Office of the Vice President
Cooperative Research and Extension
P.O. Box 159, Kolonia, Pohmpei, FSM 96941
Tel: 691-320-8181 Fax: 691-320-2479
Email: jimc@comfsm.fm

For the States of Yap, Chuuk, Pohnpei and Kosrae
Cooperative Research and Extension Service

Report to the COM-FSM Board of Regents
For the period of September 11-Nov. 15, 2013

Nov. 15th, 2013

W. James Currie, VP-CRE

Following is a summary table of the Extension meetings and activities for the period:

COM-FSM – Cooperative Research and Extension Activity Report Template

Program Heading	1.1 Conducted hands-on Training (# of Training Sessions & # of Clients)	1.2 Conducted/ Facilitated structured Workshop (# of Workshops & # of Clients)	1.3 Provided Recommendation/ advise to clients not included in hands-on training or workshops (# of session & # of Clients)	1.5 Organized Provided technical assistance (# of provided technical assistance session & # of Clients)	Provided non college classroom teaching (# of classroom teaching sessions & # of Clients)	Worked on building network/Collaboration (# of building sessions & # of Clients)	Indirect Contacted	
							Conducted Radio or TV program	Distributed Printed Information or Extension materials
Aquaculture			2/36	4/1		4/11		1/63
Families, Youth and Communities	5/26 (10/1647?)		20/30	(10/1647?)	2/44	8/4		1
Global food Security and Hunger	15/66	10-10	37/67 (11/588?)	56/355	20/139	11/44		108
Climate Change			4-4	5/40	6/57	2/30		3-55
Childhood Obesity	11/70	3-50	14/638	20/318	3-50	3-50		3-50
Food Safety	11/80	3-60	14/638	20/318	3-60	0		5-83
Alternative Energy (not active)								
EFNEP	3/110	23/310	23/310	23/310	8-172	3-50		8-133
Special projects (identify)	Installed 4 First Flush Rainwater Diverters	PREL Water quality project Gargey/ 18 participants						1/18

At the last COM-FSM BOR meeting we were asked to identify accomplishments of the Agriculture Experiment Station linked to Extension Outreach. Following are current examples of these successes:

Virendra M. Verma
10/08/2013

Annual Accomplishments:

The Kosrae Agricultural Experiment Station and Cooperative Extension (KAES&CE) concentrated on three research and extension projects viz., in vitro selection for salt tolerance in taro; in vitro selection for salt tolerance in sweet potato; and multiplication and distribution of banana, taro, sweet potato and noni in the state of Kosrae.

Germplasm of different varieties of swamp taro, soft taro and sweet potato have been collected from the Micronesia Region, planted and maintained in the greenhouse for research projects. Shoot apexes of taro and shoot apexes and nodal segments of sweet potato and inoculated on media to establish new cultures. Cultures were also given passage. Various types of media formulation and preparation for maintenance, sub-culture and screening for stress tolerance are under progress for swamp taro, soft taro and sweet potato cultures. More than 7,833 cultures of sweet potato, swamp taro and soft taro were sub-cultured on multiplication media or transferred on screening media. In vitro and in vivo screening to study salt tolerance level in collected and tissue culture maintained germplasm of taro and sweet potato has been started. Three thousands seedling of swamp taro and soft taro are maintained for screening to study salt tolerance level as greenhouse/nursery experiments.

Presented research work on assessment of salt tolerance in taro and sweet potato: in vitro selection, greenhouse and field evaluation in the 2013 In Vitro Biology Meeting. The abstract of the presented paper is published in In Vitro Cellular & Developmental Biology, Vol 49, Issue Abstract, Spring 2013 published by Springer.

The Kosrae Agricultural Experiment Station continued seedling distribution and farm visits for on-site recommendations. During visits technical assistance, support and brochures were provided to farmers on appropriate farming techniques and practices. Transfer of tissue-cultured plantlets from growth room to greenhouse for acclimatization, from greenhouse to nursery for maintenance, and distribution are being continued. In the reporting period, more than 12,150 taro and sweet potato seedlings were produced, and 6,641 taro and sweet potato plants were distributed to interested farmers. In the reporting period, more than 3,208 vegetable seedlings were produced, and 2,030 seedlings were distributed to interested farmers. More than 1,000 lbs of fresh produce such as banana, pineapple, taro, sweet potato, cassava, lime, eggplant, black pepper, papaya, donated to state hospital and vulnerable populations for consumption.

