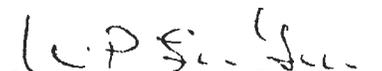




On behalf of the faculty and staff of the College of Agriculture Cooperative Extension System (CES), we proudly present the 1986 Annual Report. Since its birth, our local CES set out on a mission to help people identify and understand their needs and problems and to provide practical solutions using research-based information and new technology. The mission continues, but with each new year, CES focuses on the current needs of the community. 1986 has been another step towards bringing the concept of self-sufficiency closer to reality and towards renewing the commitment to our island and to our Pacific neighbors.

  
Jose T. Barcinas  
Associate Dean

  
Wilfred P. Leon Guerrero  
Dean

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The Cooperative Extension System (CES) is an informal educational delivery system created by the United States in 1914. This unique educational system is based on the belief that human progress could be enhanced if the products of research could be translated to lay language and made available to individuals for a higher quality of decision making.

CES is a three-way partnership. Your island land-grant university, the United States Department of Agriculture, and the local government share in planning and financing extension work. And, to make sure local people have a voice in planning, volunteers are actively recruited to serve as advisers.

The Guam CES was established soon after the University of Guam acquired its status as a Land Grant institution in June, 1972. The land grant university is also headquarters for the staff of specialists in Agriculture & Natural Resources, Community Development, 4-H & Youth, and Home Economics. This network of trained professionals are skilled in assessing the needs of various audiences and developing effective and appropriate educational programs; and they work with individuals and community leaders.

The Cooperative Extension System is a vast facility for extending knowledge to all Pacific Basin territories and states, which

- reaches over 3,000 extension offices throughout the U.S mainland, Hawaii, Puerto Rico, the Virgin Islands, the Federated States of Micronesia and American Samoa;
- provides a link for effective communication between agricultural producers and consumers; and
- is linked to professionals and researchers at land-grant universities who provide ready access to research-based information.

# Cooperative Extension Faculty

Wilfred P. Leon Guerrero, Ed.D. .... Dean/Director  
 Jose T. Barcinas, B.S. .... Associate Dean  
 Edith R. Blankenfeld, M.A. .... Associate Director  
 Victor T. Artero, M.S. .... Extension Agent II, ANR  
 (Marketing/Farm Mgmt.)  
 Jeff D. Barcinas, M.A. .... Extension Agent II, ANR  
 (Marketing/Farm Mgmt.)  
 Claron D. Bjork, Ph.D. .... Associate Professor, Entomology  
 David P. Crisostomo, M.Ag. .... Extension Agent II, ANR  
 (Aquaculture)  
 Frank J. Cruz, B.S. .... Extension Agent I, ANR  
 (Crops & Pest Disease)  
 Bonifacio P. de Guzman, B.S. .... Extension Agent III, ANR  
 Manuel V. Duguies, D.V.M. .... Extension Agent II, ANR  
 (Livestock Prod. Mgmt.)  
 Vincent M. Santos, B.S. .... Extension Agent I, ANR  
 (Crops & Pest Disease)  
 Lawrence F. Kasperbauer, Ph.D. .... Professor, Sociology  
 C.R. Kim Bailey, M.A.,M.M. .... Extension Agent II, CDI  
 Carmen L.G. Pearson, M.S. .... Extension Agent II, CDI/Media  
 Richard N. Prelosky, M.P.H. .... Associate Professor, Community  
 Development  
 Randall L. Workman, Ph.D. .... Associate Professor, Sociology  
 Theodore M. Iyechad, M.Ed. .... Extension Agent II, 4-II  
 Anthony M. Artero, B.B.A. .... Extension Agent II, 4-H  
 Peter R. Melyan, M.A. .... Extension Agent III, 4-H  
 Milagros Moguel, M.A. .... Extension Agent II, H.E.  
 (Clothing Construction)  
 Karen A. Carpenter, M.S. .... Associate Professor, H.E.  
 (Child Dev. & Family Life)  
 Erlinda Demeterio, M.A. .... Extension Agent II, H.E.  
 (Family Resource Mgmt.)  
 Sister Mary Elaine Camacho, M.A. .... Extension Agent, H.E.  
 (EFNEP Professional)  
 Loreto C. Malimban, M.A. .... Extension Agent I, H.E.  
 EFNEP  
 Silas E. Gould, M.A. .... Asst. Professor/Media Specialist  
 Frances Lujan-Torres, B.A. .... Assistant Media Instructor/Editor

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## Agriculture & Natural Resources

### Weed Control

Weeds are a problem on Guam farms. Crop losses due to weeds range from 30 to 100 percent. Although, handweeding is still the most common method of controlling weeds, ongoing Extension programs emphasize the use of herbicides and plastic mulches. During 1986, 23 farmers adopted these techniques (11 on herbicides and 12 on mulches). These methods have been found effective in checking weed growth. And, plastic mulches conserved soil moisture.

