



**2026**

# REPORT TO THE BOARD OF REGENTS

COOPERATIVE RESEARCH  
& EXTENSION

## CRE MISSION STATEMENT

The Cooperative Research and Extension's mission is to enhance accessible, innovative, and resilient development in agriculture, aquaculture, nutrition, community empowerment, and youth and family well-being, while advancing climate change adaptation. Through research, education, and extension, we collaborate with stakeholders to support the College's mission and FSM's socioeconomic and environmental priorities and long-term goals.

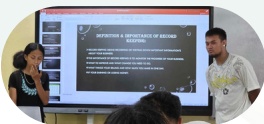
## COM-FSM CRE OVERVIEW

### FINANCIAL VITALITY & ECONOMIC IMPACT

**\$ OVER \$6,500 +**



**DIRECT REVENUE GENERATED**



### COMMUNITY EMPOWERMENT & REGIONAL REACH



**3,000 +**

**DIRECT CONTACTS ACROSS 4 STATES**



### INFRASTRUCTURE & SCALABILITY



**FOUNDATION FOR GROWTH**



**KOSRAE: 10 YEAR HATCHERY LEASE**



**CHUUK: 2 NEW HYDROPONIC FARMS**



**YAP: 10 SANDFISH HATCHERY BATCHES**



### PUBLIC HEALTH & PREVENTATIVE ACTION

**749 YOUTH**



**ADOPTING DAILY HYGIENE ROUTINES IN YAP**



**REDUCING WATERBORNE ILLNESSES**



# COOPERATIVE RESEARCH AND EXTENSION

BUILDING RESILIENT COMMUNITIES

# YAP COOPERATIVE RESEARCH & EXTENSION



## 1. SCHOOL WELLNESS & HEALTH INITIATIVE

Critical Issue: Childhood Obesity

### ✓ KEY UPDATES

- 9 Nutrition & Obesity Prevention Presentations
- 5 BMI Monitoring Sessions Conducted
- 2 School Wellness & Local Food Day Events
- 3 Physical Activity & Fitness Sessions
- 1 Multi-sector Collaboration Meeting

### RESULTS & REACH

**313 PARTICIPANTS**

(141 New | 172 Returning)

**226**

Children

**82**

Youth

**5**

Adults

✓ **25** Total Sessions



### WHAT THIS MEANS

- Early prevention for youth obesity
- Healthier eating habits in schools
- Baseline BMI data for tracking progress
- Strong multi-partner collaboration



## 2. YOUTH & FAMILY DEVELOPMENT PROGRAM

Critical Issue: Youth & Family Issues in the Communities

### ✓ KEY UPDATES

- Gardening Sessions (Food Security & Livelihood)
- Youth Mentoring Sessions (Leadership & Life Skills)
- Craft-Making Sessions (Entrepreneurial Skills)
- Peer Mentoring & Competitions

### RESULTS & REACH

**109 PARTICIPANTS**

(57 New | 52 Returning)

**24**

Children

**82**

Youth

**3**

Adults

✓ **13** Total Sessions



### WHAT THIS MEANS

- Holistic youth development approach
- Practical skills applied at home & school
- Emerging youth leadership
- Stronger community engagement



## 3. CROP, SWINE & POULTRY PRODUCTION PROGRAM

Critical Issue: Lack of Local Food Production & Food Insecurity

### ✓ KEY UPDATES

- Training in Crop, Swine & Poultry Production
- Expanded School & Household Gardens
- Field Trials: Sweet Potato & Seagrass Amendment
- Provided Seeds, Seedlings, and Livestock Inputs

### RESULTS & REACH

**291 PARTICIPANTS**

(147 New | 144 Returning)

**97**

Children

**102**

Youth

**92**

Adults

✓ Multiple Sessions



### WHAT THIS MEANS

- Reduced reliance on imported food
- Increased supplemental income for households
- Improved household nutrition
- Future pipeline for young farmers



