0	0	0

	1862 All Other 1890 All Other	1890 All Other	1862 All Other	
2013	0	0	0	$

III. Planned Program (Activity and Participation)

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

PCC: Training among food handlers on food safety were conducted to prevent food borne illness outbreaks. Food handlers now practice strict food preparation techniques and therefore avoid expensive hospitalization expenses resulting to significant decrease in the incidence of food borne illnesses in Palau from 4 outbreak investigations each year in 2005 and 2006 to I investigation in 2012 and almost none in 2013.

CMI: Food safety occurred during hands on trainings, at and during the nutrition class and their outfield hands on trainings at the Wellness Center and the different restaurants kitchen training.

COM-FSM: Community workshops were conducted. A Baby Food Recipe Book was produced. A Local Food Campaign, School Enrichment program, Child Find Survey and Nutrition counseling to Families with Special Needs Children were provided. Food Safety topic is always emphasized in the all food demonstrations. Training on food safety was conducted in communities, schools, youth groups and individual person to up-grade their skills and knowledge in the area of food storage and sanitation, food handling and kitchen safety. Education and training about proper food preparation, hygienic food handling, causes and prevention of food- and water-borne illnesses were conducted to communities, schools and food establishments.

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

PCC: Target audience include food handlers, food entrepreneurs, school cooks, teachers, students, and parents .

CMI: For this year, it targeted the students who are taking the nutrition course at College of the Marshall Islands. It also involves the kitchen staffs at different sites where the hands on training was also being conducted.

COM-FSM: Community leaders, parents with young children, school children, ECE parents, senior citizens, girl scouts, Women in Farming members, youths and families with special needs children, homemakers, cooks of food establishments, school teachers and students, government and non-government groups and other interested individuals. These clients were vital to prevention of occurrence of water-borne and food-borne diseases in the families, communities and 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	600	3000	300	1500
2013	210/347/0	500/700	146/302	500/600

2. Number of patents (Standard Research Output).
Patents Received

Year Target

Plan	0
2012	0

If patents received, please list them here.

3. Publications (Standard General Output Measure).
Number of Peer Reviewed Publications.

	Extension	Research	Total
2013	0	0	0

IV (E): State Defined Output Measure

1. Output Target

Number of community workshops conducted.

Year	Target	Actual
2013	6	10/5/0

1. Output Target

Number of participants who increased their knowledge on food safety.

Year	Target	Actual
2013	1000	210/549/0

1. Output Target
Number of extension materials published.

Year	Target	Actual
2013	6	0/0/0

IV (F): State Defined Outcome Measures

3. Outcome Target - Number of program participants who increase knowledge and awareness on food safety issues.

4. Outcome Type
   _x_ 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
2013	1000	356/0/0

Qualitative Outcome or Impact Statement
Issue (Who cares and Why?): (500 Char Max)

PCC: Food handlers are not well informed on proper food handling behaviors to prevent food and water borne illness.

CMI: Students and kitchen food handlers are not fully aware about proper hygiene in food preparation and water cleanliness.

COM-FSM: Increased number of hospitalized cases affected by careless food handling and a high incidence of non-communicable disease may be the result of unsafe, unsanitary, inappropriate methods in food preparation.

What has been done: (500 Char Max)

PCC: Ten food safety trainings were conducted for 210 participants.

CMI: Trainings were conducted on basic procedures of handling foods and water safety concerns to students and kitchen personnel.

COM-FSM: Conducted community food safety workshops; engaged and assisted in school enrichment program and college courses.

Results: (1000 Char Max)

PCC: Key food handling behaviors such as practicing personal hygiene, cooking foods adequately, avoiding cross-contamination, keeping food at safe temperature, and avoiding food from unsafe source were adequately understood by the participants.

CMI: Students and kitchen food handlers gained knowledge about proper food preparation and how to avoid food poisoning and contamination.

COM-FSM: Participants at all sites increased their knowledge on not using expired food, and maintaining hygiene in their kitchen and handling of meal preparation. The clients improved their knowledge about importance of raw and cooked food handled separately.

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

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

IV (G): State Defined Outcome Measures

3. Outcome Target - Number of program participants adopting recommended practices after completing educational programs.

4. 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
2013	750	356/0/0

Qualitative Outcome or Impact Statement
Issue (Who cares and Why?): (500 Char Max)

PCC: Food handlers are not practicing proper food handling techniques to prevent food borne illnesses.

CMI: Students did not understand at first many crucial safety elements associated with handling of foods.

