

PD-ABM-574
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SOUTH PACIFIC

COMMERCIAL AGRICULTURAL DEVELOPMENT (CAD) PROJECT

(A.I.D. Contract No. 879-0000-C-2191-00)

1992 - 1995

FINAL REPORT

Submitted to:
USAID/Manila

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December 1995

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Appendix 1 - Revised Scope of Work

Acronyms

ACDI	Agricultural Cooperative Development International
ALO	Agriculture Liaison Officer
CAD	Commercial Agricultural Development (project)
CADA	Commercial Agricultural Development Advisor
FDB	Fiji Development Bank
FFGEA	Fiji Fresh Ginger Exporters Association
FFPEA	Fiji Fresh Produce Exporters Association
FIMCO	Friendly Islands Marketing Cooperative (project)
GOF	Government of Fiji
GRA	Graduate Research Assistants
HTFA	High Temperature Forced Air
MARC	Market Access and Regional Competitiveness (project)
MOA	Ministry Of Agriculture
NATCO	National Trading Corporation (Fiji)
PASA	Participating Agency Service Agreement
PEP	Profitable Environmental Protection (project)
PIMAR	Pacific Islands Marine Resources (project)
PNG	Papua New Guinea
PVO	Private Voluntary Organization
SDC	Southern Development Corporation
TFP	Tropical Food Products
USAID	U.S. Agency for International Development
RDO/SP	Regional Development Office/South Pacific
USDA	U.S. Department of Agriculture
USDA/ARS	USDA/Agricultural Research Service
USP	University of the South Pacific
USP/IRETA	Institute for Research, Extension, and Training

EXECUTIVE SUMMARY

The Commercial Agricultural Development (CAD) terminated early following the closure of the regional USAID office in Fiji. ACDI provided two international long-term staff to implement CAD. The Agribusiness Advisor, John Kreag, was based in Fiji and the Marketing Advisor, Michael Brown, was based in Western Samoa at the University of South Pacific Alafua Campus.

Despite the need to modify the ACDI scope of work and phase down and out of certain activities much earlier than anticipated due to the USAID closeout, there were many accomplishments. The most significant accomplishments are:

- Introduction of high temperature, forced air quarantine treatments in Fiji and Tonga. This innovation involved the sale of U.S. technology to help increase small farmer income through exports to previously "closed markets." The equipment and treatment service are now owned and operated by farmer-owned enterprises.
- Development of a successful farm supply business in Vanuatu which is operating profitably and providing good services to the farmers.
- Support of "quick curing" vanilla techniques and provision of vanilla testing equipment in Tonga, enabling FIMCO to generate profits despite a substantial decline in world prices.
- Start-up of an organically-grown vanilla certification process and link-up with a lucrative market which led to increased incomes for certified producers.
- Organized six workshops focussed on development of specific markets for agricultural producers.
- Published a root crop manual and indigenous nuts manual.
- Assisted Fiji, Tonga, Cook Islands and Niue exporters to recognize and take advantage of opportunities created by taro leaf blight in Western Samoa. Within two years, taro became Fiji's second most important agricultural export industry with sales of US\$4 million.
- Designed and developed nut crackers to make the nuts viable as an export product.
- Introduced bait spray attractant for female fruit flies to decrease crop losses.

The private sector emphasis of CAD was adhered to and many enterprises and organizations throughout the region received direct assistance and benefit. All activities were specifically designed with a sound environmental aspect.

Lessons Learned and Recommendations

1. The use of local "Management Resource Persons" was a very effective way to sponsor private sector development in broad-based organizations. ACDI highly recommends the use of local expertise for similar future activities.
2. Institutional development is a long-term activity. The early termination of CAD resulting from the closure of the USAID/RDO/SP office in 1994 severely disrupted this process. This means there will be (a) fewer long-term benefits and (b) slower realization of development objectives than anticipated in the project design. ACDI strongly recommends that in any future mission closings, every effort be made to complete project activities so long as work is progressing satisfactorily and the benefits are cost effective. The early termination of CAD disrupted relationships and negatively affected project work once the termination was fixed. Terminating projects earlier than agreed is an inefficient way to conduct development assistance and foreign relations.
3. The South Pacific nations are good development partners and deserve a moderate level of continued USAID assistance. Due to the small size of the nations (except PNG) such assistance can be cost-efficiently delivered through PVOs.
4. Additional assistance is appropriate and recommended in the form of short-term assistance for certification and training in commercial implementation of the businesses in order to consolidate the HTFA component of the CAD project. This will ensure that the investment made under the CAD project achieves its full potential.

ACDI wishes to acknowledge the invaluable assistance provided to CAD by Dr. Andrew McGregor, the A.I.D. project coordinator. Even following closure of the CAD office, Dr. McGregor continues to advise and work with many of the participating organizations and individuals on a *pro bono* basis. This follow-up assistance will help to ensure the continued success of many of the entities ACDI worked with under the CAD project.

BACKGROUND

The U.S. Agency for International Development's Regional Development Office for the South Pacific (USAID/RDO/SP), based in Fiji and closed September 1994, serviced 10 countries -- from Niue with its population of 2,000 to Papua New Guinea, population 3,500,000. These countries are small, relatively poor, environmentally sensitive, democratic and generally supportive of private sector-led development. All have a long history of friendship with the United States.

In the 1980s, USAID/RDO/SP initiated a series of regional projects with a strong focus on environmentally sustainable economic development. This represented a significant departure from past assistance which had lacked a central focus and was implemented on a country-by-country basis, primarily through Private Voluntary Organizations (PVOs). The change in approach was part of an overall plan to increase the level of USAID assistance to the region and it gave a much stronger focus to USAID's work. However, these projects often were difficult to implement due to the vast geographical area covered by the countries and the huge differences in opportunities and levels of development in each one. In addition, the cost of administering them was much higher than it had been for the PVO activities. These factors, among others, provided the justification for closing the Mission.