### Home Gardening

A home gardening project initiated this year has demonstrated that a garden plot of 25' x 20' could yield \$326 worth of fresh vegetables and \$240 savings for the family.

The project was undertaken in an effort to make Guam families aware that growing their own vegetables does not only save them money but also improves their nutrition and diet through the supply of fresh home-grown produce available from the garden.

In addition to conducting a demonstration garden, ANR agents and the Home Economics staff held gardening workshops in three villages and two naval installations. Eight gardening articles were written and published in the Pacific Daily News.

The same articles were used as basis for 35 five-minute farm radio broadcasts done by the Guam Cooperative Extension System. People who attended the gardening workshops rated the workshops as helpful and informative.



### Livestock

Increasing livestock production through better management and effective control of animal pests and diseases was one of the topics discussed in a seminar conducted by the Cooperative Extension System this year.

Parasitism in hogs and goats, for example, has considerably contributed to lower production of these animals.

The need for farmers to organize themselves as a group was also stressed to provide better marketing and bargaining efforts.

## Renovating the Fadian Hatchery

During 1986, the Aquaculture Extension staff focused their time on renovating the Prawn (Fadian) Hatchery. The hatchery is nearing operational condition and preparations are being made for a training program in hatchery techniques to the Malaysian Prawn (*Macrobrachium rosenbergii*). Trainees will spend 14 days in the various development phases of this prawn.

Initial tests were done on skipjack (*Carangidae* spp.) for aquaculture growth and survival. Other locally available marine and freshwater fish such as rabbitfish

(*Siganus* spp.), flagtail, and *tilapia zillii* will be tested for aquaculture potential.

Also, two commercial farmers adopted the practice of stocking Peacock Bass (*Tucunare*) in their tilapia ponds. Their effectiveness in controlling tilapia reproduction will be evaluated..

Additionally, a small scale backyard aquaculture workshop series will be conducted in 1987. This workshop series will include a slide presentation on backyard pond culture, water quality, and cage culture. Participants will be encouraged to set up backyard ponds.



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# Community Development Institute

## Volunteers: Helping Guam's People

Volunteers have worked for decades to make community services possible on island. Whether it's stated as "ayudu," "pagtulong," or "hoshi katsudo-okonat-te-imasu," helping is an idea found in all cultures.

During 1986, Cooperative Extension initiated the island's first pragmatic study of volunteer activity in our community. The publication of these results will provide a meaningful portrayal of volunteerism on Guam for local program staff and organizers, and will give them insightful ideas for working with volunteers.

This project consisted of three phases; (1) starting with an investigation of volunteerism within CES, (2) expanding these interviews to 14 similar community education and social service organization (e.g., Red Cross, Guam Memorial Hospital, Lytico-Bodig, Boy and Girl Scouts), and finishing with (3) a survey of 82 volunteers from these agencies.

Most of the volunteers responding to the survey were permanent residents of the island.

Volunteers are people with an interest in community affairs and most have lived on the island for an extended portion of their lives (19 or more years among those

surveyed). Overall, the profile of the person most likely to volunteer on Guam is an active family and career person, moving from their early to middle life stage.

Agencies reported that at least 2 out of every 3 volunteers are married, and over half are employed. People in their early career and family life stage, the 22 to 40 year age group, dominate Guam's pool of willing volunteers.

The Guam volunteers who were surveyed suggested a number of things for staff professionals to remember when working with volunteers. These comments mark three main themes:

1. Respect volunteers as individuals. Staff should remember that: "Volunteers are intelligent and concerned, otherwise they wouldn't be involved."
2. Use human relation skills. Staff should remember: "To understand the volunteers and to give praise and recognition."
3. Guide and train volunteer activity. Staff should remember: "To give proper directions to the volunteers about their responsibilities."