COM-FSM: Increased number of admitted cases affected by careless food handling and a high incidence of non-communicable disease may be the result of unsafe, unsanitary, inappropriate methods in food preparation.

What has been done: (500 Char Max)

PCC: Food handlers were taught proper food handling techniques such as proper hand washing, and avoiding cross contamination.

CMI: Trainings were conducted in classrooms, kitchens and dining hall of Wellness Center.

COM-FSM: Conducted community workshops, nutrition counseling sessions, follow-up visits and provided guidance to those who handle food in proper food management.

Results: (1000 Char Max)

PCC: Participants have changed their behaviors in proper food handling such as practicing good personal hygiene, cooking foods safely and adequately, preventing cross contamination during cooking, and proper storage of cooked food.

CMI: Outcomes of the trainings proved that all the students passed the safety procedure evaluation tests and scored high grads.

COM-FSM: Participants have changed their behaviors in proper food handling such as practicing good personal hygiene, cooking foods safely and adequately, preventing cross contamination during cooking, and proper storage of cooked food.

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

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

IV (H): State Defined Outcome Measures

1. Outcome Target – Reduce incidences of food-borne and water-borne illnesses.

___ 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
2013	250	210/0/0

Qualitative Outcome or Impact Statement

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

PCC: Food borne illness outbreaks were common occurrences in the community especially during custom events.

CMI: Food and water contamination are very important to examine and can easily be avoided without burdening the resources.

COM-FSM: High incidence of foodborne diseases is due to unsafe, unsanitary, inappropriate methods in food preparation.

What has been done: (500 Char Max)

PCC: Food handlers were taught about prevention of foodborne illnesses through proper food safety practices.

CMI: Trainings and other activities on proper food safety and water sanitation were conducted in schools and communities.

COM-FSM: Public awareness and adoption of safe food handling and storage were promoted through training, education, meetings, one-to-one contacts and partnership with the Public Health and non-government agencies.

Results: (1000 Char Max)

PCC: There was significant decrease in reported outbreak of food borne illnesses as compared to 4 outbreaks in previous years.

CMI: Decreased number of food borne illnesses among participants of the trainings.

COM-FSM: 5% reduction in incidence of foodborne diseases and ultimately reduced the public burden to provide medical treatment to affected individuals. Store prominently identified expired foods, and restaurants and food markets provided signs requiring proper hand washing have resulted in safe foods processing and handling.

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

	KA Code	Knowledge Area
	703	Nutrition Education and Behavior
	711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
	701	Nutrient Composition of Food
	702	Requirements and Function of Nutrients and Other Food Components
	703	Nutrition Education and Behavior

	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.)
_x__ Economy
___ Appropriation changes
___ Public Policy changes
___ Government regulations
___ Competing Public priorities
___ Competing Programmatic Challenges
___ Population changes (immigration, new cultural groupings, etc.)
___ Other, brain-drain

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

PCC: None

CMI:

COM-FSM: Expired foods are still sold in the stores. Lack of proper storage facilities at the majority of homes shortened life of foods.

J). Planned Program (Evaluation)

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

___ After Only (post program)
___ Retrospective (post program)
__x_ 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)

PCC: Participants have understood and practiced proper food safety techniques as shown in their pre and post tests.

CMI: Students received special awards in food safety and nutrition. Food handlers, who participated, stated that the collaborative exercises enhance and gave them opportunity to pick up more tips on food safety issues.

COM-FSM: Participants are using new recipes, more local foods are used in the kitchens and more gardens are established. Young mothers are using local baby foods after receiving the Baby Food recipe book. The post surveys resulted better than pre survey on food safety guidelines. More people are aware of food safety guidelines. Evaluation results showed that stores had separated displays of expired foods; food handlers put cooked foods in clean and covered containers; road markets had cleaner stalls for local produce and illnesses caused by improper food handling were reduced.

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

PCC: Food safety training materials such as DVDs on proper food handling need to be shown to participants.

CMI: It is highly necessary to put more emphases on trainings for the science teachers both in the primary and high schools, scheduled food safety and healthy nutrition workshops twice a year to food handlers who are serving lunch to the students especially the cooks in schools' kitchen.

COM-FSM: Surveys indicated that clients did not associate diseases and stomach problems with food handling and hygiene. Current programs are generating increased interest as people become more aware.

IV (A): Planned Program (Knowledge Area)?
Name of Planned Program: Global Food Security and Hunger

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 Relationship	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	5	5

216	Integrated Pest Management	20	20
315	Animal Welfare/Well-Being and Protection	5	5
601	Economics of Agricultural Production and Farm	10	10
	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.

Extension			Research	
1862		1890	1862	1890
Plan	14.55		5.5	
2013	2.415/2/0		3.165/1	

III. Enter Actual dollars Expended in this Planned Program during FY 2013 (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
2013	$ 0	$ 0		
1862 Matching		1890 Matching	1862 Matching	1890
Matching				
2013	0	0	0	0

IV. Planned Program (Activity and Participation)

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

PCC: The germplasm of taro, cassava and sweet potato maintained and multiplied at the research station is a reliable source of planting materials for food security. Planting materials of taro, cassava, sweet potato and fruit trees were distributed to farmers. Farmers were also assisted in land preparation and planting of root crops, and in establishment of backyard vegetable gardens. Community members and students learned about the agricultural activities that were conducted at the research station and during national events.

CMI: Agriculture activities were primarily carried at atolls and schools, related with food security and hunger and school curriculum. In the communities small scale gardening was instruct for good supply of healthy and nutritious food. In schools small were established in school for students' hands on training in order to connect what have been lectures in the

classrooms. Small islands' communities in Majuro lagoon were visited to trained homeowners on farming. Knowledge was also shared of how crucial it is to farm as many local food crops in and around their properties.

This fiscal year, water quality monitoring by the water quality extension agent were completed in schools and communities that were not visited in previous. Follow-ups continued in the capital and two other atolls. Water quality extension agent was task by the droughts committee to leads in the 15 atolls and island severely affected.

COM-FSM: Organized workshops on farming and food processing techniques, increased number of value added products focused more on home-made flour. Translated and distributed educational material on farming and food processing. Farmers process rejected cucumber and long chili pepper into vinegar, increasing income. A school based program assisted vocational teachers on basic skills in agriculture. 16 farms met all requirements as dry-litter piggery project sites. A project of artificial Insemination of sows was carried out with approximately 50% success. Research of root crops with improved productivity took place. Germplasm of different varieties of swamp taro, soft taro and sweet potato have been collected from the Micronesia Region. In vitro and in vivo screening to study salt tolerance level in 3000 seedlings of swamp taro and soft taro. The abstract of a presented paper is published in In Vitro Cellular & Developmental Biology, Vol 49, Issue Abstract, Spring 2013 published by Springer. Local governments received selected varieties to establish multiplication plots. Integrated sustainable agriculture intervention programs to target socially disadvantaged island community promoted crop production skills. Additional income was generated by 13 farmers through vegetable gardening efforts. Maternal and Child Health Program Coordinator reported an overall improvement in the health of the school children from the community ever since they began consuming homegrown vegetables, as measured by their blood hemoglobin count. Backyard poultry farming is established with families and individuals raising a few to several hundred layers to produce fresh eggs for home consumption and sell for extra income.

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

PCC: Our target audiences are scientists, extension agents, agriculture students and professionals, federal, state and national agencies, conference publications, and scientific journals. Farmers, students, parents, state and federal government officials and private individuals are also beneficiaries of our extension programs.

CMI: The audiences targeted were the schools and communities affected by the droughts and communities that were not visited in previous years

COM-FSM: Target audiences included gardeners, homemakers and young mothers engaged in Women in Farming, students, senior citizens, farmers and youths NGOs, government agencies, traditional leaders, women's groups, and community groups, church groups, policy makers, state, national project management staff, traditional smallholder farmers, and immigrant neighboring island populations. Scientists, extension staff, agricultural

professionals, agriculture students, federal, state and national agencies, conference publications, and scientific journals are target audiences for research activities.

IV (D): Planned Program (Outputs).

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

Year	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contact Youth
Plan	Target 1200	Target 3000	Target 600	Target 1000
2013	524/88/0	1000/200	291/42	500/100

2. Number of patents (Standard Research Output).
Patents Received

Year	Target
Plan	0
2013	6

If patents received, please list them here.

3. Publications (Standard General Output Measure).
Number of Peer Reviewed Publications.

	Extension	Research	Total
Target	3	3	
2013	1/0/0	1/0	Total: 2

IV (E): State Defined Output Measure

1. Output Target

Number of demonstration farms established.

Year	Target	Actual
2013	12	182/0/0

1. Output Target

Number of publication for lay use.

Year	Target	Actual
2013	6	1/0/0

1. Output Target

Number of conference papers and publication/presentations.

Year	Target	Actual
	3	1/0/0

Expected professional journal publication

2. Output	Target	Actual
	3	0/0/0

Expected gray literature

Year	Target	Actual
2013	6	2/0/0

3. Output	Target	Actual
	6	2/0/0

Expected publication for lay use

Year	Target	Actual
2013	6	2/0/0

IV (F): State Defined Outcome Measures

Outcome Target - Number of program participants who increase knowledge of appropriate production and processing technologies.

1. Outcome Type

_X_ 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
2013	2400		0/0/0

Qualitative Outcome or Impact Statement

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

PCC: Knowledge of best management practices, high yielding planting materials and techniques to prepare new food products and prolong shelf life is essential to increase productivity and food security.

CMI: Students and farmers lack knowledge of improved agricultural practices and importance of local food production.

COM-FSM: The general community cares for food security and income generation. Governments and the general public are concerned of the sustainability and environmental purity of the production methods.

What has been done: (500 Char Max)

PCC: Information on new varieties of crops, best management practices, biocontrol agents and publications were disseminated. Food technology trainings were conducted.

CMI: Small gardens in three schools were established to enhance students learning. 14 students at the college took the nutrition course (AH-101). Youth groups, women groups, families and landowners continue developing farms in order to have enough supplies of food.

COM-FSM: Workshops on farming and food processing educated participants to improve skills and knowledge on farming and food processing techniques. Demonstrations of feed processing including the simple equipment used were done. Experimental trials were conducted using low-cost production methods of climate-smart farming.

Results: (1000 Char Max)

PCC: Visitors to Research Station understand the importance of root crops germplasm conservation, use of biocontrol agents to control pests of crops and invasive weeds, and current best management techniques to improve productivity and protect the environment. Participants in food technology trainings can prolong the shelf life of food products thus enhancing food security in the community.

CMI: Students in established school gardens have understanding of agriculture methods as they do their practical hands on experience. The small scale gardening have increased with more people demanding for seeds. During the world food day activities, people took home different varieties of food vegetations, especially the local food trees and plants to be planted around their homes.

COM-FSM: Participants have increased knowledge on composting. Eighty-eight participants improved knowledge on farming and food processing. Two families have started processing feed for their laying chickens using tilapia and a variety of local materials.

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
202	Plant Genetic Resources
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
212	Pathogens and Nematodes Affecting Plants
216	Integrated Pest Management
315	Animal Welfare/Well-Being and Protection
601	Economics of Agricultural Production and Farm Management

IV (G): State Defined Outcome Measures

5. Outcome Target - Number of program participants adopting recommended practices after completing educational programs.

6. 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
2013	1800		312/0/0

Qualitative Outcome or Impact Statement
Issue (Who cares and why?): (500 Char Max)

PCC: Limited planting materials and control of pests and diseases greatly affect farm productivity. Farm produce can be prepared in many ways to enhance food security for the family.

CMI: Poor condition of atoll soils limits sustainable crop production.

COM-FSM: Limited adoption of sustainable farming practices and technology.

The general community cares for food security and income generation. Governments and the general public are concerned of the sustainability and environmental purity of the production methods. Few youths and adults are involved in farming and food processsing activities.

What has been done: (500 Char Max)

PCC: Disease-free, high yielding planting materials were distributed to farmers to increase productivity. Food technology trainings were conducted to preserve foods.

CMI: Continuation of trainings and demonstrations on composting has extended this year to 11 underprivileged young men from the rural areas in Majuro. Dry litter waste management system and copra cakes mixing with organic materials methods were shared and passed on.

COM-FSM: Translated and distributed educational materials on farming and food processing. Developed the dry litter system to reduce human health concerns from E. coli and Leptospira bacteria.

Results: (1000 Char Max)

PCC: Food supply and production has been enhanced by improved yield in farms growing disease-free and high-yielding planting materials of root crops and using biocontrol agents to control pests of crops. Participants of food technology trainings were able to prepare new food products and preserve foods.

CMI: Eleven trainees have applied the composting techniques in their own respective farms. Outer islands' participants applied different composting as was demonstrated to them.

COM-FSM: 88 people involved in the programs learned new techniques on farming and basic skills on food processing. Farmers adopted compost and were selling locally made composts and earning extra income for family. 28 breeds of chicken were imported for egg production and breeding by 46 individuals. Processing and formulation of poultry and swine feeds using locally available materials was demonstrated. One family has increased their number of chickens from 20 to 200 layers. NCD patients of Public Health sought assistance in establishing home gardens using recommended practices. Fifty eight new youths and adults started establishing their farms and are cultivating different crops.

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

KA Code	Knowledge Area
101	Soil, Plant, Water, Nutrient Relationship
112	Watershed Protection and Management
136	Conservation of Biological Diversity
202	Plant Genetic Resources
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems

212 Pathogens and Nematodes Affecting Plants
216 Integrated Pest Management
315 Animal Welfare/Well-Being and Protection
601 Economics of Agricultural Production and Farm Management

IV (H): State Defined Outcome Measures

4. Outcome Target – Number of established farms and farm products.

5. 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
2013	250	132/0/0

Qualitative Outcome or Impact Statement
Issue (Who cares and why?): (500 Char Max)

PCC: Lack of best management practices limit farmers from improving productivity. Families are not capable of preparing new food products from their produce .

CMI: Space for farming, invasive species and good fertile soils are the major ongoing contributing factors for a vibrant and productive farming.

COM-FSM: The general community cares for food security and income generation. Governments and the general public are concerned of the sustainability and environmental purity of the production methods. Few youths and adults are involved in farming and food processing activities.

What has been done: (500 Char Max)

PCC: Best management practices and quality planting materials were adopted by farmers. Participants acquired new skills and prepared new food products from the food technology classes.

CMI: With the collaborative partnership with R&D and Taiwan technical mission, efforts has made to introduced containers to be used in space that are limited, increased production of

seedlings and composting was introduced and shared with schools' gardening as well as people in the town down areas.

COM-FSM: Compost-on-crops and crop rotation hand-on demonstrations to five hundred and twenty four farmers to minimize pests and diseases infestation were given. Multiplication of elite varieties of root crops took place. Fresh produce donated to vulnerable populations.

Results: (1000 Char Max)

PCC: High productivity of root crops was attained through use of disease-free, high yielding planting materials and adequate fertilization. Practices showcased in the demonstration farms were adopted by farmers. Families prepared and have new food products from their produce for food security.

CMI: Container gardening had successfully produced about 50 small containers with cabbages and lettuces from a government school in the capital. At a scheduled open house, people attended were interested to set up small at their front yard with few containers.

COM-FSM: 70 container gardens were established. One family is making taro and tapioca flour. Farmers sell locally made compost earning extra income. 11 backyard poultry farms were established and produce about 13 dozen eggs per day for home consumption and sale. One family is selling 3 dozen fresh eggs per week at $4.25, earning $51 per month. Another sells one dozen eggs per day at $4.25 and earns about $127.50 per month. Local communities with established demonstration and multiplication plots of elite varieties of root crops reported increased number of home family gardens using biodegradable wastes in composting. About 12% of participants who were provided technical assistance had secured their food from gardens they cultivated. Health status of children has improved after consumption of homegrown vegetables according to health officials. Five hundred pounds of fresh produce was donated to state hospital and vulnerable populations for consumption. Twenty new farmers are producing, selling and exporting their farm produce

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
202	Plant Genetic Resources
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
212	Pathogens and Nematodes Affecting Plants
216	Integrated Pest Management
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)

_X__ 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, brain-drain

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

PCC: Crops are destroyed during typhoons, heavy rains and salt water intrusion and inundation so raw materials for food processing is inadequate.

CMI: Continue challenges of transportation to outer islands are real. The availability of funds to buy containers for farming will be a set-back for the low income families. This year along inundation on dry land and droughts that affected the 15 atolls and islands make a huge impact on food security on the affected communities.

COM-FSM: Limited supplies and funding to carry out planned activities were major constraints in the program. Lack of transportation and fuel, extreme bad weather and conflict of activities within the communities affected the program outcomes. Establishments of plot demos in atolls and distant islands were affected by inclement weather, irregular availability of water transportation and high fuel costs. Typhoons and heavy rains affect chicken and pig farms resulting in lowering growth and production. Establishment of field trials was delayed due to non-availability of secure and accessible land.

J). Planned Program (Evaluation)

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

___ After Only (post program)
___ Retrospective (post program)
_X__ 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)

PCC: The root crops germplasm collection at PCC R & D Station has been a reliable source of high yielding varieties of taro, sweet potato and cassava which are essential components to increase productivity. Biocontrol agents have effectively controlled pests of taro and cassava. Participants in the food technology trainings were very eager to prepare new food products they have learned.

CMI: More people have planted more food vegetations around their houses. The 11 trainees who were trained had developed the skills necessary and have made their own farms.

