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Climate Change Challenges in Micronesia

Yap Italian Project Update

The "Enhancing Water Security and Climate-Resilient Food Systems" project in Yap, Micronesia continues to support displaced atoll communities despite challenges posed by an El Niño-induced drought. The project has successfully recruited a Project Coordinator and Field Assistant, strengthening the team. The grant amount for the project is \$948,750, and it focuses on water security, food security, and community empowerment in target areas such as Makiy, Ruu', Daboch, Ablul, and Satawal Compound community settlements. The project has achieved significant outcomes, including 26 clients remaining active in staple crop cultivation across four settlements, repairs and renovations to rooftop water harvesting systems underway in three communities for water security initiatives, and outreach programs reaching 167 clients for, providing essential training on sustainable farming practices for capacity building. The project aligns with Sustainable Development Goals such as Zero Hunger, Clean Water and Sanitation, Climate Action, and Life on Land. Additionally, a proposal for a new Hatch Project, "Bush Pepper Production as a Cash Crop for Small-Scale Growers," has been submitted for approval. This research aims to standardize methods for growing bush pepper, providing an

Pohnpei CRE conducted a total of 20 training sessions for 329 clients. The training focused on climate-smart agricultural practices such as crop rotation, intercropping, compost management, and agroforestry. Subsequent reports revealed that one farmer earned \$1,200 from selling Chinese cabbage, squash, bell pepper, watermelon, and sweet potatoes. Additionally, two clients sold approximately 94 pounds of vegetables, earning \$250 per harvest.

A Happy Harvest



A household sweet potato cultivation



Client adopting recommended practice (right) and utilizing recycled materials for a planter (left).



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Youth and Family Issues in the Communities Program

The Youth and Family Issues programs in Yap, Chuuk, and Pohnpei have all made significant progress in supporting young people and families in Micronesia. In Yap, the program reached 175 participants, empowering them with essential life skills and enabling some to turn their passion for craft-making into profitable ventures, while others established thriving home vegetable gardens. In Chuuk, 628 individuals participated in sessions focusing on substance abuse, moral values, family relationships, and physical education, leading to increased knowledge and positive behaviors among participants. In Pohnpei, sessions were held for 311 clients, with successful youth groups engaging in agricultural activities (generating income) and recreational sports, contributing to their self-sufficiency and overall well-being. Despite challenges such as transportation issues and community events, the programs have made a positive impact and have plans to disseminate project results and continue outreach activities. The impact extended beyond the participants, benefiting the broader community through healthier youths and families.



Yap youth turning their passion for local craft-making into profitable ventures.

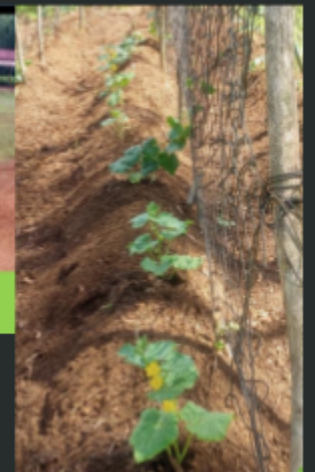


Volleyball Club



Baseball Club

Pohnpei youth engaging in sports club activities.





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Childhood & Adult Obesity Program

Childhood Obesity Program aims to promote healthy lifestyles and address the issue of childhood obesity. The program provided comprehensive education and training on nutrition, health, physical education, and healthy indigenous practices. A total of 684 participants in Chuuk demonstrated increased awareness of the importance of nutritious food choices and the relationship between BMI and obesity. Additionally, half of them successfully applied their knowledge by cooking healthy recipes and following healthy portions. Furthermore, 45% actively engaged in sports and physical activity to improve their BMI. In Yap, the program reached a wider audience of 337 participants, raising awareness of healthy eating and physical activity. The program also implemented initiatives to address food insecurity and improve access to healthy foods, such as establishing home and school gardens. Success stories in Yap include the adoption of healthy meal plans in schools and positive feedback from parents. Additionally, the program is tracking BMI progress of 162 participants, providing valuable data to monitor the effectiveness of the interventions. Overall, the program has made significant strides in promoting healthy lifestyles and addressing the issue of childhood obesity through education, resources, and support.



Preventing Childhood Obesity: A workshop for Early Childhood Education.