The following four projects were implemented under the USAID/RDO/SP program:

- Pacific Islands Marine Resources (PIMAR)
- Market Access and Regional Competitiveness (MARC)
- Profitable Environmental Protection (PEP)
- Commercial Agriculture Development (CAD)

In September 1993, USAID announced that the USAID/RDO/SP would close. At that time ACDI had been implementing the CAD project for less than one year of the four year contract. In March 1994, a USAID Mission closure plan was approved by USAID/Washington and in April 1994, ACDI's CAD project contract was amended to reduce the level of funding from \$3,012,490 to \$1,960,000 and change the completion date from late-1996 to August 1995. Similar actions were taken with regard to the other three projects. On June 30, 1994, all responsibility for the administration and supervision of South Pacific projects was turned over to USAID's Philippines office. Under the USAID/RDO/SP closure plan, all projects were to be completed and closed out by September 1995.

The five-year CAD project included four separate A.I.D. contracts and was begun in 1992. It was the last USAID/RDO/SP project to be contracted. The four contracts included:

1. A Personal Services Contract for the project coordinator, Dr. Andrew McGregor;
2. The PASA contract for research activities to the USDA Agricultural Research Service (USDA/ARS);
3. A training and extension activities contract with the University of the South Pacific Institute for Research, Extension, and Training (USP/IRETA); and
4. The commercial implementation activities contract with ACDI. Pacmar, a Hawaiian subcontractor to ACDI, provided short-term consultants.

INTRODUCTION

Goal and Purpose

CAD's goal was to increase economic growth in the agricultural sector based on private enterprise development and sound environmental practices. The private sector organizations that CAD the project was to focus on were those with sufficient producer ownership or participation to result in producers' realizing a significant portion of the benefits. The term "enterprises" covered producer-owned companies, cooperatives, and industry associations.

The project purpose was to increase the value of agricultural exports to niche markets. Export value was to be increased through business and trade linkages and CAD was charged with enhancing the private sector's ability to respond to the improved policy environment in most South Pacific nations.

Project Approach

Despite numerous policy pronouncements from donors, previous assistance efforts had done little to accelerate private development in Pacific Island agriculture. In some cases, projects actually weakened the position of the private sector by requiring the direct involvement of government agencies in production and marketing activities. CAD was designed to break from this tradition by working directly with agribusinesses and commercial industry associations to foster agricultural development through increased high value crop exports.

CAD intended to build on lessons learned from ACDI's successful, USAID-funded Friendly Islands Marketing Cooperative (FIMCO) Project in Tonga. However, where FIMCO required a great deal of technical assistance to build a business from scratch, CAD worked with established enterprises and helped transform existing associations into businesses able to

improve the quality and profitability of exports. CAD also facilitated the privatization of government-owned businesses and activities.

Initial activities began in early 1992 with the hiring of Dr. Andrew McGregor as project coordinator. By mid-year, contracts with USDA/ARS and USP/IRETA were signed, and in late September, ACDI and USAID signed a four-year contract.

In October 1992, the ACDI Chief of Party and Agribusiness Advisor, John Kreag, began implementation of the project in Fiji. In March 1993, ACDI's Marketing Advisor, Michael Brown, arrived in Western Samoa to begin his three-year assignment. He operated out of the University of the South Pacific Alafua Campus. Also in March, the subcontract between ACDI and Pacmar was approved and signed.

SCOPE OF WORK

The original scope of work, below, was modified in 1994 to reflect the changing priorities brought about by the imminent closing of USAID's RDO/SP Mission. The revised version appears as an appendix.

SPECIFIC TASKS AND ACCOMPLISHMENTS

Throughout this report, the tasks as included in the USAID-ACDI agreement will be cited and then followed by a discussion of actions and accomplishments.

Task: The contractor shall provide two long-term advisors - a commercial agribusiness advisor and chief of party (3 years) to be based in Suva, Fiji, and a marketing coordinator (2½ years) to be based on the University of the South Pacific (USP) Alafua Campus in Western Samoa.

Accomplishments

- John G. Kreag, Agribusiness Advisor and Chief of Party - October 1992 through September 1995
- Michael Brown, Marketing Advisor - March 1993 through July 1995

Task: The long-term advisors will be complemented by long-term management resource persons (4 person years) hired locally. This comprises the core contractor team which will work in collaboration with the Commercial Agricultural Development Advisor (CADA), a

personal services contractor working directly for RDO/SP, who will be overall project manager.

Accomplishments

Long-term resource persons:

- Elisapeci Talica, Executive Director, Fiji Interim Ginger Council Committee - August 1993 through July 1995
- Geordie Mackenzie-Reur, Executive Officer, Syndicat Agricole et Pastoral de Vanuatu - August 1993 through July 1995

Task: The commercial agribusiness advisor will work with enterprises in several countries with emphasis on Fiji, Tonga and Vanuatu. The marketing coordinator will be involved in a marketing outreach program throughout the region but will give particular emphasis to working with USP and exporting enterprises in Western Samoa.

Accomplishments

Major work included assistance to the following enterprises and organizations:

- **Fiji** - Interim Ginger Council Committee and member businesses;
- **Fiji** - Established the Natures Way Cooperative (Fiji) Ltd. to operate the HTFA quarantine treatment business;
- **Tonga** - Helped the Friendly Islands Marketing Cooperative establish an organically certified vanilla operation and vanilla quality testing capabilities;
- **Tonga** - Established the Tonga Fumigation and Treatment Services Ltd. to operate the HTFA quarantine treatment business and related exporters and growers;
- **Vanuatu** - Helped establish a full-time operation and expand the membership base, services, and farm supplies business of Syndicat Agricole et Pastoral de Vanuatu;
- **W. Samoa** - Assisted in the development of the W. Samoan Flowers Growers Association;
- **W. Samoa** - Assisted the formation and development of the W. Samoan Fresh Produce Association; and

- **W. Samoa** - Assisted USP/IRETA develop workshops, videos, a Grant Research Assistants (GRA) program, an Agricultural Liaison Officer (ALO) newsletter, and helped produce manuals on root crop and nuts.