## Health Status of the Population of Guam

About five percent, or one out of every 20 people on Guam lose a day or two because of illness and injury.

This figure does not include days home in bed or days in the hospital, which when added, reveal that health affects about two and one-half days per person on Guam. This may not seem like much, but it means that the economy loses over 29,000 person-work days a year and students annually lose over 27,600 person-school days.

This detail in our understanding about the impact of health conditions on island became available through a health study project completed this year and publication of a five volume report of findings from an Island-wide Health Behavior Patterns Survey conducted by the Community Development Institute.

This study was a collaborative project between the CDI-CES and the Guam Health Planning and Developing Agency (GHPDA). It was supported by the U.S. Department of Health and Human Services, the University of Guam, and the GHPDA. This is the second collaborative effort, with a similar study having been conducted for just the Northern area villages in 1979 - 1980.

The five volume material covers the following, Salient Social and Economic Characteristics; Dental Needs and Care; Morbidity; Health Care Accessibility, Utilization, Satisfaction and Responsibility; and An Analytical Discussion of Selected Lifestyle Patterns.

## CES Image and Needs Study

One problem faced by the Extension System is that some people on island are aware of CES, but not its specific programs. And, there are also those who know its programs but do not associate it with the Cooperative Extension. This was clearly revealed in the first formal Image and Needs Study designed to assess the effectiveness of CES in Guam's community.

The study consisted of two parts. The purpose of the first section was to determine the extent of the public's awareness of CES and the types of programs it offers. The second section focused on questions concerning needs which are perceived as key problems for individuals, families, and for the community in general. Information acquired from this section should prove helpful in structuring future plans of work for the Cooperative Extension personnel.

We found that approximately four out of every 10 adults on island (39 percent) have heard about the Cooperative Extension System. Seven out of 10 have heard about 4-H & Youth programs and five out of 10 have heard about Home Economics. This pattern is not unusual and has also been found in the mainland states.

Even so, it marks out a problem in these hard financial times of public accountability. Citizens and their legislators may support the "good things" done by 4-H or Agriculture agents, but fail to realize that in cutting the University's Extension budget they are cutting back on those impacts.

In order for CES to continue to be a vital and effective information and delivery system in servicing the island's communities, an assessment of its impact was considered necessary, especially before planning and developing future projects.

## 4-H & Youth

### International Friendships

In the Summer of 1979, the Guam 4-H Club began its International Exchange Program with the help of its members, leaders, parents, and businesses.

In that year, they joined with the United Service Organization (USO) in hosting visiting Japanese youth sponsored by Japan's B&G Foundation. The visitors were treated to local food and entertainment. Plus, they were also taken around the island to visit historical landmarks.

Since then, the 4-H Club has hosted over 1,000 Japanese children. And, the exchange program continues to offer both the 4-H and Japanese children the opportunity to share their unique cultures and the opportunity to establish new friendships.

In the summer of 1984, the Guam 4-H hosted the Araoka English school, at the request of the Guam Visitors bureau for four days. While on Guam, the visitors were given an international exchange party with a special barbeque. They were also given lessons in fishing with nets, rods and reels.

The following year (1985), the Guam 4-H youths went to Japan and stayed for six days. They learned the Japanese language and also studied the culture, history and geography of their host country.

In 1986, the Araoka group came to Guam again, and visited such places as Namu Falls, Jones Beach and other tourist spots. Although the Japanese children enjoyed the Home Stay Program, they preferred to do things with their Guam counterparts. Also, the Indian Community of Guam participated in the International Dinner given to the visiting Japanese youths.

For 1987, plans are under way to send our Guam 4-H youths to Japan once again. As



in previous trips, the community's financial support is earnestly being solicited.

In the future, the Guam 4-H hopes to improve its International Exchange Program with Japan and also to start similar programs with Korea, Taiwan, Philippines and other countries.

## Teen Consumer Education Program

"Dollars, Sense and Cents" is a 4-H Teen Consumer Education Program. Initially, this new program attracted a number of young people from "Sanctuary" (a shelter for young people with problems) as an alternative education program.

In the summer of '86 the same program was offered. Although, it attracted a number of youths, those that showed up were fewer than those who originally signed up.