High Incidence of Food and Waterborne Illnesses in Micronesia

The High Incidence of Food and Waterborne Illnesses in Micronesia Program was implemented in both Yap and Chuuk to address the prevalence of food and waterborne illnesses. In Yap, the program engaged 242 participants and achieved a 100% completion rate for the 12-week course among adult participants. Positive behavioral changes were observed, with adults and teachers adopting safe food-handling practices and enhanced hygiene measures. In Chuuk, the program reached 724 participants, resulting in positive changes in knowledge and behavior regarding hand washing, microbial growth, reading food labels, and proper food handling and storage. Specifically, 100% of the 724 participants adopted proper hand washing techniques, 65% of the participants read food labels and avoided buying expired food products, 85% boiled water for cooking and drinking, and 88% used clean kitchen utensils, cooked food, and stored these foods properly. The

Lack of Local Food Production and Food Insecurity

Program Program

all community



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The program was implemented in Yap, Chuuk, Pohnpei, and Kosrae to address inadequate local food production and food insecurity. It provided knowledge and skills for sustainable crop production, reaching 2,050 participants across the four islands. Key outcomes include increased understanding of the benefits of vegetable gardening and local food production, a rise in home gardens and consumption of vegetables, and income generation. In Yap, several participants generated a total profit of \$2,100 from their home gardens. In Chuuk, the focus was on empowering individuals to generate income through sustainable agriculture. The sessions conducted in schools and community visits resulted in 100% of the participants learning about basic home gardening, composting, plant propagation, and marketing from farm surveys. Additionally, 10% of the trainees started small family home gardens primarily for consumption, and 5% of them who grew small home gardens ate healthy meals using their produce. In Kosrae, the program focused on enhancing vegetable production using coconut chippings and trained 51 participants from its communities to start their home gardens. In Pohnpei and Yap, the program conducted training sessions on swine production, reaching 501 participants and increasing the adoption of knowledge and skills in this area. The program's success has led to increased awareness and indirect contacts from individuals interested in participating, demonstrating its effectiveness in meeting community needs and generating positive outcomes.





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Giant clam hatchery training for Chuuk CRE Aquaculture Agent.



Palauan giant clams in a community farm.

The program aims to raise awareness and provide technical training for sustainable aquaculture practices. In Yap, the program reached 245 participants, equipping them with the knowledge and skills necessary for sustainable aquaculture practices, including giant clam nursery establishment, transplantation, monitoring, and maintenance. The program also hired a new Aquaculture Extension Agent II to provide ongoing support and expanded to Chuuk CRE. In Chuuk, the program engaged 350 clients through 20 outreach events, covering giant clam and rabbitfish hatchery techniques. 36% of participants increased their knowledge and 29% adopted skills in these areas. Both programs successfully educated community members and motivated them to engage actively in sustainable aquaculture practices, laying the groundwork for future initiatives aimed at enhancing food security and economic resilience within Yap and Chuuk States. The program also imported two giant clam species from Palau to facilitate continued aquaculture work. This action helped to diversify the genetic stock of giant clams in Yap and ensure the long-term sustainability of the aquaculture program.

Agriculture Experiment Station

The College of Micronesia-FSM (COM-FSM) and Yap State R&D have renewed their Memorandum of Understanding (MOU) for another 10 years, from August 1, 2024, to July 31, 2034. This partnership aims to collaborate on research and development projects to improve aquaculture practices in Yap, focusing on developing new techniques for raising valuable fish and other marine species and promoting sustainable aquaculture practices. The collaboration has a successful history, particularly in sea cucumber technology, resulting in the development of hatchery and grow-out technology for a high-income valued species of sea cucumber.



The COM-FSM & Yap State R&D shared hatchery.



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Pohnpei Aquaculture Research Plans

A response to alarming Micronesia's agricultural CO workers, the on Yap's Cooperative Research and Extension (Yap CRE) and the University of Guam (UOG) teamed up to host a two-day Farmer Focus Conference. The conference, part of the Western Regional Agricultural Stress Assistance Program (WRASAP), featured presentations, workshops, and training sessions on topics such as nutrition, stress management, coping

A comprehensive baseline survey will be conducted to gather data from farmers, academia, and industry, focusing on policy, and managed using the survey outcome community, i





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Community Food Production & Nutrition Campaigns in Chuuk