Task: The contractor shall also provide approximately 17 person-months of expatriate and 3 person-months of local short-term technical assistance. Short-term expatriate technical assistance will include ginger quality improvement, horticultural expertise, market and marketing studies, agricultural engineering, and curriculum development. Local technical assistance will include cocoa marketing and sustainable agriculture.

Accomplishments

The following short-term consultants completed assignments:

- **Robert Morse** - Ginger buyer and marketing specialist;
- **Glen Mayeda** - Hawaiian ginger grower and exporter - six assignments;
- **John Cho** - University of Hawaii cucurbit cross protection and production specialist - four assignments;
- **John Flower** - Provided legal assistance to establish the Ginger Council;
- **Dennis Gonsalves** - Cornell University virologist specializing in zucchini yellow mosaic virus - three assignments;
- **Jim Hollyer** - University of Hawaii taro extension specialist;
- **Carmen Mantalvan** - West Coast importer of South Pacific agricultural products;
- **Michael Williamson** - University of Hawaii high temperature forced air equipment specialist - four assignments;
- **Henry Nakasone** - University of Hawaii, papaya breeding and production specialist - two assignments;
- **Thomas Harding** - Organic Agricultural Marketing Specialist - two assignments;
- **Chris May** - Organic Certification Specialist;

- **Brian Tormey** - Blue Diamond Marketing Manager for Asia and the South Pacific;
- **Barry Evans** - Specialist on Canarium and other South Pacific indigenous nuts - two assignments;
- **Loren Gautz** - University of Hawaii, agricultural engineer - development of the Canarium nut cracker;
- **Sant Kumar** - Helped establish the HTFA quarantine treatment business and papaya industry in Fiji; and
- **Sione Puloka** - Helped establish the HTFA quarantine treatment business and papaya industry in Tonga.

Tasks:

- *Provide policy advice and operational assistance for the privatization of export marketing businesses where viable grower-owned agribusiness can replace government-owned operations.*
- *Provide operational assistance in the privatization of quarantine treatment facilities.*
- *Provide organizational and operational assistance to exporting enterprises.*
- *Identify, in collaboration with the MARC project, business expansion opportunities for exporting enterprises.*
- *Help establish industry quality and grading standards.*
- *Assist industries change pre and postharvest practices to improve quality.*
- *Commercialize new agro-processing technologies.*
- *Research commercial problems and opportunities.*
- *Distribute information to enterprises and producers.*
- *Assist USP to orient its agricultural program toward commercial agriculture.*

- *Privatization advice and assistance to export marketing businesses - In all cases the objective is for an orderly transition from a government or parastatal operation to a profitable, grower-owned company. This work will commence in Fiji with the processed ginger and vanilla industries. The contractor shall be involved in identifying privatization opportunities and working closely with the concerned governments.*

Accomplishments

GINGER - An initial project activity was with Tropical Food Products (TFP), the only processor of ginger in Fiji. TFP was owned by the Government of Fiji and CAD work was undertaken at the request of the managing director. In preparing a proposal for submission to the Board of Directors that would allow growers to purchase TFP, it became apparent that for years the business was accustomed to finance insolvent activities of the National Trading Company (NATCO), the parent company, rather than to increase payments to growers. In addition, company policy dictated employing large numbers of very low paid employees, rather than adopting labor and cost saving methods. It was obvious that improvements in quality and marketing would result in substantial increases in the selling price and, therefore, producers' incomes. However, the board made it clear that it was not interested in changing either the management or operating methodologies.

It was clear that privatization would not happen unless it was initiated at a higher government level. CAD staff pursued this objective throughout the project and it remains an objective of the Ministry of Agriculture (MOA), who tried to interest Buderim's, Australia's largest ginger processor, to take over partial ownership and management of TFP. The CAD team also submitted the proposal to the recently formed Privatization Unit within the Ministry of Public Enterprises. Unit staff indicated that, in initial talks with TFP, they also experienced a reluctance to accept change and have now scheduled TFP to be part of the second tier of privatizations.

CAD staff considered the privatization of TFP to be an essential requirement for the industry to grow. There was no substantial price increase for ginger for many years and local growers only receive about 40% of the price received by Australian growers. Also, since disease is a factor in the industry, it is essential that the mature ginger industry have buyers for the baby ginger that is used for processing. Baby ginger can be pulled and sold for processing when disease symptoms first appear. This provides growers of mature ginger with a market outlet that avoids losses. TFP production continues to decline in spite of strong market demand and a substantial number of unfilled orders.

CAD contributed to the understanding of why TFP must be privatized and the proposal produced under the project provides a good guide to privatization. Had the presence of USAID continued in Fiji, it might have provided the necessary senior level contacts, interest and support that would have resulted in the privatization of this business.

The lack of progress in the privatization of TFP prompted a local entrepreneur to establish a new ginger processing business, *Freshpac*, which CAD advised and encouraged. By the time CAD ended, *Freshpac*'s product quality and selling prices were better than those of TFP. *Freshpac* has now become a substantial business able to provide the price competition and substantial benefits to growers. In addition, *Freshpac* is now in the process of negotiating a joint venture with Buderim.

VANILLA - Vanilla is an excellent smallholder crop. It fetches a high price, requires no input other than labor, and, with proper curing is non-perishable. However it does require about four years for profitable yields to be achieved. Prior to working with CAD, ACIDI's agribusiness advisor was for many years directly involved in the successful development of Tonga's vanilla industry, helping to expand its export market from less than 10 tons per year to more than 60 tons. During that time, the export price was consistently in excess of US\$60,000 per ton. In 1994, the price began its decline to the current level of about US\$34,000 to \$38,000 per ton.