The program encouraged 4-H members to achieve the following:

1. To understand and relate how personal values, goals and available resources affect consumer behavior.
2. To understand and use management and economic principles when making consumer decisions.
3. To understand the rights and responsibilities of the consumer and to act responsibly as a consumer.
4. To share consumer information and skills with others.

## Career Program Expands

First, it was computer lessons, then came the art of fishing. This was how the young members of the 4-H Club got into exploring the various activities they might



find themselves interested in as they grow up.

In 1986, 4-H members worked on new projects such as sewing and making Christmas wreaths. These projects were part of the Consumer Education Program that was initiated in conjunction with the Home Economics department. Members were taught how to save on their clothing expense and also how to earn extra money by making and selling wreaths.

During the year, additional clubs were formed to introduce members to new types of activity. These were the Dog Club, Shell Club and Art Club.

The Art Club has been awarded a \$2,070 grant for a professional artist to work with them. The Shell Club is a part of the Guam Shell Club and members participate in educational presentations and actual shell collection work.

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## Home Economics

### Teen Parenting Program

Teen pregnancy is a growing concern in today's society. Public health officials estimate that Guam's teen pregnancy rate is 95 per 1,000, a close second to the United States rate of 96, which now tops most other nations.

The Teen Parenting Program is a cooperative project between the Home Economics department of the Cooperative Extension System, Department of Public Health and Social Services.

During the regular academic school year the project provides educational, counseling, referral and follow-up services to pregnant and parenting adolescents enrolled in the program. Infant care services are also provided on as needed basis so that adolescent mothers can remain or return to school and complete their high school education. All these services are extended via all public high schools and the University of Guam Infant Care Center.

Since its inception three years ago, about 300 young members have enrolled in the program, 187 of whom participated in 1986 alone.

Overall, about 67 percent of the pregnant project girls have returned to school within four weeks of delivery. Twenty-eight percent have completed high school; 37 percent are still in school; and 35 percent have either dropped out or were unavailable for follow-up checks.

More than 70 percent of the teenage mothers have participated in educational programs available through the public high

schools and the out-of school center.

Twenty-eight fathers also attended classes.

The Infant Day Care Center provided day care services to 18 client babies during the 1986 school year.

### Expanded Food and Nutrition Education Program

Guam's Expanded Food and Nutrition Education Program (EFNEP) continued to help low income families in improving their knowledge, skills, behavior and attitude about food, nutrition and health.

In 1986, 214 homemakers and 797 youths enrolled in the program. Of the 182 homemakers that graduated, 47 to 52 percent have improved their diet through increased intake of the four basic food groups: milk, meat, fruit and vegetable, and bread and cereal.

The same was true with the young participants. Improved behavior and attitude towards food and nutrition were reflected in their increased meal preparation skills; greater intake of milk, fruits and vegetables; and reduced consumption of sugar, salt and fat.

Expanded Food and Nutrition Education Program activities were carried out with the help of six nutrition aides, 143 volunteers and numerous individuals and organizations.

## Sewing Club



**GHURA Training Workshop**

The University of Guam Cooperative Extension System was contracted by the Guam Housing and Urban Renewal Authority (GHURA) to provide training for their tenant relation advisers (TRA) on the following identified subject matter areas: "Family Financial Counseling," "Tenant Orientation Program," and "Care and Maintenance of Dwelling Units and Equipment."

A final training report and recommendation were submitted to GHURA after the training. Overall evaluation of training workshop ranked "very helpful" among all participants.

Sewing has become a popular activity among local homemakers and a great number of 4-H youth. Since its inception three years ago, participants of various sewing projects, especially those of the low income group have tremendously benefited from their work through skills and knowledge gained, personal satisfaction and sizable savings realized.

To keep this program going, a sewing club was organized this year to:

- enhance the role of the art of sewing on changing family patterns and lifestyles;
- teach members how to meet their clothing needs effectively;
- keep members abreast of the latest trends in techniques and sewing equipment; and
- encourage exchange of ideas and personal experiences that contribute to better sewing.

With an initial membership of 17, the club has been meeting once a month and working on various sewing projects such as silk dresses, Christmas trees, Christmas wreaths, cookie or bread holders, and fabric picture frames. Members were also trained on the use of modern tools and equipment like the Serger, which can sew three times faster than the ordinary sewing machine, and at the same time finish and trim the allowances.

