

Final Results

EW97-003

Tools for Sustainability: Sustainable Agriculture Video Training Tapes for the Pacific Islands Region

Location:

Hawaii and U.S. Trust
Territories

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\$64,295

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OBJECTIVES

The SARE project team has two objectives in mind:

1. Develop videotapes on sustainable agriculture that emphasize hands-on applications to disseminate to extension agents, ag professionals and farmers in the Pacific island region
2. Identify and develop local expertise in video production during taping in Guam, the Northern Mariana Islands, Micronesia and Hawaii

ABSTRACT

A 1997 training session increased interest in sustainable agriculture among cooperative extension agents and the Natural Resources Conservation Service field staff serving the Pacific islands. However, the region's agriculturists noted that the practices featured in the training session failed to address regional concerns of tropical ecosystems, farming practices and cultural heritage, instead focusing on crops and species in temperate climates.

To provide local producers with local information the project team proposed a series of educational videotapes featuring tropical sustainable agriculture themes appropriate to the region. Using e-mail and satellite teleconferencing, a Pacific island team formulated an action plan to produce eight videos.

Despite personnel changes that delayed the project, eight videos featuring farmers and ag professionals as resources were completed on Oct. 31, 2000.

SPECIFIC RESULTS

Eight educational videos were developed under the guidance of the project leaders and their assembled team, including five videos produced by the Hawaii group, two developed by the University of Guam with support from Saipan and one produced by the College of Micronesia (Pohnpei) with assistance from Guam.

The videos and a synopsis of each are as follows:

[An Introduction to Sustainable Agriculture in the Tropical Pacific](#) (running time, 29 minutes, 45 seconds.)

This video introduces the concept of sustainable agriculture in the Pacific through the eyes of farmers, professionals and students. It targets these sustainable concepts: enhancement of environmental quality and the natural resource base on which the agricultural economy depends; making the most efficient use of non-renewable and on-farm resources, and, where appropriate, integrating natural biological cycles and controls; sustaining the economic viability of farm operations; and enhancing the quality of life for farmers, ranchers and society as a whole.

[An Introduction to Soil Fertility in the Tropics](#) (running time, 39 minutes, 16 seconds)

This video introduces the concept of soil fertility in the tropics. It provides step-by-step instructions for conducting soil tests and interpreting the results as well as improving the soil with compost. The video discusses the characteristics of tropical soils and steps to amend nutrient imbalances using locally available, natural products.

An Introduction to Integrated Pest Management in the Tropics (running time, 34 minutes, 27 seconds)

This video introduces procedures for developing an integrated pest management program in the tropics. It shows how to identify, observe and monitor pests and systematic techniques for quantifying data. Case studies show commercial IPM practices used in Hawaii's cut flower industry.

An Introduction to Integrated Animal Waste Management in the Tropics (no running time given)

This video features steps for incorporating animal waste management into tropical farming situations to increase soil fertility and crop production. Case studies feature tropical coffee farms that utilize geese and sheep as part of an integrated waste management program, and a poultry egg farm that produces and markets organic compost from chicken manure and macadamia nut husks. The systems have proved to be profitable arms of each business.

Innovative Agriculture Technologies and Alternative Crops for the Pacific Islands (no running time given)

This video features the use of ocean water pumped to shore from 2,000 feet deep to develop sustainable habitats in coastal desert regions. This innovative use of deep ocean water creates a cool soil (48-55 F.) that can support the production of temperate crops in desert tropical regions. The increased thermal gradient generated between the root and the fruit, the video explains, allows the plants to grow faster, which is commonly seen during springtime conditions in temperate climates.

An Introduction to Windbreaks, Hedgerows and Alley Cropping (running time, 19 minutes, 23 seconds)

This video provides an overview of tropical windbreak, hedgerow and alley cropping strategies. Several methods are discussed to reduce damage from wind and salt spray. The methods can increase crop value while providing shelter for additional crops.

An Introduction to Recirculating Aquaculture (running time, 19 minutes, 23 seconds)

This video uses case studies of Guam aquaculture to show the benefit of recirculating systems, particularly where freshwater sources are limited. Examples show how farmers use wastewater from an aquaculture system as a source of nitrogen incorporated as a foliar spray or supplemental watering of vegetables.

An Introduction to Agroforestry (running time, 20 minutes, 37 seconds)

This video's case study centers around the planting and harvesting of Sakau (*Piper methylsticum*) on Pohnpei Island in the Federated States of Micronesia. The video emphasizes that improper handling of natural resources, especially soil and water, will cause deforestation and hinder social and economic opportunities.

To satisfy the second objective, the project team supplemented existing resources and expertise in video production with training and consultation, done both online and in person. With their newly acquired expertise, faculty and staff at the respective institutions are continuing to develop videos on sustainable agriculture.

On Guam, two videos of 10 to 20 minutes duration are being developed, one on managing sustainable hog waste, the other on micro-irrigation. In addition short video clips of 2 to 10 minutes are being shot on grafting, air layering, sun hemp as a green manure and data collection techniques for production monitoring on tropical islands. On Hawaii, videos are planned on sustainable cold-water agriculture and aquaculture topics that use deep ocean water.

POTENTIAL BENEFITS

The production of the videos has helped assemble a close-knit group of agents dedicated to sustainable agriculture for the Pacific Islands, and the videos themselves extend the outreach of Pacific extension faculty, providing farmers, ranchers, educators and decision-makers sustainable information without requiring their travel to seminars or workshops.

FARMER ADOPTION AND DIRECT IMPACT

Production of the videos heightened the awareness that sustainable farming practices are being implemented on both small- and large-scale commercial farms in Hawaii. In addition, the farmers featured in the videos

were pleased to showcase their experience. Airing the videos on public-access television has raised the farmers' credibility within the community.

FUTURE RECOMMENDATIONS OR NEW HYPOTHESES

The project team recommends adding funds and people to the development of videos on a wide range of extension subjects in the Pacific region. The new video work could be broken into short messages or clips and placed on the Internet in streaming video for Web-based video tips. The team also recommends translating the videos into Hawaiian and the six languages of Micronesia to make them more user friendly and to acknowledge the farming tradition and cultural heritage within these island communities.

DISSEMINATION OF FINDINGS

The five Hawaii-produced videos have been aired on "Hawaii Aloha," a twice-weekly show produced by Rosey Rosenthal, who narrated the videos. Each has been aired four times on three public-access channels on the Big Island of Hawaii, and Rosenthal estimates an audience of 5,000 for each airing. He also reports that Big Island producers would like to see more videos on more sustainable agriculture topics.

The videos are being scheduled for airing on four other Hawaii public-access television stations, and the Hawaii group is trying to determine whether the three videos produced by Guam, Saipan and Pohnpei can be aired in Hawaii as well.

Guam and Saipan are distributing video copies to extension clients, middle and high schools, libraries and government agencies. Once at least 10 videos have been produced, the Guam team plans to distribute them through local video stores.

On Pohnpei the video is being distributed to agencies dealing with the environment and animal and plant production. Copies are also being provided to the Micronesian High School in Pohnpei and to the Pohnpei Agriculture & Trade School.