



# Report to College of Micronesia-FSM Board of Regents, April 15-16, 2024

## Cooperative Research and Extension

Cooperative Extension Services | Agricultural Experiment Station | Expanded Food and Nutrition Education Program | Center for Entrepreneurship

### Center for Entrepreneurship Merges with CRE

The Center for Entrepreneurship was established in 2015 to explore a range of practical and entrepreneurial solutions targeting mostly our youth and student populations. Also a main program under CRE, youth programs and activities are aimed at equipping youth and their families in the FSM with strong social values, civic responsibilities, and increased economic opportunities.

The merging of CFE with CRE will enhance our commitment to provide sustainable, contextually relevant, and resilient programs that will foster economic development, entrepreneurial skills in our communities. This alignment will lead to:

**Streamlined Resource Allocation:** This integration will eliminate duplication of efforts and resources, allowing for a more efficient allocation of resources towards our shared objectives.

**Enhanced Program Synergy:** By aligning CFE's initiatives with CRE's existing programs, such as aquaculture, food security, and small business development, we can create synergies that amplify our impact on improving community services and fostering entrepreneurship in the FSM.

**Expanded Opportunities for Stakeholder Engagement:** The integration will facilitate enhanced collaboration with local ventures, entrepreneurs, and stakeholders, particularly in agricultural research, extension education, technical assistance, and entrepreneurship development.

**Enriched Learning Opportunities for Students:** Through initiatives such as apprenticeships, internships, and experiential learning opportunities, our students will have access to a broader range of hands-on experiences that align with the college's mission of capacity-building and community development.



*Student visitors to the Hydroponics Greenhouse at the National Campus*

### COM Land Grant meets in Yap for Annual Accomplishment Report and Plan of Work

During the week of February, researchers, extension agents, and staff from COM Land Grant central office and the CRE departments of the three regional colleges (CMI, COM-FSM, and PCC) met in Yap to finalize the compilation of the annual progress reports and review the current USDA NIFA-Approved COM Plan of Work. The annual reports were due to USDA-NIFA on March 1, 2024.

All seven annual reports were successfully submitted by uploading to the online USDA National Reporting System (NRS) by February 23, 2024 for review and final transmittal to USDA NIFA review. The team also conducted reviewed of each colleges' extension and research programs under COM Land Grant and shared their results and feedback from stakeholders and partners. These initial discussions and planning will be used to determine any changes in next year's Plan of Work, due June 1st, 2024 to USDA NIFA. The visit to Yap also provided opportunities for closer collaboration with Land Grant partner colleges. Starting next FY, CMI and PCC will join the CRE's Childhood Obesity Program for a regional approach in addressing this critical issue in the islands.



*Meeting in Yap of CRE Teams from the three partner colleges under COM Land Grant*

# Cooperative Extension Services



## Sustainable Agriculture and Food Security

### Crop Production

The extension program promotes the production of vegetable and crops through home gardening, various vegetable production methods, root crop cultivation, and fruit tree production, with the goal of increasing local food production and contributing to food security. Technical assistance and outreach programs were extended to various communities and audience and reached the following number of participants:

Yap CRE`	242 clients
Chuuk CRE	119 clients
Pohnpei CRE	61 clients
Kosrae CRE	101 clients

### Swine Production

With the goal of increasing the number of pigs produced per household in the FSM, as part of food security initiatives, technical assistance is being provided to increase knowledge, skills, and best practices in swine husbandry. This program is currently available in Yap and Pohnpei. Here are the number of participants for 2nd quarter:

Yap CRE	140 clients
Pohnpei CRE	44 clients

The FSM 2016 Integrated Agriculture Census found that on average 3 pigs were raised by household for home consumption, traditional uses, and sale. The aim of this program is to engage swine producers in increasing the number of pigs being raised per household.

## Sustainable Aquaculture Development

This year's program has been extended to Chuuk and Kosrae to join Yap and Pohnpei in implementing FSM-wide aquaculture initiatives to promote and develop sustainable aquaculture through the transfer of necessary technical know-how to communities within FSM through various outreach and extension activities. Participants in the program this quarter are as follows:

Yap CRE	304 clients
Chuuk CRE	213 clients
Pohnpei CRE	38 clients
Kosrae CRE	18 clients



Marine science students visits the COM Land Grant Aquaculture Hatchery Facility at Nett Point, Pohnpei



70 lbs of sweet potato harvested by the Utwe Youth Club in Kosrae



Chuuk CRE begins work to install their aquaculture demonstration on campus





# Cooperative Extension Services



## Climate Change Adaptation Strategies

Currently being implemented in all states except Kosrae, the program implements activities in schools, communities, and individuals to raise awareness of the impacts of climate-change and promote climate-smart practices to enhance community resiliencies such as container gardening, mangrove restoration, and agroforestry.