## Teletips Updated

Since its birth in 1982, CES Teletips, a telephone information system has expanded its lines of communication. Over 300 new pre-recorded, practical information has been added on. And, a new directory has been published with the updated version of Teletips.

Also, Teletips has added on new hours of operation, 8 a.m. to 8 p.m. Monday through Friday and from 8 a.m. to 5 p.m. on Saturday. Sundays and holidays are excluded.

The favorable response from the public resulted in the decision to expand the service. The staff of College of Agriculture and Life Sciences continues to contribute more topics to the system.

## Guam ESP Chapter Formed

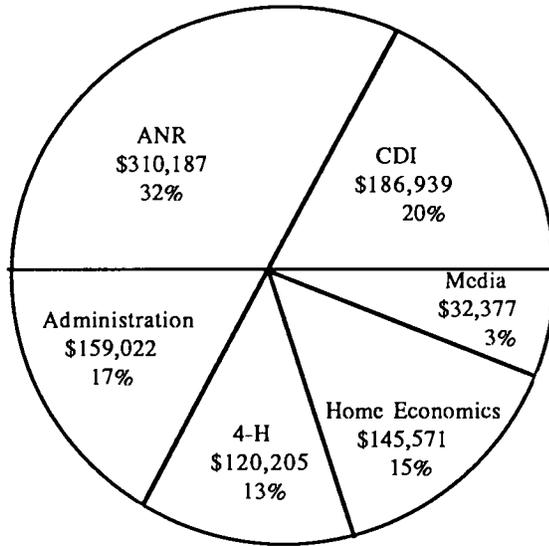
Following years of inactivity, the Guam Tau Alpha Chapter of the National Epsilon Sigma Phi (ESP) was revived in February, 1986 with the following elected officers: Anthony M. Artero, President; Victor T. Artero, Vice-President; Richard Prelosky, Secretary; and Bonifacio P. de Guzman, Treasurer.

The ESP is a national honorary Extension fraternity. The local faculty and administrative staff in Extension are involved with the University's informal educational programs in Agriculture & Natural Resources, Home Economics, 4-H and Youth, and Community Resource Development.

Clientele Contacts, By Racial-Ethnic Groups  
All Program Areas, FY 1986

<u>Racial-Ethnic Groups</u>	<u>No. of Contacts</u>	<u>Percent</u>
White-not of Hispanic Origin	12,772	19.5
Black-not of Hispanic Origin	710	1.1
Filipinos	11,776	18.0
Chamorro	29,978	45.7
Asian/Pacific Islander	10,311	15.7
TOTAL	65,547	100.0

## CES BUDGET FY 1986



CES Professional Staff Years, By Program Area  
FY 1986

<u>PROGRAM AREA</u>	<u>STAFF YEARS</u>	<u>PERCENT</u>
ANR	9.0	41.5
CDI	6.5	30.0
4-H & Youth	3.0	13.8
Home Economics	3.2	14.7
TOTAL	21.7	100.0



The First Annual Extension Retreat was held at the Cocos Island Resort Hotel on January 10, 1986. The retreat was primarily to provide a form of staff development activities for Extension faculty.

Three seminars were conducted. The topics were 1) the use of micro-computers, 2) monitoring activities and accomplishments, and 3) time management. Also, Senator Pilar Lujan, the luncheon guest speaker focused her discussion on different issues and policies affecting agriculture.

In addition, an Extension forum was conducted to discuss different activities, problems, and programs of the Cooperative Extension System. Discussions were focused on the need to integrate programs and different projects to better effectuate the plans of work.

The committee members of the First Annual Extension Retreat were Jeff D. Barcinas, Chairman and members Anthony M. Artero, Erlinda Demeterio, and Dr. Randall Workman.

Helping you put knowledge to work.



Issued in furtherance of Cooperative Extension Work, Acts of May 8 and June 30, 1914, in cooperation with the United States Department of Agriculture. Wilfred P. Leon Guerrero, Director, Cooperative Extension Service.

"The Programs of the University of Guam Cooperative Extension System are open to all regardless of age, race, color, national origin, religion, sex or handicap."

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