COM-FSM: Members of the community, farmers and leaders are open to new practices such as container gardens using local basket technique and used containers. Compost and home-made pesticides are also practiced. Solar drying and grinding techniques used as replacement of electric machines for drying and grinding crops for making home-made flour are preferred. Farmers, community leaders, teachers and parents were willing to test new innovative technologies to improve current practices and management styles. There were more collaboration between farmers/schools and free sharing of traditional knowledge and skills to complement new technologies and practices. Integrating nutrition information about crops to be introduced and their recommended practices is effective in convincing communities to establish their own gardens, consume and preserve produce for their families. About 20% of the clients helped have become involved and committed to raising pigs and chickens. About 5% (13 families) of clients have established poultry and piggeries.

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

PCC: The tissue culture technique has been successful in providing a continuous supply of taro and banana planting materials to farmer clients. Biocontrol agents have been successful in controlling pests of root crops and invasive weeds in Palau. Families are now able to prepare new food products from their produce for food security.

CMI: Even if we continue to do perfectly with farming, the one important issue farmers encountered are the diseases that destroying their affecting food crops. They have put so much effort in the beginning and later witnessing the fruits being dying out and fall down. They have used all the methods they learnt, problem never drive out. Often time farmers abandoned their farm and seek better opportunities.

COM-FSM: Increased number of container gardens and increased number of people involved in the program. Improved lifestyle, family members are working together in gardens,

making home-made flour, jams, ketchup. Increasing number of communities appreciated the importance of maintaining their own gardens for availability of healthy and fresh produce and for healthy physical fitness. Observations and surveys indicate clients need

- Increased germplasm types,
- Increased seedling production,
- Increased number of farmers,
- Increased number of agricultural farms,

With proper presentation, farmers adopted best practices and technologies resulting in increased yields, reduced inputs, increased efficiency, increased economic return, and conservation of resources, fresh produce donated to vulnerable populations for consumption developed community support. Extension activities resulted in 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	25	25
801	Individual and Family Resource Management	10	10
802	Human Development and Family Well-being	20	20
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	15	15
806	Youth Development	30	30
	Total:		

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	8.45		0	
2013	1.0/2/0			

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			
2013	0	0	0	

	1862 Matching	1890 Matching	1862 Matching	1890 Matching
2013	0	0	0	0

	1862 All Other	1890 All Other	1862 All Other	1890 All Other
2013	0	0	0	0

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

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

PCC: Community and school outreach, summer youth sports programs, family get together, Sunday schools, beautification activities, were conducted where youths and families were able to guide the children in household responsibilities and social skills . There was an increase in school attendance and decline in school dropouts due to improvement of family relationship as a result of the various activities that they have participated in..

CMI: Schools, youth, community awareness programs reached 11 atolls and one single island. One survey conducted in one of the outer islands concerning young girls having baby. Extension services completed awareness on different issues ranging from teen pregnancy, tobacco and alcohol usages, sports, important of education, poor diet intake and its consequences, etc

COM-FSM: Communities were trained in home-based income- generating enterprises specifically sewing, handicrafts and culinary arts. School drop outs had refresher courses in basic math, English and science to enable them to be re-admitted to their chosen schools or be eligible for general education degree (GED).

1. **Brief description of the target audience. (3200 characters)**

PCC: The youth development program serves from kindergarten to college students, teachers, school administrators, parents, homemakers, church groups, and other interested individuals.

CMI: Targeting youth groups, students, adult groups, sports events in the capital and the 11atolls islands visited.

COM-FSM: Target audience includes youths; teenage parents; college students and extension staff; girls scout and troop leaders; women groups, homemakers, students, out-of-school youth and interested community groups and individuals. In FSM students often drop out of school or have to withdraw and later decide to return. There is also a very low employment rate especially among the youth. In addition, school clothes and uniforms are expensive. CYF programs are focused on improving the situation for youth and open opportunities for community members to make or save money through their own efforts.

IV (D): Planned Program (Outputs)

1. Number of patents (Standard Research Output).

2. Patents Received

Year Target

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

Year	Direct Contacts Adults Target	Indirect Contacts Adults Target	Direct Contacts Youth Target	Indirect Contact Youth Target
Plan	900	2700	2000	3600
2013	200/138/0	500/300/0	250/110/0	500/300/0

If patents received, please list them here.

Publications (Standard General Output Measure).

Number of Peer Reviewed Publications.

Extension	Research	Total
2013 0	0	0

IV (E): State Defined Output Measure

1.Output Target

Number of training conducted targeting youths.