Yap CRE	72 clients
Chuuk CRE	129 clients
Pohnpei CRE	59 clients



*Showcasing container gardening to COM Land Grant management team as a successful strategy in climate-smart adaptation to ensure food security for households*



*Increasing knowledge of climate-change impacts among the youth population (Chuuk CRE)*

## Youth and Families

A wide range of programs and activities are available to the youth population in the FSM—sports, counseling, youth camp, school and home gardening, school visits, sewing, and handicrafts, etc., with the goal of equipping youth and their families with strong social values, civic responsibilities, improved family resources, and increased economic opportunities. Participants by youth and their families this quarter are as follows:

Yap CRE	260 clients
Chuuk CRE	308 clients
Pohnpei CRE	102 clients
Kosrae CRE	109 clients

**Feedback of the sewing program:** *“The CRE trainer has helped save my clothing expenses while empowering me to generate additional income by selling school uniforms and other family garments. Thanks to the CRE sewing program, I’ve discovered a valuable avenue for supplementing my family finances.”* Solome Shrew.

*“I’ve spearheaded a sewing program for years to engage youth and families within our communities. The high prices of clothing in shops pose a significant challenge for many families who struggle to afford them. On the other hand, our islanders are fond of uniforms, frequently donning them for various occasions, particularly church and school events. Through the CRE program, we’re actively contacting these communities, offering sewing training to alleviate the financial strain on families and promote self-sufficiency in clothing production.”* Shirley Jackson, Extension Assistant & Sewing Trainer.



*Solome Shrew of Kosrae proudly displays a school uniform she stitched*



# Cooperative Extension Services

## Food and Waterborne Illnesses

Food and waterborne illnesses are challenging health problems in our communities. The extension program continues to provide awareness and knowledge to help alleviate the issues caused by unclean water, sanitation problems, poor hygiene, lack of education on proper food handling, and insufficient training in food safety. The number of participants in the program this quarter are:

Yap CRE	242 clients
Chuuk CRE	206 clients
Pohnpei CRE	61 clients
Kosrae CRE	230 clients



*A presentation on food safety practices and water quality measures.*

## Childhood Obesity

A growing health problem in our islands. Increasing awareness and knowledge of the health problems associated with obesity, especially in children is the main focus of this program. This quarter, outreach activities reached the following number of participants:

Yap CRE	213 clients
Chuuk CRE	275 clients
Pohnpei CRE	81 clients
Kosrae CRE	230 clients

## Summary

The number of participants in the Cooperative Extension Services (CES) programs and activities for the 2nd quarter, FY2024 totaled to 3,857





# Expanded Food Nutrition and Education Program

## Expanded Food Nutrition and Education Program

The goal under the Micronesia-wide EFNEP 5-year Plan of Work is for the three colleges' program to reach at least a combined total of 1000 adults and 2000 youths every year. In this second quarter, the EFNEP program has achieved more than 50% of the target in both adults and youth. EFNEP uses the USDA-NIFA WEBNEERS, a reporting portal for program activity and evaluation of participants. Here are the results for the EFNEP program in the first and second quarter in FY2024:

SITES	ADULTS	YOUTH
CHUUK	137	250
KOSRAE	99	156
POHNPEI	210	447
YAP	65	510

<b>COM/FSM SITES</b>	<b>511</b>	<b>1,363</b>
<b>TOTAL REPORT</b>		

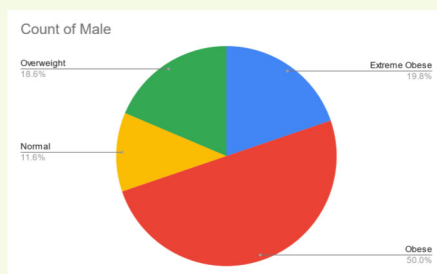
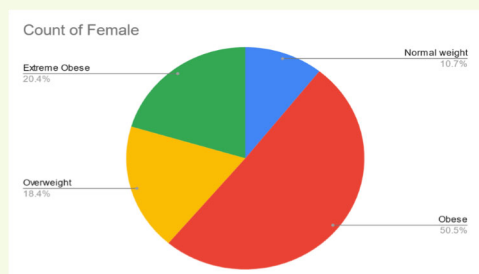


*Cooking demonstration and display of recipes in Chuuk*

The importance of food and nutrition education in our communities was found in a recent survey in 2021 Western Regional Agricultural Stress Assistance Program (WRASAP), where it was the topic of highest interest, above financial, by respondents. CRE EFNEP aims to ensure a wider audience is reached to support communities' interests and needs.

## Biggest Loser Challenge—2nd Round

The challenge towards a healthier college community continues this Spring semester. Total number of participants (students, cadets, staff, faculty, and administrators) this spring 2024 semester is 191. Yap Campus has 25 total participants, Fisheries and Maritime Institute has 28 participants, Kosrae Campus has 34 total participants, Chuuk Campus has 32 total participants, Pohnpei National Campus has 47 participants and, Pohnpei CTEC campus with the 25 participants. There are 104 female and 87 male participants. Measurements of Body Mass Index (BMI) indicated that around 80% of our community are obese and extremely obese, as indicated by the graphs below.