## 4. AQUACULTURE EXTENSION PROGRAM

Critical Issue: Sustainable Aquaculture Development

### ✓ KEY UPDATES

- Community Outreach & School Hatchery Tours
- Technical Support: Giant Clam Grow-out
- Broodstock Identification & Clam Surveys
- Training for students & Homeschool Groups

### RESULTS & REACH

**235 PARTICIPANTS**

(228 New | 7 Returning)

**79**

Children

**51**

Youth

**105**

Adults

✓ Multiple Sessions



### WHAT THIS MEANS

- Increased awareness & skills in aquaculture
- Growing the local capacity
- Foundation for commercial aquaculture
- Engaged youth in marine conservation

# YAP COOPERATIVE RESEARCH & EXTENSION



## 5. FOOD SAFETY PRACTICES

Critical Issue: High Incidence of Food and Waterborne Illnesses

### ✓ KEY UPDATES

- Food & Water Safety Lectures in 3 Schools
- Handwashing Stations & Hygiene Education
- Engaged Grades 1-12
- Distributed Pamphlets & Handouts

### RESULTS & REACH

**749** PARTICIPANTS  
(749 New)

**749**  
Youth

✓ **25** Total Sessions



### WHAT THIS MEANS

- Routine handwashing is adopted in schools
- Safer food & water practices at home
- Strong foundation for disease prevention
- Baseline data for future expansion



## 6. EXPANDED FOOD AND NUTRITION EDUCATION PROGRAM

### ✓ KEY UPDATES

- Expanded outreach and community partnerships
- Participants applying healthy cooking and eating at home
- Growing interest in home gardening
- Sessions completed successfully across households

### RESULTS & REACH

**491** PARTICIPANTS  
(491 New)

**34**  
Children

**334**  
Youth

**123**  
Adults

✓ Multiple sessions

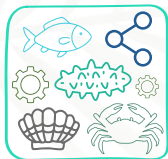


### WHAT THIS MEANS

- Families are improving eating habits
- Increased use of local foods and gardening
- Builds long-term health and reduces the risk of chronic diseases

## AGRICULTURE EXPERIMENT STATION: AQUACULTURE RESEARCH

### YAP AQUACULTURE DEVELOPMENT



Aquaculture efforts in Yap are progressing across four key species: sea cucumber, giant clam, mud crab, and rabbitfish. This is aimed at rebuilding marine resources while developing hatchery systems for future community use.

Sea cucumber work is leading progress: Surveys across 7 municipalities and 25 villages identified 10 species, while hatchery operations successfully produced 10 batches of sandfish sea cucumber. Farm rehabilitation in two communities (Kanif & Ngariy), along with new integrated farming trials (at the hatchery) combining sea cucumbers, fish, and sea grapes, signals a shift from research to practical application and farmer support.

Giant clam, mud crab, and rabbitfish projects remain in early stages. Monitoring, surveys, and DNA sampling have been completed in Yap and Chuuk, but hatchery production is pending due to limited broodstock and materials. These activities are establishing the baseline needed for future expansion. The program continues to engage communities, fisheries staff, and regional partners, strengthening collaboration and knowledge sharing across states.

#### **BOTTOM LINE:**

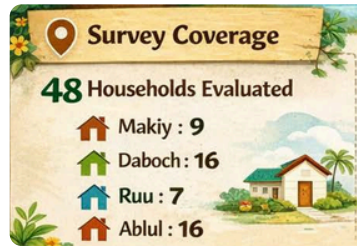
**Yap is building a diversified aquaculture sector, with sea cucumber work already demonstrating tangible progress, while other species are laying the groundwork for future production and sustainable fisheries development.**

## AGRICULTURE EXPERIMENT STATION: AGRONOMY RESEARCH

### ITALIAN FUNDED PROJECT

A community-based initiative in Yap is improving food production and water access through practical, climate-resilient solutions. Activities implemented across Makiy, Daboch, Ruu, and Ablul focused on hands-on training in vegetable gardening, composting, and soil improvement. Households established home gardens for daily consumption and small income generation, while rainwater harvesting systems and water tanks improved access to reliable water sources. These combined efforts are helping communities better prepare for drought and extreme weather while strengthening local self-sufficiency.