Annual Publications:

Verma, V.M. 2013. Extensive hands-on trainings on integrated sustainable agriculture for root crops, vegetables and fruit production. Micronesia Land Grant. Available at http://www.micronesialandgrant.org/extensive-hands-on-trainings-on-integrated-sustainable-agriculture-for-root-crops-vegetables-and-fruit-production

Verma, V.M. 2013. Assessment of salt tolerance in taro and sweet potato: in vitro selection, greenhouse and field evaluation. Micronesia Land Grant. Available at http://www.micronesialandgrant.org/assessment-of-salt-tolerance-in-taro-and-sweet-potato-in-vitro-selection-greenhouse-and-field-evaluation

Verma, V.M. 2013. Assessment of in vivo and in vitro grafting for rapid production of elite grafted lime seedlings. Micronesia Land Grant. Available at http://www.micronesialandgrant.org/assessment-of-in-vivo-and-in-vitro-grafting-for-rapid-production-of-elite-grafted-lime-seedlings

Verma, V.M. 2013. Extensive publications, education and outreach on integrated sustainable agriculture and livestock production. Micronesia Land Grant. Available at http://www.micronesialandgrant.org/extensive-publications-education-and-outreach

Verma, V.M. 2013. Integrated sustainable agriculture and livestock production workshops. Micronesia Land Grant. Available at http://www.micronesialandgrant.org/integrated-sustainable-agriculture-and-livestock-production-workshops

Verma, V.M. 2013. Ecologically integrated and well managed hot composting system for recycling of organic matter. Micronesia Land Grant. Available at http://www.micronesialandgrant.org/ecologically-integrated-and-well-managed-hot-composting-system-for-recycling-of-organic-matter

Verma, V.M. 2013. High efficiency protocols developed for in vitro multiplication of banana, sweet potato and taro, and produced elite seedlings on mass-scale. Micronesia Land Grant. Available at http://www.micronesialandgrant.org/developed-high-efficiency-protocols-for-in-vitro-multiplication-of-banana-sweet-potato-and-taro-and-produced-elite-seedlings-on-mass-scale

Verma, V.M. 2013. Assessment of Salt Tolerance in Taro and Sweet Potato: In Vitro Selection, Greenhouse and Field Evaluation. 2013 In Vitro Biology Meeting, Providence, Rhode Island, USA.

October 8, 2013

TO : Dr. Murukesan Krishnapillai
Yap COM-FSM, CRE Program
Yap State, Federated States of Micronesia

SUBJECT: Appreciation and Gratitude

As MCH Program coordinator and member of the Neighboring Islands Women's Association, and advisor to the Ruu' Women's Group, I wish to convey our collective appreciation and gratitude to you and your program staff for the outstanding support you have been providing to our communities. Without a doubt, we wish to continue collaborating with you on projects that will improve our health and economic status. Your technical expertise is outstanding and we hope you'd continue to work with us in the immediate months and years ahead.

The Maternal Child Health Program has been running the School Health Screening Program for several years now up until last school year 2012-2013. The screening of children is done once a school year where the following services are provided for free:

1. Administration of Vitamin A capsule, 200,000 units to ECE and children 7years of age in primary schools.
2. Administration of Albendazole tablets 400 mg to all children from ECE to first graders through 8th graders.
3. Hemoglobin check (cut off level 11.0g/dl) Below 11.0 is considered anemic.
4. Physical examination from head to toe.

In previous years the anemia rate was very high especially amongst the children from the Neighboring Islands communities residing on Main Island Yap. This became evident each year after screening all the school children on Main Island Yap. Most of the Neighboring Islanders' children suffer from low hemoglobin (anemia). One of the major contributing factors was the fact that the majority of these neighboring islanders live on processed food such as rice, bread and other processed foods with occasional local foods. Two of these communities had no suitable land to plant local foods and consumption of vegetables was not a practice amongst neighboring islanders.