*Extension Agent taking measurements*

### Important Dates:

The Spring Semester program will end May 1st, 2024





# Agriculture Experiment Station

## Hatch Research Project “Field Evaluation of Open Pollinated Seeds to Enhance Climate Change Resilience of Smallholders”

This research project was carried out in Yap to introduce, evaluate and distribute open pollinated seeds to meet smallholders’ needs for planting materials. Varieties of eggplant, tomato, sweet pepper, and green mustard were field tested. These varieties were known to perform well in Hawaii, however, there was a need to test them to site-specific conditions on our island before recommending to the our farming communities. The experiments conducted were successful in collecting information of germination, growth, and yield of the different vegetables and to determine which varieties to recommend to farmers. Efforts in identifying vegetables and the specific varieties best suited to local climatic conditions is a strategy for adapting agriculture to climate variability and change.

This research project was closed out in February 2023, however, the success of the initial phase of this project sets the stage for a second phase, aiming to incorporate more open-pollinated vegetable varieties suitable for the island environment. This expansion aligns with the project’s overarching goal of enhancing crop diversity and resilience. The project has made strides to a certain extent in supporting the seed systems in the island environment. As the project moves into its next phase, the foundation laid in this initial phase promises continued success and positive outcomes for the local community.



*Mustard Cabbage var. Kai Choy ‘Hirayama’, an open-pollinated variety*

## Chuuk CRE Agronomy Researcher Retires From College

Dr. Lolita Ragus, the AES Researcher for Chuuk Campus has retired from the college after 15 years of service. During her time at the college, Dr. Ragus carried out multiple USDA NIFA-Approved Hatch research projects that provided results and findings of best practices and techniques for a variety of crops important to the Chuuk agricultural communities and the Micronesesian region. Her recent completed research projects include:

- Crown Leaf Budding, Rooting and Growing Media for Pineapple (*Ananas comosus* (L) Merr.
- Effects of Sweet Potato (*Ipomoea batatas* L) Living Mulch on Taro (*Colocasia esculenta* L.) Schott
- Plant Spacing and Living Mulch Effects on Taro (*Colocasia esculenta* (L) Schott
- Evaluation of FSM-Chuuk Local Taro (*Colocasia esculenta* (L)) Schott Varieties For Food Security

As an extension specialist, Dr. Ragus was very active in developing and producing extension and educational materials. She regularly sends out a brochure containing nutrition, health, biological information of local plants, reaching a total of 122 publication, distributed to more than 200 recipients. She has compiled these information into a soon-to-be-release recipe book.



OM-FSM-Chuuk Campus/Cooperative Research and Extension: Values and Home Recipes of Local Crops in Micronesia  
Dr. Lolita N. Ragus, Researcher/Extension Specialist  
Mrs. Hattie P. Raisom, Health and Nutrition Agent

### Chuuk CRE Recipe Publication





# Center for Entrepreneurship

## Awareness and Trainings in Hydroponics Technology and Food Processing

Interests in hydroponics greenhouse vegetable production continue to grow across the FSM. Training sessions in food processing and value addition are also being carried out. School children, youth groups, students, community groups, and organizations continue to visit the facilities on the four campuses to learn and observe the innovative techniques used in producing lettuce and other vegetables. A record of participants and visitors to CFE programs are as follows:

Yap CFE	81 clients
Chuuk CFE	43 clients
Pohnpei CFE	29 clients
Kosrae CFE	48 clients

Farmers from the four states are being identified for CFE to assist in farm management and business development.



*Children from Early Childhood Education Center visits hydroponics greenhouse facility in Yap*

## Agricultural Education Programs

### University of Guam visits Yap to promote collaboration of student education in Agriculture and Food Sciences programs

During the week of March 18-22, 2024, a group of professors, staff, and students from the College of Natural and Applied Sciences (CNAS) at UOG visited Yap. Funded by USDA NIFA Resident Instruction for Insular Areas grants, this project, “Building sustainable agriculture education systems in Micronesian region for next decade”, will provide experiential learning opportunities for students at COM-FSM and UOG and support the alignment of agriculture programs and curriculum at the two institutions to prepare student to transfer to UOG following AS degree completion.

The main purposes of the visit by the UOG Team were to:

- Engaged with Yap Campus agriculture students, instructors, and extension agents on agriculture programs, courses, and various topics including a hands-on demonstration on pruning techniques of fruit trees.
- Conducted Virtual Reality Technology demonstrations to COM-FSM AFT students and Yap High School and Yap Catholic High School juniors and seniors.
- Observed traditional agroforestry systems and agriculture production systems in Yap. A quick survey was also conducted of agriculture produce and products at local stores and markets

As a result of the meetings and discussions on program alignment, a list of promising courses have identified for further review to prepare for the next meeting in Guam in July, 2024.



*AFT students, Agriculture Instructors, and CRE Extension staff meet UOG visiting team at Yap campus*

