

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Food, Nutrition & Health

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
701	Nutrient Composition of Food	10%		10%	
702	Requirements and Function of Nutrients and Other Food Components	10%		10%	
703	Nutrition Education and Behavior	15%		10%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	20%		20%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	20%		20%	
724	Healthy Lifestyle	25%		30%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	12.4	0.0	1.0	0.0
Actual	9.0	0.0	2.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
198720	0	92903	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
29680	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

PCC: Six nutrition and food safety programs were conducted to increase knowledge and impart skills in nutrition and health related issues. Implementation of two research projects continued, namely, (1) Product Development for Food Security, and (2) Product Development of Rabbit fish and Crustaceans. Forty six (46) processed food products from fish, coconut, bananas, rabbit fish, and crabs were developed and seven hundred twenty (720) clients tasted these products which they rated "like very much". The products are being studied for their storage properties.

CMI: Program staff collaborated with the Ministry of Internal Affairs' Women bureau to conduct a two days food processing and food safety workshop. More than twenty ladies participated in the event and received Certificate of Completion. The program staff participated in this year's 2nd Annual Bob (Pandanus) Day Festival. Demonstrated recipes using Bob (Pandanus) as the main ingredient recipes of Pandanus to the participants of the 29th Annual PIBBA (Pacific Islands Bilingual Bicultural Association) Conference. A large number of female participants completed an EFNEP sponsored workshop.

COM-FSM: Presentations and cooking demonstrations were carried out in the communities and participants learned to utilize local produce in preparation of family meals. A JICA volunteer had conducted cooking demonstrations on college campus, communities and private establishments and entertained catering ventures with local food outlets. Other activities included community workshops

2. Brief description of the target audience

The targeted audiences included communities with limited income, low formal education level, young children, , youths ages 9-19, home and school food handlers, food processors, people in the food business, and prospective food entrepreneurs.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	600	3000	300	1500
Actual	600	3000	300	1500

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

Patent Applications Submitted

Year: 2010
 Plan: 0
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	0	0	
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of community workshops conducted.

Year	Target	Actual
2010	12	51

Output #2

Output Measure

- Number of coalitions strengthened.

Year	Target	Actual
2010	6	15

Output #3

Output Measure

- Number of intervention conducted to individuals or small groups.

Year	Target	Actual
2010	134	55

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of program participants who increase awareness of nutrition related health issues.
2	Number of program participants adopting recommended practices after completing educational programs.
3	Annually increase the number of healthy food snacks or lunch programs in schools and communities.

Outcome #1

1. Outcome Measures

Number of program participants who increase awareness of nutrition related health issues.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	900	2200

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

PCC: Many local food resources abound in Palau and these can be processed into other products for the local consumers and tourists. There is a need to improve awareness of nutrition and health.

CMI: Diabetes is a condition that has plagued generations. The trend of diabetes is affecting the younger population with a gradual increase of cases in the 20 ? 35 years of age. The increased in the number of diabetic patients and people at risk of diabetes is mainly due to the changes in the lifestyles.

COM-FSM: The national, state and local governments as well as the public are concerned about the geometric increase in NCD prevalence, the stress to the family and government expenditures in terms of medical referrals, medications and soaring mortality rates.

What has been done

PCC: Programs were conducted to increase awareness and impart skills in nutrition and health related issues. Processed food products were prepared from local resources.

CMI: Five hundred clients participated and received certificate of completion after participating in nutrition workshops. The EFNEP Extension Agent continued to be an active member of several task forces organized by the Ministry of Health to address diabetes and to promote healthy living and wellness in the Marshall Islands. Not only did she work in the community and outer island, but she collaborated with the college's school nurse and both screened the employees and students for diabetes.

COM-FSM: A series of community workshops were conducted in nutrition education and healthy lifestyle to parents of children ages from birth to five years old. School enrichment program to ninth graders, nutrition promotion on local foods and food safety training were conducted in the communities.

Results

PCC: Ninety two percent of total participants followed recommended practices in nutrition and food safety during preparation of selected healthy recipes. A total of 720 clients consisting of 376 adults and 344 youths have tasted and liked processed food products from local food resources. Thirty three participants of Food Technology Classes in Palau have acquired knowledge in food processing.

CMI: Follow up visits with clients indicated that diets have changed where they were reported to eating healthy food.

COM-FSM: Clients have improved food and eating habits through eating more local nutritious foods with high vitamins, minerals, fibers, proteins and proper food portions/servings. Four hundred and sixty-two participants learned and were encouraged to utilize local produce in meals prepared for households and families.

4. Associated Knowledge Areas

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

Outcome #2

1. Outcome Measures

Number of program participants adopting recommended practices after completing educational programs.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	600	860

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

PCC: People are becoming obese because lack of knowledge in proper nutrition and healthy lifestyle. Many food products can be developed from local resources to replace imported products.

CMI: According to the Juumemmej: RMI Social and Economic Report 2005, malnutrition is a condition that does not appear to be improving. A recent study revealed that 60% of children in this age group (1 - 5 yrs) suffered vitamin A deficiency, and 25% were iron deficient.

COM-FSM: The national, state and local governments including the public are concerned about geometric increase and prevalence of NCD?s leading to disability, expensive medical referrals, loss in productivity, and stress to the family.

What has been done

PCC: Participants learned to prepare healthy, affordable meals. Thirty three participants were trained in processing different kinds of food products.

CMI: The EFNEP staff is a member of the malnutrition referral team. The Department of Public Health provided her with names of their patients and she visited the parents in the homes to counsel them on nutrition and also to demonstrate cooking healthy recipes.

COM-FSM: Inter-agency efforts conducted public awareness, campaigns, and public celebrations, provided informal education and cooking demonstrations on the role of healthy food choices and physical fitness like gardening, brisk walking in the prevention and control of NCD?s, and growing and consuming nutritious local foods.

Results

PCC: Eighty percent of the participants applied skills learned and have increased consumption of vegetables. They were able to prepare same recipes in the program. Armed with skills in food processing, the trainees can now prepare food products that they can sell to tourists and local consumers. Some participants who own food businesses have added new food items to their usual product lines.

CMI: The before and after results indicated positive changes in behavior and attitude of the parents and the health of the child. Numerous requests for recipes were received.

COM-FSM: More local foods, especially fruits and vegetables, were consumed by many people and more people observe serving portions of their regular meals and snacks and still more people do gardening and other physical fitness exercises.

4. Associated Knowledge Areas

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

Outcome #3

1. Outcome Measures

Annually increase the number of healthy food snacks or lunch programs in schools and communities.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	6	251

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

PCC: Sedentary life style and lack of knowledge in nutrition lead to obesity. Production of locally manufactured processed foods can reduce food importation and boost domestic food production.

CMI: Teenagers, who become parents, lack proper-parenting skills, indicating why they end up feeding their child unhealthy food causing them to become malnourished.

COM-FSM: Leaders, families and the general public care are concerned about the increasing hospital admissions and referrals, increased burden, decreased economic productivity, and increased morbidity and mortality.

What has been done

PCC: Skills in meals planning and physical activity were provided to the participants. Participants in Food Technology classes can sell their products in the market.

CMI: During her presentations and workshops, the Extension Agent usually chooses simple and healthy recipes that children, teenagers, and adults can prepare easily at homes. The coconut jam seems to be a popular recipe where everyone can easily prepare. Workshops with young parents were conducted.

COM-FSM: Inter-agency public campaigns, gardening and cooking demonstrations on local foods, healthy food choices and physical fitness programs were conducted. Staff conducted workshops in the communities addressing the effect of poor diet and benefit of healthy diet for the diabetic people and none diabetic people. Promotions on healthy eating were conducted in schools and communities.

Results

PCC: Participants are now aware of planning and preparing healthy meals. Forty five percent have increased their physical activity from 1 hour to 4 days a week. Locally processed food products are now available in the market. These products were prepared by participants of Food Technology Classes.

CMI: Results demonstrated that students and young parents are able to prepare healthy snacks and meals at home. The dorm students now know how to cook delicious meals instead of just eating fried chicken at all their meals. Home visits with young parents and their children showed that their health was improving.

COM-FSM: Health monitoring to establish any condition change will take many years. No results should be reported at this time.

4. Associated Knowledge Areas

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

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

PCC: Prospective food processors who have attended Food Technology Classes could not immediately go into business because of strict government regulations on food preparation and expensive permits to operate.

COM-FSM: Low attendance of participants was observed when training coincided with bad weather, population migration of young and professionals to other countries puts burden on those left behind, limited funding for projects restricts frequent monitoring of far-flung clients, social obligations, e.g. funeral when participants will not attend for training for 3 or more days, hamper the development of skills of the intended clients.

Constraints are limited funding, long turn-around time for PO processing and lack to limited proper equipment and tools in order to carry out the activities of the program. And in between visits/monitoring is too long due to boat scheduling and limited transportation means

Increased importation of foods, more people are depending on the imported foods due to the high cost of the local produces and to increased exposure to outside diets due to frequency of travel. Statistics indicate a high rate of emigration which removes many of the best educated and most productive citizens from the region. Social changes have increased the use of processed foods and imported foods in community functions. On the positive side, may levels of government have mandated that local foods must be provided at state sponsored functions.

CMI: Couple of factors lead to the Extension Agent to not meet all her proposed activities. Due to cultural, community and government- sponsored events, clients had to cancel their original proposed scheduled. Local produce that were supposed to be used during the cooking demonstrations ends up getting spoiled and damaged.

Not all the parents participated in the referral program. It was due to being embarrassed on how the community might view them because their child was malnourished.

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

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons 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

Evaluation Results

PCC: Pre and post test were administered at beginning and end of each program and interviews with clients done to find out if there was an increase in knowledge and change in behavior. Results of narrative evaluation of participants of Food Technology Classes showed that they have benefited from the training. The skills in food processing which the participants have obtained are long lasting. Also, the 720 clients who have tasted food products have rated them very much acceptable.

CMI: Clients' diets improved slightly during and after the participating in the workshops. The Extension Agent received numerous calls from clients wanting more recipes.

COM-FSM: Increased awareness, skills and knowledge for participating groups and communities in regards to nutrition, health, and management of meager resources available to them as compared with the non-participating groups or communities. More people are selective in what they're buying, eating and planting, the yellow fruits/vegetables over the other varieties. More people are using the yellow banana (taiwang) for baby foods. Local markets report an increased demand and delivery of Vitamin A rich varieties of local bananas and taro. More people are interested in preservation techniques of local foods. Former trainees of nutrition programs often volunteer to help future efforts in their communities. Anecdotal observations indicated that more stores are displaying out-of-date food items prominently signed for use as animal feeds only.

Key Items of Evaluation

PCC: More Food Technology classes in the communities have been requested by participants as they have been benefited by this outreach program. Local processed food products are now available to consumers. Food entrepreneurs have been selling products prepared from local food resources.

COM-FSM: Knowledge gained and application of the following, relationship of non-communicable diseases such as hypertension and diabetes to good diet, especially foods to avoid such as high salt, high saturated fats and high refined carbohydrates to prevent NCD, monitoring of NCD incidences and cost to the public health system over extended years is needed, regular physical fitness such as walking and gardening is being accepted and should be encouraged, food safety handling of local foods prior to and at market needs monitoring, superiority of local foods over imported and junk foods in healthy and nutritious diets are becoming internationally known and market demand may lead to export

possibilities.

CMI: Diabetes and malnutrition are two major health issues in the country. More funding is needed to be able to reach out to the rest of the communities. Want to try out different recipes.