**BOTTOM LINE:**  
This initiative is building climate resilience at the household level by improving access to food and water through practical, scalable solutions.



### CLIMATE SMART AGRICULTURE

## AGRICULTURE EXPERIMENT STATION: AGRONOMY RESEARCH

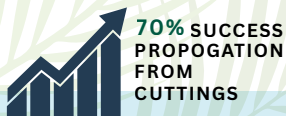
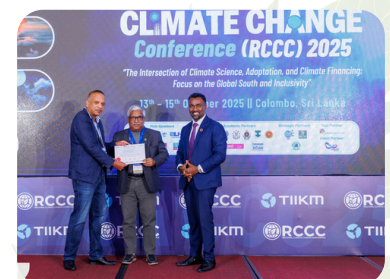
### BUSH PEPPER RESEARCH & LEADERSHIP EFFORTS STRENGTHEN YAP'S AGRICULTURAL FUTURE

#### AGRICULTURAL INNOVATION: BUSH PEPPER TRIALS

Trials have shown over **70% success** in propagating plants from cuttings, highlighting strong potential as a new income-generating crop for local farmers. Efforts are underway to improve planting materials and refine techniques to support wider adoption.

#### REGIONAL & INTERNATIONAL LEADERSHIP

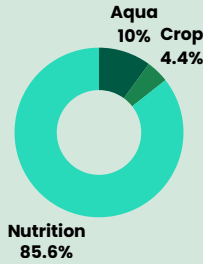
Yap CRE continues to play a leadership role by supporting key institutional processes, contributing to national climate planning, and presenting research at regional and international forums, earning recognition, including a Best Oral Presentation Award.



# CHUUK COOPERATIVE RESEARCH & EXTENSION

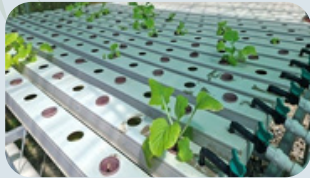


**TOTAL REACH:  
229 PARTICIPANTS**



Programs are strengthening local food systems, nutrition, and community capacity by combining production, education, and applied skills development.

## CROP PRODUCTION & AQUACULTURE DEVELOPMENT



**CROP PRODUCTION (Hydroponics):** Established two farms and produced 100+ crops, increasing year-round food supply.



**AQUACULTURE DEVELOPMENT:** Expanded aquaculture development through reef surveys, site identification, and community engagement, strengthening local seafood production and stewardship.



## EFNEP: NUTRITION EDUCATION



**EFNEP:** Delivered education via workshops, improving food safety, meal prep, and eating practices. Participant count: **196**



## BOTTOM LINE

Programs are strengthening local food systems, nutrition, and community capacity by combining production, education, and applied skills development.

## AGRICULTURE EXPERIMENT STATION: AGRONOMY RESEARCH

### TARO-SWEETPOTATO INTERCROPPING SYSTEM

New research is advancing practical solutions to improve crop productivity and resilience for farmers in the Federated States of Micronesia. The project focuses on developing a taro-sweetpotato intercropping system to maximize land use, increase yields, and strengthen climate resilience.

### CROP SPACING & TOMATO PRODUCTION

Key research proposals have been completed, including a study on optimizing crop spacing in intercropping systems and another examining improved tomato production methods under tropical conditions. These efforts are designed to generate locally relevant, science-based recommendations for farmers.



## BOTTOM LINE

This research is building the foundation for higher yields, better land use, and reduced reliance on imports, directly supporting food security and sustainable agriculture in FSM.