A few years back, the MCH Program started discussing this problem with the people from these communities. Through the generous assistance of Yap CRE Program, YINEC, Yap Agriculture and the Island Food Community of Pohnpei which initiated the first survey in Ruu', Gagil (Fais Islanders Community), a training by Yap CRE staff

was conducted in Ablul, Gargey in Tomil Municipality. Following this training, vegetable home gardening was introduced in three of these communities- Ruu Village in Gagil Municipality, Ablul and Daboch in Tomil Municipality.

A preliminary review of the School Screening data for School year 2012-2013 showed (MCH School Health Screening Data) a significant decrease in the number of children with hemoglobin less than 11.0g/dl. Out of a total 36 children residing in all three Neighboring Islanders communities that have vegetable home gardens, four had mild anemia- from 10.0 g/dl to 10.9 g/dl. Most of these home vegetable gardens are taken care of by women. In the village of Ruu', Gagil 13 households out of 20 households maintained their vegetable home gardens. Only three gardeners have on occasions sold approximately $10.00 worth of their vegetables. Most are consumed by their families and shared with relatives or contributed for community functions.

Thank you very much.

Sincerely,

Denitha Palemar
MCH Program Coordinator
Neighboring Islands Women's Association Member(NGO)
Ruu' Women's Group (NGO)
P.O. Box 695
Colonia, Yap FM 96943
Tel: (691)952-1070
Email: dpalemar@fsmhealth.fm

Small Farm Outreach and Technical Assistance Program for Socially Disadvantaged Outer Island Population in Yap

Ethnic neighboring island communities of Yap and its 14 atoll islets in the Western Pacific are among the most economically disadvantaged and environmentally vulnerable groups in the Federated States of Micronesia. Most climate change models and studies show that climate change effects will be disproportionately borne by these communities. Decreased rainfall and/or rising sea level trigger saltwater intrusion into traditional taro patches, low-lying forestry stands and other ecosystems in the atolls. Environmental and social pressures force communities to migrate to Yap Proper in search of better living conditions. Migrants from the atolls to Yap Proper with dreams of improving their living standards are often confronted by lack of jobs and mainstay, and remain destitute in a challenging environmental setting. This population required a survival strategy that involves growing vegetables, however, volcanic red soils predominant in the settlement pose severe challenges to the community in field cultivation. Since 2005, a comprehensive extension program has been extended to the community in volcanic soil management coupled with vegetable gardening utilizing alternate crop production practices. Despite limited resource settings and challenging soil conditions, these alternate crop production models helped atoll communities to successfully establish family-level vegetable gardens and directly participate in rebuilding their future. The sound soil management practices and alternate crop production models raised self-reliance of the displaced communities and helped to maintain a sustainable food production system. Nutrient-rich vegetables that were once beyond the family food menu of the community, now supplement their traditional diet of root crops and fish (Outreach project was supported by USDA-NIFA (Award #:2006-51200-03594) and USDA-OAO (Award #: 59-2501-10-008).

Contact: Dr. Murukesan Krishnapillai, E-mail: muru@comfsm.fm

Photo: A collage of household gardens – A Real Homeland Security!

Island Farm – A Success Story

Island Farm (Aringel village, Dalipebinaw Municpality, Yap) was established by a Bangladeshi immigrant in early 2009 as a vegetable garden for survival. Later, more crops were incorporated with technical assistance and extension support from Yap Agricultural Experiment Station. Over the years Yap AES provided several hands-on trainings on topics ranging from nursery management, nutrient management, pest management, soil preparation and composting. This small farm is now well established and catering local markets with vegetables like Chinese cabbage, eggplant, okra, cucumber, peppers, watermelon, long beans, sweet potato, tomatoes, pumpkins etc.

Impacts achieved

Thanks to the hard work and dedication of its owners, Island Farm showed a remarkable achievement in the last few years of operation. Success (impact) was measured in terms of income generated (cost-benefit ratio) from the farming operations. Client reports a gross sale of over USD 14,000.00 each year. Once a rare commodity, fresh garden produce is now within the reach of every household in Yap.

Owner Nadim Miah shares his views: