

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Food Safety

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
703	Nutrition Education and Behavior	20%		20%	
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	40%		40%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	3.0	0.0	1.0	0.0
Actual Paid Professional	2.8	0.0	0.7	0.0
Actual Volunteer	0.0	0.0	0.0	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
78984	0	49730	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
10594	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: 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 1 investigation in 2012 and almost none in 2013.

CMI: Food safety trainings were conducted in two locations, at the Wellness Center and two restaurant locations. Workshops and trainings conducted with procedures relating to proper handling of food, safety methods of water usages as well as proper disinfecting of utensils. Lectured were also done with necessary usages of cooking outfits to prevent spreading of contaminants to the food prepared.

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.

2. Brief description of the target audience

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 courses at the college. It also involved 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.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	881	2200	448	1100

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

Patent Applications Submitted

Year: 2013
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of community workshops on food safety conducted.

Year	Actual
2013	35

Output #2

Output Measure

- Number of program participants with increased knowledge and practices after completing educational programs.

Year	Actual
2013	759

Output #3

Output Measure

- Number of extension publications on food safety.

Year	Actual
2013	3

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 food safety issues.
2	Number of program participants adopting recommended practices after completing educational programs.
3	Reduced incidences of food-borne and water-borne illnesses.

Outcome #1

1. Outcome Measures

Number of program participants who increase awareness of food safety issues.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1091

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

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

CMI: Students and food kitchen handlers were not fully aware of the proper hygienic in food preparation and water cleanliness.

COM-FSM: Food preparers in homes, restaurants and institutions, collaborators in other agencies lack understanding of the sources of food and water- borne diseases and control measures.

What has been done

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

CMI: Basic procedures of handling foods and water safety concerns was provided to fourteen students and three kitchen personnel. Steps by steps were being demonstrated and participants were taking turns, inconsistencies were being corrected. Follow up exercises were arranged to make sure all participants comprehended.

COM-FSM: Organized and conducted community food safety workshops, school enrichment programs, engaged students, collaborated with health and environment agencies.

Results

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

COM-FSM: Extension program have improved knowledge of 549 participants involved in the program in one site. In all sites, participants increased their knowledge on rejecting of expired goods, maintaining hygiene in their kitchen and handling of meal preparation. The clients improved their skills for separation of raw meat from other food such as fruits and vegetables and in selling safe and hygienic cooked food.

4. Associated Knowledge Areas

KA Code	Knowledge Area
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	Actual
2013	744

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

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

CMI: People did not understand many crucial safety elements associated with handling of foods.

COM-FSM: People affected by careless food handling, health care workers, and consumers of restaurant or institution food.

What has been done

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

CMI: Trainings were conducted in the classrooms, kitchen in the restaurants and dining hall at the Wellness Center.

COM-FSM: Community workshops, information dissemination by prints and lectures, follow-up visits, guidance to food handlers on proper food management and safety were conducted.

Results

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 food safety procedures, evaluation tests and scored high. At the end of the two semesters, with serous of lectures and hands on activities, safety procedures acquired by participants were demonstrated and further put into practice at scheduled end of the semester food safety and healthy cooking ceremonies. 100% of the students passed their safety procedure guidelines and were given high marks.

COM-FSM: 150 participants at one site are applying 5 keys to safer food techniques. Trained community members and students applied personal hygiene before preparing food and practiced proper food storage. Follow-up visits and surveys indicate that local food vendors adopted food safety guidelines. Participants influenced their families, neighborhoods and communities through their practice of safe ways of handling foods from buying foods to maintaining personal hygiene and cleanliness in their kitchen and utensils and in proper food storage.

4. Associated Knowledge Areas

KA Code	Knowledge Area
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

Reduced incidences of food-borne and water-borne illnesses.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	548

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

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: Food- and water- borne diseases can be prevented by proper and sanitary handling of food from the source like garden or store up to the home.

What has been done

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: Individual training, education meetings, and collaboration with the Public Health and non-government agencies have reduced the incidence of food-borne diseases.

Results

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 the people.

COM-FSM: These activities assisted in improving skills of participants in food storage and sanitation, food handling and kitchen safety. Incidences of cholera diseases decreased. The 5% reduction of incidence of water- and food-borne diseases among participants lessened public burden of medical treatment to affected individuals. Observation of store display of expired foods, provision of signs for proper hand washing and hand washing liquids in restaurants demonstrated the increasing concern for safe foods and handling.

4. Associated Knowledge Areas

KA Code	Knowledge Area
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: None

CMI: Drought affecting the people's dependent on clean water and healthy food make it hard to complete the outreach activities on safety as water catchments are emptied and ground water are brackish. Issue of low income families continued facing financial hardship in acquiring clean cooking materials in order to prepare safe and healthy meal for their family. The continued challenges facing many homeowners in the rural areas are the fact that cooking is done on fire with limited clean water. As much as the safety of the food concerns, the health concerns of people cooking on open fire who continuously inhaling smoke is also a health risk.

COM-FSM: Imported foods are cheaper and more convenient than the local produce in the markets. Out-migration reduces the continuity and carry-over of knowledge meaning new clients need to be taught the same information as previously

provided in the same communities. Ongoing road construction affected safe supply of drinking water and clean supplies of local produce due to mud and dust. Non-communicable Diseases are recognized as a greater health threat and not associated with Food Safety but are considered a nutrition problem. Government focus and funding is on NCDs.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

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

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: 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 Evaluation

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: The following should be adhered to.

- Questionnaires on food safety guidelines must be culturally sensitive.
- Awareness of previous health consequences of improper food preparation and storage contributed to interest to learn and practice food safety.
- Previous surveys indicated that clients did not associate diseases and stomach problems with food handling and hygiene.
- Expired goods are still sold in the stores.
- Lack of refrigerators in majority of homes shortened storage of foods.
- Free-range animals (dogs, pigs and chickens) are culturally accepted and not recognized as food safety concerns.