The Fiji vanilla industry is still in its infancy with about 700 kilos produced in 1994. Production is expected to reach 2,000 kilos by the end of 1995, a direct result of MOA efforts to interest Fijian farmers in growing vanilla. A major project effort was to generate the interest of private curers and others in marketing vanilla, a role traditionally held by the MOA. To accomplish this, CAD:

- Organized meetings for curers and others interested in exporting;
- Held a two-day vanilla curing workshop on the island of Vanua Levu at the beginning of the 1995 curing season; and
- Provided funding for a USP/IRETA video on vanilla curing.

For the first time these actions resulted in several vanilla growers buying and curing beans sourced from other growers. In addition, Spices of Fiji and other, smaller buyers now provide a market for the cured vanilla. Although CAD succeeded with these promotion efforts, it is difficult to develop a new industry in a declining market. The vanilla industry is expanding and is at a very critical juncture, primarily dependent upon one exporter to continue to provide the market encouragement necessary to keep growers interested in vanilla.

CAD staff recommended to the MOA and to private curers that they adopt the "quick curing" methods now used in many countries. The new technology substantially lowers costs as it improves quality and all of this in just one week, as opposed to the seven months traditionally used to cure vanilla. A recent communication from FIMCO noted that they achieved a high curing ratio of 4.7:1 in 1995 and made a good profit despite a further decline in the world price.

In Tonga, the agribusiness advisor helped FIMCO establish an organically certified operation. Eighteen cooperative members obtained certification for their farms. In 1994, 900 kilos of organically certified vanilla were marketed at FOB US\$58 a kilo. In 1995 over 4,000 kilos were sold at FOB US\$50 a kilo. In both cases, the price was over 30% more than non-certified vanilla.

Task: Privatization of quarantine treatment facilities - Under the USDA PASA project, high temperature forced air (HTFA) quarantine treatment (QT) technology will be introduced to the region. The contractor shall provide organizational and operational technical assistance to assist in the privatization of quarantine treatment facilities. The emphasis will be on Fiji and Tonga. USDA will be responsible for the initial research and technical training, while the contractor will be involved with the commercialization of quarantine treatment operations. Thus, the contractor may provide management strengthening assistance to the Fiji Fresh Produce Exporters Association (FFPEA) to enable it to commercially operate a HTFA facility.

Accomplishments

ACDI considers the introduction of HTFA technology in Tonga and Fiji to be significant achievements. It involved the combined efforts of many organizations and programs.

- *South Pacific Regional Fruit Fly Project* - Conducted basic research to identify fruit flies and host plants - a necessary precondition to considering the use of HTFA technology. This work confirmed the appropriateness of including HTFA technology in CAD. During the life of the CAD project, the Regional Fruit Fly Project supported the essential surveillance, host status and kill temperature activities needed to bring HTFA to Fiji and Tonga.
- *Under the USAID/PASA project, USDA/ARS* - Managed the research and testing equipment and established the heat treatment facility to kill fruit flies. ARS also provided research equipment and technical assistance to enable Fiji and Tonga conduct their own research into establishing viable treatments for other fruit fly host plants. ARS also supplied the commercial HTFA units.

- *Tonga and Fiji Ministries of Agriculture* - Provided significant resources such as staff, equipment, and facilities to ensure the successful completion of the research work.

The Fiji MOA provided a building at Nadi Airport, at a cost of about US\$300,000, to house the HTFA treatment unit and the business. MOA rents the building to the business at a rate of F\$0.024 per kilo of treated produce. This low rent in its first years of business made start-up costs reasonable. The enterprise has a five-year option to purchase the building and will probably exercise this option.

The Government of Tonga made the old airport terminal available to the HTFA enterprise. Renovations, costing an estimated US\$150,000 were completed with development funding from New Zealand. Although, by project end no rental agreement was reached, it was unlikely that the cost will be high. The business had a copy of the Fiji agreement for comparison.

- CAD provided technical assistance and equipment to establish commercially viable businesses to provide HTFA services. Additionally, the Project Coordinator and ACDI Advisors prepared detailed reports on suggested management systems and costs of operating the businesses and on recommended production practices, market studies, and producer agreements. In Fiji, the ACDI Agribusiness Advisor played the leading role in developing by-laws and establishing a producer and exporter cooperative to own and operate the business.
- *The Private Sector in Fiji and Tonga* - Once the structure of the businesses to operate HTFA quarantine treatment services was established, private sector growers and exporters participated in the profitable opportunity that the technology presented.

In Fiji, the private sector established the papaya and other industries which would use HTFA services. In particular, the Southern Development Corporation (SDC), a provider of extension services to tobacco farmers, established papaya production. Tobacco production is on the decline so SDC trained staff and smallholder farmers with excess capacity. Approximately 50 SDC farmers, member-owners of the Nature's Way Cooperative which operates the HTFA business, signed contracts to establish one-acre plots of papaya. Successful papaya farmers are expected to plant an additional acre of papaya each year. After year two, a rotation schedule should provide each farmer with two acres under continuous production. Full production is reached about one year after planting and lasts for two years.

Several other growers and exporters, also members of Nature's Way, were guaranteed equal access to its services and are now represented on the Board of Directors. The business has a dedicated and strong board which CAD staff felt confident could establish a successful business. However, by the time CAD ended in September, the Board had not obtained the necessary bank financing, even though they are using project-funded equipment as collateral. Commercial banks in Fiji are adverse to lending to agriculture and to cooperatives and the overall lending environment in Fiji is not currently positive. If bank financing does not materialize, it will be extremely difficult for the business to become successful. The former CAD Project Coordinator is working on a *pro bono* basis with Nature's Way and the MOA to obtain financing.

In Tonga, the Tonga Fumigation and Treatment Services Ltd. was established to operate the business. Ownership consists of three private exporters with 16% each for a total of 48%, a grower owned cooperative with 17%, a Government owned produce exporting business with 10%, the Tonga Development Bank with 5%, and Government with 20%.

In both Fiji and Tonga, there was substantial opposition to the establishment of private sector businesses to operate the HTFA treatment services. This opposition, while not unexpected, considerably delayed and complicated establishment of the businesses.

In Fiji, where a strong privatization policy was supported by upper level MOA officials, there was substantial resistance from field staff who felt that government should own and operate the facilities. Many private exporters, concerned lest they lose their hold on the growers if growers owned the business, supported the field officers. In addition, several exporters favored government ownership because they thought the government would subsidize the cost of operating the business. The issue was resolved after the Natures Way Cooperative was registered and protesting field staff and exporters were told that government would stand by its agreement with USAID. Work after that time progressed smoothly and field staff became very supportive of the business.

In Tonga, the Director of Agriculture was opposed to private sector ownership. Growers, exporters, and nearly all other MOA and government staff supported the idea of a private sector quarantine treatment business and the U.S. Embassy in Suva and the USAID/Philippines Mission insisted that the private sector criteria of the Memorandum of Cooperation ("private sector organizations will be the focus of this project...organizations will include producer-owned companies, cooperatives, and industry associations.") be followed. The day before the equipment was to arrive in Tonga, agreement still had not been reached and it had to be redirected to Fiji. At that point the Tongan Cabinet intervened and it was agreed to establish a privately-owned and operated HTFA business.

However, CAD's advisors and the private sector had little say in how the business was to be set up. The Director of Agriculture decided which private sector exporters would own the business but did not provide them with any information on operating the business or on opportunities for papaya production. CAD staff however, provided the private sector with the needed information. The business was not formally approved for registration until September 28, the last day of the project, because all companies in Tonga must be approved by Privy Council (Cabinet plus the King) which meets irregularly. However, all the shareholders and directors have excellent reputations and business skills and this enterprise should succeed.

Several exporters, including the grower-owned cooperative, purchased seeds, contracted with growers, and made tentative agreements with the Development Bank to provide production financing. They were only waiting for the HTFA business to be established before going ahead with production plans.

For several reasons, including those below, CAD staff felt that the business in Tonga was likely to prosper once begun:

- The Tonga Development Bank is willing to provide production credit. This is not available in Fiji;
- In Tonga there is a sense of competition with Fiji and a determination not to let Fiji be more successful in any endeavor; and
- To establish the papaya industry, Tonga allowed importation of Hawaiian and Thai seeds.

There is an extreme shortage of seed in Fiji due to the severe quarantine restrictions placed on imports. This is due to fear of papaya ringspot virus although it is well known that the virus is not seed borne and that seeds are certified as coming from disease-free islands in Hawaii.

While CAD made every effort possible to ensure the long-term success of these businesses, significant uncertainties remain. By project end, neither the Tonga nor the Fiji businesses had obtained the required bank financing nor had they begun business activities. The equipment had not been operated on a daily basis, there were no full-time employees, and the operating and accounting systems had not yet been implemented. Commercial planting of papaya began recently in both countries but the HTFA equipment had not yet been certified (basic research required for certification was completed only in September 1995) for use in exporting to any country. A recent communication from Fiji confirmed that its HTFA unit is now certified to export papaya to New Zealand, the result of a CAD-initiated collaboration between industry,

MOA, and others. However, much additional work needs to be done to obtain certification for use with mangos, eggplant, green peppers, breadfruit, and other produce.

In Fiji and in Tonga, both the private sector and the ministries of agriculture appear to be fully dedicated to the successful implementation of these new treatment facilities. However, some assistance is still needed to complete the certification process. Implementation training would help ensure that the broad-based and cost effective benefits envisioned by CAD are achieved. A proposal for follow-up certification and training assistance through the USAID/RAP project was prepared and submitted by Dr. McGregor, CAD project coordinator. ACDI fully supports the need for, and the appropriateness of, that proposal as being essential to the successful completion of this portion of the work. However, the problem of securing funding for the start-up of the project threatens to undermine all this work.

Task: Organizational and operational assistance to exporting enterprises - The contractor shall work with producer-owned companies, cooperatives, and industry associations to help them expand into viable businesses.

Assistance will be in the form of establishing by-laws, operating procedures, and central services (purchasing, marketing, and accounting). In selected cases, the services of a local management resource person will be provided, together with a limited amount of office and quality control equipment. The contractor shall also arrange resources persons for regional marketing workshops organized by USP.

In the case of the Fiji Ginger Council, the contractor as a priority will provide an experienced Hawaiian ginger farmer (or country extension agent) to work with FFGEA field extension service to improve ginger quality.

The industries and organizations (initially identified for assistance are: in Fiji: cocoa (privatized marketing), vanilla (privatized curing and marketing), processed ginger (Lomaivuna Marketing Cooperative Ltd and Tropical Food Products Ltd), fresh ginger (FFGEA) and fresh produce (FFPEA); Western Samoa: taro (an exporters association), and possibly bananas and vanilla; Vanuatu: pepper, vanilla, and root crops (Syndicate D'Agricole and member groups including the Plantation Support Association); Papua New Guinea tropical fruit (NGIP); and Solomon Islands: ngali nut. The contractor will identify other opportunities that might include spices in Papua New Guinea, kukui nuts in Tonga, and cut flowers in Fiji.

Accomplishments

COCOA IN FIJI - Largely through the efforts of the CAD coordinator and the CAD Agribusiness Advisor, the Government of Fiji in 1993 lifted the monopoly of the Government-owned NATCO and issued export licenses to several private exporters. The immediate result was an increase in the price paid to cocoa producers from F\$0.80 a kilo to F\$1.30 a kilo. By project end, private exporters were paying F\$1.35 for premium sun-dried cocoa and F\$1.20 a kilo for other cocoa whereas The NATCO was paying only F\$0.75 - F\$0.90 a kilo.