# POHNPEI COOPERATIVE RESEARCH & EXTENSION

POHNPEI, FSM

**Overview:** Addressed critical community issues including food insecurity, environmental resilience, youth and family development, childhood obesity, water and food safety, and sustainable aquaculture. Programs delivered hands-on training, advisory support, and practical demonstrations for farmers, students, and community members

Critical Issue	Program	Participants	Key Outcomes	“So What”
<b>Food Insecurity &amp; Low Local Food Production</b>	Crop Production	275	Skills in soil management, composting, seedling care; home gardens established; reported income generated from sales is \$600+	Farmers improve household food security and small-scale income, reducing reliance on imports
	Swine Program	167	Pig health management, medication use, piglet care; youth awareness raised	Enhanced local meat production and household food security
	Poultry Program	214	Disease prevention, incubator management, and egg production improvement	Sustained local poultry production increases food availability and income
<b>Childhood Obesity</b>	Childhood Obesity Program	214	Nutrition awareness, sports activities, and healthier food choices	Youth adopt healthier habits, lowering obesity risk and promoting lifelong physical activity
<b>Food &amp; Waterborne Illness</b>	Smart Food Safety Practices Program	156	Safe food and water handling, community hygiene initiatives	Reduced risk of illness; strengthened community health practices
<b>Sustainable Aquaculture Development</b>	Aquaculture Development Program	258	Mangrove crab and rabbitfish cage culture; integrated marine resource learning; post-test avg. 72%	Communities prepared for sustainable aquaculture, potential income generation, and marine conservation



**Top Left -Right:** Swine program, crop production, aquaculture outreach.  
**Middle left-right:** Food safety and youth program.  
**Bottom left-right:** Poultry training, food & water safety training.

## AGRICULTURE EXPERIMENT STATION: AQUACULTURE RESEARCH

# AQUACULTURE RESEARCH AND HATCHERY DEVELOPMENT IN POHNPEI



### ✓ KEY UPDATES

- **Hatchery Strengthened:** Nett Point Hatchery improved through maintenance, cleanup, and new equipment to support research and operations.
- **Sea Cucumber Research Progressing:** Site assessments completed and farmer partnerships established for upcoming sandfish trials.
- **Research Capacity Built:** Ongoing technical support provided to students and researchers, strengthening local aquaculture expertise.
- **Community & School Outreach:** Awareness sessions and trainings increased knowledge on aquaculture, food security, and environmental management.
- **Policy & Stakeholder Engagement:** Active participation in meetings and legislative discussions supporting sustainable aquaculture development.
- **Early Adoption by Farmers:** Increased interest in aquaculture, including a new mangrove crab farming initiative in Sohkes with CRE support.
- **Overall Impact:** Building a strong foundation for sustainable aquaculture through research, capacity building, and community engagement.



Meeting at CRE Office with Ms. Tomainne Joab (Master's Degree Student from Sophia University)



Awareness session at Sekere Elementary School



Group Photo during MC Workshop



Legislative hearing, Pohnpei

# KOSRAE COOPERATIVE RESEARCH & EXTENSION



**Overview:** Activities in Kosrae focused on food safety, youth and family development, and sustainable aquaculture. Programs emphasized hands-on training, stakeholder engagement, and community capacity building to improve livelihoods, preserve cultural practices, and strengthen local food systems.

Critical Issue	Program	Participants	Key Outcomes	“So What”
High Incidence of Food & Waterborne Illnesses	Smart Food Safety Practices Program	8	Trained in chili and salt/pepper preservation, food safety, packaging, shelf-life management; recorded income generated is \$120+	Families improve product safety and quality, reduce spoilage, and generate supplemental household income
Sustainable Aquaculture Development	Aquaculture Development Program	40	Secured 10-year land lease for hatchery at Lelu Marine Park; soft-shell clam surveys; stakeholder engagement with Lelu Town Gov., Fisheries Dept., KIRMA, fishermen	Establishes infrastructure for sustainable aquaculture; addresses environmental risks; lays foundation for local seafood production and future income generation
Youth & Family Issues in the Communities	Youth & Family Development Program	122	Leadership, community service, fundraising, traditional skills (fafa preparation), meat processing, rule-of-law awareness; \$3,000 collective funds raised	Youth develop leadership, entrepreneurial, and community engagement skills; preserve cultural practices; contribute to family and community wellbeing
	Youth & Family Development Program	10	Trained in sewing, pattern drafting, measurement, and clothing production; mastered independent production	Families save on external tailoring costs, generate household income, retain funds locally, and improve technical confidence