Year	Target	Actual
2013	42	7/12/0

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

Year	Target	Actual
2013	42	7/15/0

1. Output Target
Total number of youth clubs organized.

Year	Target	Actual
2013	6	3/3/0

IV (F): State Defined Outcome Measures

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

2. Outcome Type

_x_ 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
2013	1200	150/0/0

Qualitative Outcome or Impact Statement
Issue (Who cares and Why?): (500 Char Max)

PCC: Increase in positive attitude toward family relationships and youth involvement in family roles. Most youths in the island lack social skills, family roles and responsibilities. Parents have limited time to guide their children in doing household chores and community responsibilities.

CMI: Youth dependency, alcoholism, drop outs, teen pregnancy, lack of parental skills and high population growth still remains huge concerns facing the nation.

COM-FSM: Many families lack the sewing skills and are spending more money on uniforms for school and church functions. Youths have to understand their roles and responsibilities to prevent them from drug abuse, suicides and other irresponsible acts.

What has been done: (500 Char Max)

PCC: School outreach, fairs, summer youth sports programs, family get togethers, and traditional handicraft making were conducted to improve the skills and attitudes.

CMI: Awareness and informal education were conducted at 10 atolls and an island to address the growing social issues facing the communities, especially parent and children relationship. Sports games were being established and scheduled with the college teams and communities.

COM-FSM: School principals, parents with out of school children, mayors and interested individuals and interested families were addressed. Training was given in use of local resources, gardening and youth were coached to return to school.

Results: (1000 Char Max)

PCC: Improved attitude toward learning family roles, social skills and relationship were achieved.

CMI: With knowledge acquired, youths were becoming to realizing their roles and many have changed to respect parents and further searching for job opportunities involved in developing gardens and supports the food shortages become apparent in their house.

COM-FSM: 5 youth were enrolled to Youth Entrepreneurship Study Program. Participating youths learned their roles and responsibilities with their parents and families. Their parents expressed their gratitude during their children's graduation from the program. Youth prepared vegetable garden – selling vegetables and use money to purchase more seeds and garden tools. Participants adopt the garden skills and techniques and apply them at home. The stone path renovation project came to an end. People are walking on a nice stone path, but the youth (boys) got the skills. 37 students were taking nutrition class, and all of them passed the exam

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
	804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures
X	806	Youth Development
		Total:

IV (G): State Defined Outcome Measures

1. Outcome Target - Number of youths and families adopting interpersonal skills to improve quality of life and harmony in the family.

2. 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
2013	300	100/0/0

Qualitative Outcome or Impact Statement
Issue (Who cares and Why?): (500 Char Max)

PCC : Youths in the community need direction and guidance in family and community responsibilities as well as sense of independence

CMI: The structure of family values in today's world had changed the family unit as one of the valued institutional of a society, has collapse.

COM-FSM: Lack of youths and adults involvement in business. Some vocational teachers are not able to implement vocational courses and needed assistance. Family ties were affected by outside pressures.

What has been done: (500 Char Max)

PCC: Skills and attitudes on family and community responsibilities were enhanced by school outreach, fairs, summer youth sports programs, family get togethers, and traditional handicraft making

CMI: Community awareness, school outreach and church presentations were carried out. Questions were entertained and answers that cannot be provided, people were referred to the Ministry Heath for consultations.

COM-FSM**:** Organized and conducted youths and adults trainings on sewing, entrepreneurship and carving. Sports (keep the youths away from alcohol, drug and negative behaviors). Training in home-based enterprises like sewing, handicrafts and cooking was provided.

Results: (1000 Char Max)

PCC: There was slight improvement in youth and family interpersonal relationship; increase in family harmony and children's participation in household chores. The sports programs increased children's physical activity thus improving their health and social relationships.

CMI: Knowledge gained by the youths who got involved has the determination and aspiration to change. Skills acquired were put into practice. Most of participants have find jobs and supported their families. Their family relationships improved and have won the family back to their lives. The ongoing experience in trade and skills of farming, making handicrafts helped and supported their family income.

COM-FSM: Trained 2 vocational teachers in sewing and they are teaching students as required by the school curriculum. Five youths are able to sew good products and generating family income. Participating youth, their families and communities joined in community events promoting community wellness. They made handicrafts, dresses, skirts, shorts and packed meals for sale to the communities.

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
		Total:

IV (H): State Defined Outcome Measures

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

3. 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
2013	300	150/0/0

Qualitative Outcome or Impact Statement
Issue (Who cares and Why?): (500 Char Max)

PCC: There is a need to Involve youth in family, school and community activities that promotes social values, traditional skills, and family responsibilities.

CMI: Underprivileged and underrepresented youths and families are disadvantaged of good opportunities available to them.