VANILLA

Reported above.

PROCESSED GINGER

Reported above.

FRESH GINGER

In response to an oversupply of product and low export prices, in 1985 the Fiji Government imposed production quotas, fixed prices for producers, fixed export selling prices, set export quotas, accredited overseas buyers, and limited the ports to which exporters could ship. The Fiji ginger industry peaked in 1985 with exports of 2,800 tons, but production declined since then. During the same period, the North American market, where Fiji sells its ginger, quadrupled its imports of fresh ginger and prices remained highly attractive. An initial CAD activity was to sponsor a ginger industry conference in April 1993. As a direct result of the conference:

- The Government of Fiji lifted all controls on prices and quotas (with remaining controls lifted in 1994.)
- The industry established a broad-based Ginger Council to replace the Fiji Fresh Ginger Exporters Association (FFGEA) which excluded growers and was not supported by the smaller exporters.

CAD efforts to "turn-around" the decline of the ginger industry suffered a disastrous setback when Hurricane Kina struck Fiji on January 3, 1993. The ginger industry was hit hard as all ginger which is grown on steep slopes was washed away by erosion caused by high winds and over 20" of rain in 24 hours. Those ginger fields not washed away suffered from diseases such as root rot caused by the effect of standing water on the exposed ginger roots. Since the hurricane disaster, the industry suffered from a shortage of seed. Approximately

10% of all production is held by farmers each year to use as seed in the following year. Ginger seed cannot be safely imported due to the risk of importing new diseases present in other countries. To meet their seed needs, baby ginger growers (for processing) traditionally rely upon the rejects of the fresh ginger exporters.

CAD supported industry efforts to recover from the many problems of recent years. These efforts included:

1. **Support to establish the Ginger Council:** Organized numerous meetings with growers, exporters, government, lawyers, etc. to obtain agreement on a legal structure which would have sufficient regulatory powers to establish grading standards and raise funding. Care was taken to ensure that it would be a private sector organization -- it was formed with eight democratically-elected members representing all sectors of the industry with the Permanent Secretary for Agriculture representing the government. The legislation is due to go to Parliament in March 1966.
2. **Provided the Council Director for the first two years:** The Executive Director, Elisapeci Talica, previously managed the NATCO's ginger activities. She proved to be an excellent choice, able to work well with all of the exporters and strong enough to insist that grower interest remain the Council's major concern. The Council kept farmers informed on market prices and production recommendations through a newsletter and weekly market reports in the newspaper, and coordinating efforts with MOA extension staff. As most ginger growers also grow taro, the Council took the lead in promoting expansion of the taro industry to take advantage of the opportunity created by the demise of that industry in W. Samoa.
3. **Provided a Hawaiian ginger farmer/consultant:** Glen Mayeda worked with growers on adopting Hawaiian production methods. This work focussed on:
 - Reducing disease problems by adopting better field sanitation practices;
 - Adopting practices that allow production on gently sloping and flat lands to reduce erosion and cultivation costs;
 - Improving quality through better hilling and fertilization practices; and
 - Using soil and leaf analysis to determine the need for lime to improve production and fertilizer uptake, and to determine fertilizer requirements.
4. **Produced Video:** USP/IRETA, with funding from CAD, produced a video featuring Mr. Mayeda and MOA ginger extension staff which recommended ginger production practices. Because of its high quality and many practical suggestions, the video is used

often and copies were sent to other countries which are considering development of a ginger industry.

Communications from Fiji state that the ginger industry agreed at its December meeting to continue supporting the Council. We also learned in December 1995 that the Council's Trade Development Office is proving a financial success and the World Bank South Pacific Project Facility is considering basing its Fiji Officer in this office.

FRESH PRODUCE

This relates to the work CAD undertook in Fiji and Tonga to operate the HTFA businesses and is detailed above.

- **TARO (Western Samoa)** - In mid-1993, taro leaf blight was identified in W. Samoa and by the end of that year the industry had been almost completely destroyed. In 1993, Western Samoa's taro exports totaled more than US\$4,000,000. In 1994 it was less than US\$40,000. Dealing with this problem was beyond the scope of the CAD project and is now being addressed by other donors in terms of developing resistant varieties.

Until the leaf blight, Western Samoa's abundant rainfall and rich soils made it the lowest cost producer of taro in the region. As soon as the extent of the problem became known, CAD's Marketing Advisor initiated efforts to inform producers and exporters in the Cook Islands, Niue, Tonga, Fiji, and Vanuatu (Papua New Guinea and Solomon Islands also have the leaf blight) of the opportunity to enter the market. This subject was emphasized at the root crop marketing conference that was attended primarily by private exporters and held in W. Samoa in November 1993. The early identification and promotion of this opportunity by the project played a significant role in the quick response of other countries to increase production.

Three Fijian exporters, upon returning from the conference, immediately began a major effort to convince local producers to expand their production of taro. Similar results occurred in Tonga, Niue and the Cook Islands. It is significant to note that this was almost entirely a private sector-led response in each country. Within two years, taro became Fiji's second most important agricultural export industry with annual exports now at about US\$4 million.

- **BANANAS, VANILLA, GINGER, AND FLOWERS (Western Samoa)** - There was little opportunity for CAD to work with the banana industry as it is operated entirely as a government initiative with almost no private sector involvement and thus outside of the scope of the CAD's Terms of Reference. There was no significant progress in efforts to reestablish a profitable banana industry and there were not more than two or three very small vanilla growers in the country. The project did, however, work with the Western

Samoan Flower Growers Association and Fresh Produce Association and details on those activities appear under No. 10, below.