**LEFT:** YOUTH AND COMMUNITY SERVICE.

**RIGHT:** FOOD PROCESSING AND FOOD SAFETY TRAINING FOR COMMUNITY.

## AGRICULTURE EXPERIMENT STATION: AGRONOMY RESEARCH

# KOSRAE AGRONOMY PROJECTS STRENGTHEN LOCAL FOOD PRODUCTION AND CROP INNOVATION

### ✓ KEY UPDATES

- **Coconut Mapping Completed:** Surveys across multiple municipalities identified 8 coconut types, providing the first clear baseline for improving production and future planning.
- **Citrus Propagation Success:** Low-cost methods for growing lime and tangerine showed strong results, with training provided to farmers, staff, and students.
- **Dragon Fruit Development:** Crop shows high potential, with flowering observed; key production challenges (fruit rot) identified and solutions being tested.
- **Capacity Building:** Practical training and planting techniques shared with farmers, households, and extension staff to support local crop production.
- **Early Systems Established:** A small nursery was initiated to support the future expansion of high-value crops like dragon fruit.
- **Data Gap Identified:** Participant reach and plant distribution are not formally tracked, highlighting the need for improved reporting.
- **Overall Impact:** Strengthening local crop production and reducing reliance on imports through practical, research-based farming solutions.



Measuring the sweetness and quality of dragon fruit using a handheld device, while also comparing fruit size to sugar content to understand how fruit growth affects taste.



Setting up a dragon fruit nursery in Kosrae to test how using extra lighting affects plant growth and fruit production.



Tangerine plants grew the best roots when planted in a mix of cocopeat and potting soil, compared to other soil combinations.



Thornless lime plants showed strong growth and healthy leaves when grown in a cocopeat and potting soil mix.



The Pohnpei lime variety showed healthy, vigorous growth with strong upward and side branching when grown in a peat moss and potting soil mix.



Aerial view of the coconut survey area in Kosrae showing dense coconut tree coverage.



Comparison of common coconut types found during the survey, showing differences in size, shell thickness, and meat inside the coconut.

## AGRICULTURE EXPERIMENT STATION: AQUACULTURE RESEARCH

# BUILDING A FOUNDATION FOR LOCAL SEAFOOD PRODUCTION AND HATCHERY DEVELOPMENT



### ✓ KEY UPDATES

- **Mangrove Crab:** Surveys and sample collection completed across multiple states; research partnerships established to support future crab hatchery development; strong stakeholder engagement (60 participants).
- **Seaweed (Sea Grapes):** Identified best-performing species and demonstrated simple, low-cost farming methods; integrated trials with oysters improved growth; high community interest (30 participants trained).
- **Edible Oyster:** Identified two local species and confirmed potential for local production; highlighted need for clean water systems due to environmental concerns; outreach and training conducted (30 participants).
- **Partnerships & Capacity Building:** Strengthened collaboration with local communities and international institutions to support technical development and future hatchery systems.
- **Overall Reach:** 120 participants engaged across aquaculture activities, increasing awareness and practical skills.



Working together with a university in Thailand (Songkla University) to strengthen research and visit crab hatcheries and seaweed farms.

Studying the crabs in the lab to better understand their growth and health.

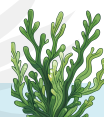
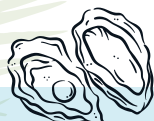


Seaweed is being collected from local waters and grown on a small scale at the research office.



Oysters are being cultivated, and researchers are checking their health and reproductive readiness to support future farming.

**“Sustainable Seas, Thriving  
Communities”**



## STUDENT TEAMS GENERATE \$1,300 PROFIT IN “BUSINESS BLITZ” CHALLENGE



Eight student teams at CTEC turned entrepreneurship training into real income through a three-week “Business Blitz” challenge. Using basic bookkeeping and seed funding, students launched and managed small businesses.

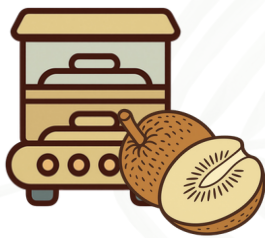
The top team generated \$1,300 in profit, while others earned \$200–\$500, demonstrating strong application of financial management, pricing, and marketing skills.