The project aims to educate local communities about underutilized plants, invasive weeds, and potential crop dangers through six developed brochures (Ginger Lily/Camia, Wild Daisy, Bird's Nest, Chromolaena, Crabgrass, and Tawa-tawa). The brochures provided information to 1,173 recipients (732 females and 441 males) on the potential uses of six plants for health and income generation when utilized as ornamentals, food, and herbals. This has led to a positive change in knowledge and behavior, with 5% of recipients expressing interest in growing and maintaining the mentioned plants. The project also aims to reduce the spread of invasive weeds and initiate conservation efforts for plants with potential food uses during famine. The target audience and broader public have benefited from learning about the traditional medicinal uses of the crops, and the brochures have been used as educational references. However, a major challenge encountered is the need for translation of the brochures into the local language. To address this, plans include training local extension agents to expand their knowledge and awareness about underutilized plants and invasive weed control, as well as translating the brochures into the local language.

Agriculture Experiment Station: Chuuk CRE

Effects of Sweet Potato (*Ipomoea batatas* L.) Living Mulch on Taro (*Colocasia esculenta* L.)

The research project examined the impact of using sweet potato as a living mulch for taro cultivation. It was discovered that planting sweet potato and taro together decreased taro yield by 75% compared to growing taro alone. However, when taro was planted one month after sweet potato, the yield improved to 57% of the monoculture yields. The timing of planting also affected sweet potato yields, with higher yields when planted one month after taro. Insect pests and diseases were minimal. The best planting strategy for both crops was to plant sweet potatoes one month before taro to reduce competition for resources. The project raised awareness of sweet potato's potential as a complementary crop and encouraged its adoption by taro producers. Taro producers learned about the benefits of sweet potato as a living mulch, such as weed suppression and additional income, as well as the optimal planting timing for both crops. As a result, producers began planting taro and sweet potato together, utilizing both crops for food and income. Using sweet potato as a living mulch reduced weed growth, saving time on weeding. Families who adopted this practice benefited from the nutritional value of both crops and earned extra income from selling excess produce. Additionally, processing sweet potato and taro into starch and flour created new economic opportunities and added nutritional value to local food systems.

Expanded Food & Nutrition Education Program

The Expanded Food and Nutrition Education Program (EFNEP) at the CBE Chuuk Campus conducted various outreach activities from October 2023 to September 2024. These activities focused on improving food selection, production, preparation, storage, safety, and sanitation. The program reached a total of 338 (160 males, 178 females) individuals through 18 sessions, including lectures, discussions, cooking demonstrations, and community events. Topics covered included food portions (4 sessions), healthy eating (6 sessions), food safety (5 sessions), and nutrition-related illnesses (3 sessions). The EFNEP also collaborated with local schools and organizations to promote healthy eating habits and community well-being.



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Center For Entrepreneurship

CFE PARTNERS WITH COUNSELING OFFICE TO HOST A "PREPARING FOR YOUR FIRST JOB APPLICATION" WORKSHOP

Center For Entrepreneurship

(CFE) and the COM FSM National Campus SECURING SUCCESS: CENTER FOR ENTREPRENEURSHIP UPGRADES HYDROPONIC FARM SYSTEM WITH USDARD FUNDING

The Center for Entrepreneurship recently hosted a successful hydroponic training event in Pohnpei, thanks to a generous \$100,000 grant from the United States Department of Agriculture Rural Development. The training equipped technicians from across the Federated States of Micronesia with the skills to install and manage advanced hydroponic systems. With the new systems and upgraded National Campus Greenhouse, we anticipate a significant boost in farm productivity, expected to increase by 30%. The event also included the distribution of tablets for data collection, which will help us optimize operations and improve our understanding of hydroponic farming. Beyond the National Campus, the grant will support the establishment of satellite demonstration farms in various communities. These farms will serve as educational hubs where community members can learn about alternative farming methods and contribute to our region's food security.



development. Mr. Frank Kenney, co-owner and President of Jamaican Grill, and his wife. **CENTER FOR ENTREPRENEURSHIP SHINES AT 1ST INTERNATIONAL AGRI-PRENEURHSIP IN HYDROPONICS SUMMIT**

Representatives from the College of Micronesia Center for Entrepreneurship attended the 1st International Agri-preneurship in Hydroponics Summit in Zambales, Philippines. The summit was hosted by Zennor Hydroponics and attracted experts and institutions in hydroponics, with sponsorship from various organizations.