- **SYNDICATE D' AGRICOLE (Vanuatu)** - This is the leading farmer organization in Vanuatu and dates back to the turn of the century when it was established by the primarily French cattle ranchers in the country. CAD activities with this organization were focused primarily on the assisting them to expand their services and membership to Ni-Vanuatu farmers. This assistance included the following:
 1. Providing the salary for a full-time Ni-Vanuatu manager for two years. The MOA's Director of Extension, Geordie Mackenzie-Reur, was hired as the organization's first ever full-time manager. This move allowed the Syndicate to expand its farm supply business and provide members a substantial savings over prices available from other suppliers. Sales increased more than threefold and led to the decision to retain a full-time manager using its own resources. Unfortunately for the Syndicate, Mr. Mackenzie-Reur was hired away by the Chamber of Commerce at an annual salary of about \$40,000, double his salary with the Syndicate. At project end, the Syndicate was still recruiting for a replacement. The Syndicate's dues paying members increased from 135 to over 400 starting the year before CAD assistance began until the project end. It was expected to reach 500 by the end of the year. Virtually all new members are indigenous farmers.
 2. Project-provided computer equipment and training allowed the business to do its own accounting and inventory and to publish a quarterly newsletter.
 3. The ACDI Agribusiness Advisor provided assistance on establishing business activities and on conversion to an accrual basis of accounting with normal profit and loss accounts and balance sheet forms. The non-profit organization accounting used in the past did not accurately reflect whether the organization was operating profitably or not.
 4. Development of a regional management training capability based in Papua New Guinea. (This activity was removed from the ACDI contract in the April 22, 1994 amendment.)

Task: 5. Identification of business expansion opportunities - The Contractor, in collaboration with the MARC contractor, will identify business expansion opportunities for export enterprises. This would include the identification of markets, products, and joint venture partners. Product areas initially identified include ginger puree, cut flowers, ngali nuts, kukui nuts, organic coffee and kava.

Accomplishments

The MARC project shared offices and secretarial staff with the CAD coordinator and ACDI. The office arrangement facilitated consultation and easy access to additional sources of information from IMCC, the MARC contractor. Studies that were undertaken by the MARC project that were of particular use to CAD were:

- Sea Freight Survey - U.S. and Fiji
- The Opportunities and Challenges for Papua New Guinea Gourmet, Organic and Specialty Coffees in the North American Markets
- The Marketing Potential for Ngali Nuts (*Canarium* spp.) in North America

Work with the MARC project and the establishment of the Fiji Food Processors Association complemented ACDI's work in Fiji.

On a day-to-day basis, MARC technical advisor, Mr. Glenn Patterson, a food technologist, provided considerable assistance and advice and assisted CAD to find answers to many food technology questions, such as oxygen absorbers and small-scale oil presses.

When USAID/RDO/SP closed, the seven-year MARC project terminated in August 1994 after three years of operations. Collaborative efforts were cut off early and did not achieve the full benefits anticipated in the original program design.

Task: 6. Establishment of quality and grading standards - The USP-based marketing coordinator will coordinate preparation of three quality control and marketing manuals for commercial industry covering root crops, nuts and spices, and fruits and vegetables. Funds for publishing and distributing the manuals will be provided by a grant to USP.

Note: This was changed to two manuals as a result of the USAID/RDO/SP closure; one on Root Crops and the other on South Pacific Indigenous Nuts.

The content of the manuals will be market-driven and will help emphasize that quality control and marketing begin on the farm. Maximum use of graphics will be made in presentation of the manuals.

The contractor's long-term and short-term advisors will work with industries and governments towards the adoption of industry established and regulated quality and grading standards. The three manuals will provide a basis for all the above work. Once

industries have adopted quality and grading standards the contractor will help exporting enterprises to work with farmers to ensure that strict practices are adopted.

This work will concentrate on Fiji, Vanuatu, and Western Samoa, but will be expanded to include Tonga, Solomon Islands, and Papua New Guinea if contract funds permit. The initial priority commodities include ginger (Fiji), taro (Western Samoa), papaya (Fiji), vanilla, pepper (Fiji and Vanuatu) and yams (Vanuatu).

Accomplishments

Publications

A major activity of the ACDI Marketing Advisor was the production of marketing manuals and other publications. The manuals used color photos, graphs, drawings, and charts and emphasized marketing as a part of every decision in the production cycle. They filled a very important gap in marketing information in the region. The ACDI advisor collected current information and data for use in these marketing and quality control manuals about traditional South Pacific food crops. Additional publications produced under CAD include:

- 1993 The Market Perspective for Pacific Island Root Crop Exports. Paper presented at a regional conference - *Apia, Western Samoa*
- 1993 South Pacific Roots and Tuber Marketing for Export Proceedings
- 1994 Are There Profits to be Made from Tourism Sales of Value Added Nuts and Spices? Paper presented at a regional workshop - *Port Vila, Vanuatu*
- 1994 Agribusiness: The Necessity for South Pacific Educational Curriculum - Article written for the South Pacific Agricultural Teachers Journal
- 1995 Quality Standards and Marketing of Selected South Pacific Root Crops
- 1995 Market Development for Selected South Pacific Indigenous Nuts (*in printing*)

Extensive time was devoted to desktop publishing for the manuals using software supplied by the CAD project. Most of the information was gathered during visits to production and shipping sites and discussions with growers, exporters, and shippers.

The objectives of the manuals were to inform and educate those involved with non-traditional food crop exports on quality standards and marketing activities required to break into and maintain export markets. They were intended to be sold throughout the region. The root crops manual was promoted to exporters in Fiji and W. Samoa. It is believed that these publications will stimulate agribusiness development and the production of similar materials on that subject throughout the South Pacific.

Task: 7. Change Pre and Postharvest Practices to Improve Quality - Once industries have adopted quality and grading standards, implementation of the standards will be assisted by the contractor's advisors helping enterprises to work with the farmers. The enterprises must insist that strict practices be adopted for export produce and to improve that postharvest practices from the farm to the overseas market.