Students tracked daily cash flow and used records to make business decisions, showing a clear understanding of how to manage and grow a business.

### **BOTTOM LINE:**

**This activity proves that hands-on entrepreneurship training is delivering immediate, measurable economic results and is scalable to other schools.**

## MARKETING & EXPORT PROGRAM



### **50 WOMEN LEARN CROP DEHYDRATION TECHNIQUES**

### **REDUCING POST-HARVEST WASTE, CREATING SHELF- STABLE PRODUCTS**



Fifty women participated in hands-on training in food processing and preservation, learning how to dehydrate local crops such as breadfruit, banana, and taro into shelf-stable products.

The training provided practical skills that can be applied at the household level or developed into small business opportunities, helping reduce post-harvest losses while creating new income streams.

Participants also gained a better understanding of how value-added processing increases the economic value of local crops and supports local food markets.

### **BOTTOM LINE:**

**This activity is strengthening women-led economic opportunities, reducing food waste, and building the foundation for small-scale local food enterprises.**

## CENTER FOR ENTREPRENEURSHIP: THE WASH INITIATIVE



### 42 WATER FILTERS PROVIDED TO KOSRAE HOUSEHOLDS

#### ***BUILDING CAPACITY FOR CLEAN WATER & SANITATION***



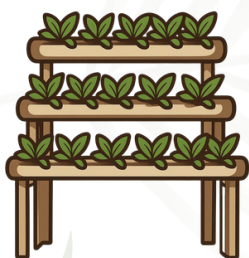
Through the WASH initiative, 42 household water filters were distributed to families in Kosrae, benefiting approximately 200 individuals with improved access to safe drinking water. Community members received hands-on training in the proper use and maintenance of the filtration systems, while students supported household surveys and water safety activities, thereby building local capacity.

The effort was implemented in partnership with health authorities and local governments, strengthening coordination in addressing water and sanitation challenges.

#### **BOTTOM LINE:**

**This activity is delivering immediate public health benefits while building local capacity to sustain safe water practices.**

## CENTER FOR ENTREPRENEURSHIP: HYDROPONIC FARMING



### Advancing Hydroponic Innovation for Local Self-Reliance

#### ***HYDROPONIC TRAINING EXPANDS COMMUNITIES***



Hydroponics training and system installations are expanding across multiple states, equipping students with practical skills in modern food production while increasing access to fresh vegetables.

Schools and community sites, including a hospital and fitness center, are integrating hydroponic systems to support both learning and local food supply. Students received hands-on training in seed germination, system maintenance, and crop production.

These efforts are strengthening local capacity to produce food in controlled environments, reducing reliance on imported vegetables, and supporting school-based agriculture programs.

#### **BOTTOM LINE:**

**This initiative is advancing sustainable local food production while building practical agricultural skills among youth.**

## Sweetpotato Training to Improve Local Crop Production



Four CRE staff attended a two-day training session at the University of Guam (March 17-18, 2026) focused on improving the production and management of sweetpotato planting materials. The training combined simple classroom sessions and hands-on practice. Staff learned how to recognize common plant diseases and pests, how diseases spread, and how to prevent them. They also practiced preparing and growing clean, healthy planting materials and managing nurseries before crops are transferred to the field.

The training included field visits where participants observed different sweetpotato varieties, compared their performance, and evaluated their quality based on appearance and taste. At the end of the training, staff received several varieties of healthy, disease-free planting materials to bring back for local use and distribution.

### **BOTTOM LINE:**

**This training equips CRE staff with practical skills to support farmers in growing stronger, healthier crops. By introducing clean planting materials and better crop management practices, it will improve sweetpotato production, reduce losses from disease, and increase the availability of local food. Over time, this contributes to stronger food security and more reliable crop income for communities.**



**SWEETPOTATO CULTURE TISSUE FROM UOG BEING TRANSPLANTED AT YAP CRE.**



# COOPERATIVE RESEARCH AND EXTENSION

BUILDING RESILIENT COMMUNITIES