

**V(A). Planned Program (Summary)**

**Program # 3**

**1. Name of the Planned Program**

Childhood Obesity

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	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%	
<b>Total</b>		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	4.0	0.0	1.5	0.0
Actual Paid Professional	3.4	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
95909	0	41735	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
12864	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: 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 continued taking action in the pre-schools as well as 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.

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 ECE program. Workshops for ECE parents were conducted and educational materials distributed. Recipes were translated into local language to help families 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. Participants 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.

## 2. Brief description of the target audience

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, 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, homemakers and program managers of other related agencies.

## 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	1229	2550	375	1078

**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	3	6	9

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Number of conference papers and publications on childhood obesity.

Year	Actual
2013	5

**Output #2**

**Output Measure**

- Number of trainings conducted on childhood obesity and physical activity.

Year	Actual
2013	20

**Output #3**

**Output Measure**

- Number of extension publications on childhood obesity and physical activity.

<b>Year</b>	<b>Actual</b>
2013	12

**Output #4**

**Output Measure**

- Number of training conducted on proper diet and physical activity.

<b>Year</b>	<b>Actual</b>
2013	14

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Number of persons with increased knowledge in healthy food choices and physical activity.
2	Number of program participants adopting recommended practices on healthy food choices and physical activity.
3	Reduction in the number of obese children.

## **Outcome #1**

### **1. Outcome Measures**

Number of persons with increased knowledge in healthy food choices and physical activity.

### **2. Associated Institution Types**

- 1862 Extension
- 1862 Research

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2013	2187

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

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 a 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: Sufferers of NCDs. Parents and guardians of children and young families at risk.

#### **What has been done**

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

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: 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. 124 homemakers gained knowledge by attending local food, fruit juices, and vegetable preparation workshops that included the importance of physical activities. 164 youths increased knowledge on healthy snacks and physical activities. Participants increased awareness about the health complications of childhood obesity and obesity prevention. Increased desire for healthy foods and physical activity is a good indication that people care about preventing future health complications associated with obesity.

## 4. Associated Knowledge Areas

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

### Outcome #2

#### 1. Outcome Measures

Number of program participants adopting recommended practices on healthy food choices and physical activity.

#### 2. Associated Institution Types

- 1862 Extension
- 1862 Research

#### 3a. Outcome Type:

Change in Action Outcome Measure

#### 3b. Quantitative Outcome

Year	Actual
2013	653

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

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: Parents with young children and family members of those patients with NCDs care.

#### What has been done

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.

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

#### Results

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 involvement of people including the government leaders took part in the different childhood obesity & NCDs social events.

COM-FSM: Homemakers are using less salt and fats in cooking as revealed in the follow up visits. Many families are eating fresh vegetables from their gardens. Children are working on their school gardens. Public markets are selling more cooked local food and more schools are serving local food in the cafeterias. Increased numbers of participants prepare healthy and balanced meals, started small garden plots or walked to help decrease childhood obesity and health problems.

### 4. Associated Knowledge Areas

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

### **Outcome #3**

#### **1. Outcome Measures**

Reduction in the number of obese children.

#### **2. Associated Institution Types**

- 1862 Extension
- 1862 Research

#### **3a. Outcome Type:**

Change in Condition Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2013	394

#### **3c. Qualitative Outcome or Impact Statement**

##### **Issue (Who cares and Why)**

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 are a continuing 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 malnourished children.

COM-FSM: FSM is a leading country in the world in NCDs.

##### **What has been done**

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: Extension agents, the RMI mobile team and health educators continued 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 were conducted to monitor BMI to indicate their obesity status.

##### **Results**

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 consumption increased. Schools were not allowed to sell junk food but increased 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.

#### 4. Associated Knowledge Areas

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

#### 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: 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.

## **V(I). Planned Program (Evaluation Studies)**

### **Evaluation Results**

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 continued 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: 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.

### **Key Items of Evaluation**

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: Focus on the role and responsibilities of obese children's families; include communities and schools to ensure continuing public awareness and adoption of recommended balanced diets and activities; prepare questions carefully on the adult survey based on 24-hour food recall and behavior checklists; students' survey s