COM-FSM: Imported goods, services and locally made products are expensive. Unemployment and underpayment in local employment creates family problems, hungry children irregularly attending schools.

What has been done: (500 Char Max)

PCC: Youth and families participated in school outreach, club activities , sports camps, family get together and street campaigns against drunk driving, violence, suicide, teen pregnancy, domestic violence.

CMI: Trainings and workshops on basic life skills were initiated in the communities empowering youths with the necessary skills that can help them when they find a job. (N0. Will be inserted later as the extension is tallying them) Activities were conducted in 10 atolls and one island communities.

COM-FSM: Conducted trainings, follow up visits and provide recommendations and guidance to clients after trainings in home-based enterprises underprivileged participants could avail of program services

Results: (1000 Char Max)

PCC: There was an increase in school attendance and decline in school drop outs due to improvement of family relationship as a result of the various activities that thev have participated in..

CMI: The learned trade and skills had been carried through and continued with the targeted groups, the youth and families whom the lessons were taught and passed on to.

COM-FSM: 45 individuals are earning extra income by sewing; one family is making and selling handicrafts; 2 vocational teachers are teaching students as required in the curriculum. Youths, their families and communities felt sense of confidence and better hope of improvement in their welfare from extra incomes derived from their handicrafts, sewn garments and packed meals. About 80% of school drop outs who underwent refresher courses were able to be re-admitted to their chosen schools, 20% of program trainees gained extra incomes for their families.

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
	804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures
X	806	Youth Development
		Total:

IV (I): Planned Program (Outcome)

1. External factors which affected outcomes. (Check all that apply)
__ Natural Disasters (drought, weather extremes, etc.)
_x__ 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)

PCC: Access to modern amenities in life such as cars, television, video games and computers has led to sedentary lifestyle and self – centered attitude.

CMI: Ongoing lack of enthusiasms and supports from the responsible government ministry, good and reliable mean of transportation to conduct activities with participants.

COM-FSM: The public schools curriculum does not orient the target audience on entrepreneurship and priorities are set on other areas forcing youth to voluntarily engage with limited choices for them rather than what they are interested in. Inclement weather, conflicts in community events and high costs of fuels in visiting island participants limited the outreach activities.

IV (J): Planned Program (Evaluation)

1. Evaluation studies Completed. (Check all that apply)
___ After Only (post program)
___ Retrospective (post program)
_X__ Before-After (before and after program)
__X_ 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)

PCC: The activities and outreaches that were conducted to enhance the positive family relationship and responsibilities and social values (traditional arts & crafts and skills) resulted in increase in school attendance and decline in school dropout.

CMI: Increased in knowledge capacity bring attitudinal changes of participants toward redundancies and lack of respect for each other. The family unit has developed strongly. Both the youth and parent complement each other of the contributions shared either in monetary work around the house etc. The bond and respect has also built with strong sentiment.

COM-FSM: As result of interviews and observations, youth programs have improved behavior and condition of participants. Youths and young parents are sewing good products, practicing carving techniques and generating income for their families. Parents and youths are working together gearing toward a positive living condition. Results showed that participants already exported their products through their families living outside the state. Youths trained in math, science and English competencies were re-admitted to their schools.

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

PCC: More programs and resources in improving youth and family relationships should be given to schools, communities, church groups and organizations that help the family and community issues like more parental involvement in schools and community activities.

CMI: The challenges facing the family institution should carefully put into perspective as circumstances of life styles had changed the family cultural norm where people use to follow. The cultural value has always been taught and each family member understood his/her social class. There were unnecessary norms to continue obtaining, but their many valuable once that needs to be maintained. One is the unconditional respect for parents. Often times' youths, if they asked money from parents, especially when they are under the influence of alcohol and the request is not met, they went and commit suicide. Where is all this leads to? Continue to avail the services as its been done and it is the desire and hope to have in-depth training for the extension to be ready to tackle issues professionally.

COM-FSM: Good working relationship between parents and youth; generated extra family income; increased number of young parents engaged in the program; increased number of students involved. Decreased rates of teen pregnancy, suicides, drug abuse and domestic abuses.

Name of Planned Program: Sustainable Energy- Not Implementable due to lack of resources (human).

V. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS) and Actual Total Formula, Matching and Other dollars Expended for FY 2012 (automatic addition from Planned Programs)

Year:	Extension		Research	
	Smith-Lever 3b & 3c	Evans-Allen	1890 Extension	Hatch
Allocated	$ 0		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