Some areas of market driven requirements include:

Site selection - for fruit fly host crops: other fruit fly host plants must not be in the vicinity.

Site preparation - in the ginger industry the desired size of the marketable product determines the spacing of the plants.

Seed selection - the market usually determines the varieties of seed, that may be used.

Planting date - this is determined by backing up from when the produce is needed in the market, not by when farmers believe they can achieve maximum yields (e.g. squash to Japan).

Introduction of integrated pest management (IPM) and other environmentally sound pest control methods - to meet pesticide residue requirements of importing countries.

Harvesting - both the date and the time of day (to avoid head built-up) will be determined by market considerations.

Transportation and packing conditions - minimum conditions must be met for most markets.

Some other market driven postharvest standards are: inspection and grading; quarantine treatment; cooling and holding requirements; and packaging materials.

These factors will be highlighted in the USP quality control manuals and in the quality standards the contractor will help industries to establish.

Accomplishments

The message that every decision in the production cycle must be market-driven was a major focus of all CAD activities, including the root crop and indigenous nuts manuals as described

above. Project work with the ginger industry included a strong emphasis on improving quality (and increasing the price) by adopting Hawaiian production practices. The production practices package prepared by the ACDI Agribusiness Advisor for Fijian and Tongan producers was geared to maximizing profits by meeting market quality requirements. This message was further reinforced by Dr. Henry Nakasone who completed two consulting assignments on papaya production practices. All workshops (reported under No. 11, below) emphasized quality as the key to achieving increased profitability for agricultural industries.

Task: 8. Commercialization of new agroprocessing technologies - Under a PASA agreement, USDA will design and build new processing technologies. Those are HTFA quarantine treatment for fruit, washer for taro, and cracker for ngali nuts. If these technologies are shown to be technically feasible and cost-effective, then the contractor will work with industries in their commercial adoption.

This work was reported on in Section 2, Specific Tasks, above.

The contractor should provide technical engineering capability to support the commercial adoption. The contractor will identify other industry processing technology needs.

Accomplishments

The three areas in which ACDI helped implement new technologies are:

- *Supported the development of a taro washer* - This was done by Ione Malaki and involved adaptation of a carrot washer for use by the taro industry. A major taro exporter in Fiji provided the facilities for the research and development work. Initial trials were so promising that the initial research unit is now used on a commercial basis for all export shipments. A one-day workshop and demonstration for the industry took place in November 1995. The taro washer promises to dramatically reduce the time and cost of cleaning the root for export. Taro washers available in other parts of the world could not be adapted to the South Pacific taro (colocasia) as they are designed for a harder type of taro. The exporter has indicated his desire to purchase a second washer.
- *Helped develop a female fruit fly attractant* - Jointly with the Australian Centre for International Agricultural Research (ACIAR), CAD helped develop an attractant using waste yeast from a Tongan brewery. It is used to reduce fruit fly populations in fields of papaya and other export crops that are fruit fly hosts. An attractant equal to or better than more expensive Australian products is now beginning commercial production in Tonga. This relatively simple technology reduces pollution caused by the brewery's waste and

produces a valuable by-product. It is expected that other countries in the region will adopt this technology.

- *Development of nut crackers* - There are several indigenous nuts in the South Pacific which have potential for significant commercial development. The canarium nut is the most common and seems to have the greatest potential. The principle factor that has prevented development of this almond-shaped nut is its extremely hard shell. These nuts are very costly to crack (each one is pounded between two rocks) and this fact severely limits its economic potential.

CAD undertook the development of a nut cracker for the canarium nut. Half of the funding was secured from the Pacific Islands Development Program and the East West Center at the University of Hawaii. CAD staff identified Michou Kasiao to participate in a four-month training program at the University of Hawaii with an agricultural engineer with the purpose of developing manual and mechanical nut crackers. He received a scholarship from the East West Center's Pacific Islands Development Program as well as some funding from CAD. The two nut crackers were demonstrated at the Indigenous Nuts Workshop in Vanuatu in November 1994. The mechanical nutcracker is currently in commercial use in Vanuatu and orders for production by a Vanuatu firm from businesses in Solomon Islands and Papua New Guinea are expected in the near future.

Work to improve the manual nut cracker continues as the initial model was too slow for commercial use. The new model is faster and has significant potential for commercial use at the village level. This tool produces about 98% whole nuts versus about 50% with the mechanical nut cracker. The 50% ratio is acceptable as canaria nut oil is as valuable as the whole nuts.

Task: 9. Market and marketing research - Some short-term technical assistance will be devoted to market and marketing research. These industry identified studies will largely be confined to situations in which a product is available to be tested in the market and may involve practical assistance in packaging and promotion. Some examples of industry identified studies include; specialty and organic coffee, tourist markets for spices, indigenous pacific island nuts, and the herbal market for kava.

RDO/SP must approve the plans for each research before work begins.

This work would be undertaken in collaboration with the MARC project as illustrated by the example of organic coffee outlined below.

MARC networks in the U.S. could secure the information needed to inform agribusiness in the South Pacific of U.S. certification requirements for organically grown, harvested and packaged products, advice on acceptable labeling and packaging.

The contractor could disseminate such information broadly among potential organic coffee producers in the region.

The contractor could work with agribusiness and related producer groups on pre and postharvest procedures to achieve and maintain internationally recognized organic accreditation.

MARC could work with agribusiness to secure key business contact for market exploration in North America, test market interest in South Pacific organically grown coffees and to secure preliminary niche markets.

Accomplishments

This work was reported in the section on specific tasks which dealt with each product.

A significant amount of market research was done on fresh fruit, particularly papaya, mangos, and pineapple and was performed by Dr. McGregor, with the EEC covering all of his travel costs and USAID providing his services. This study covered all major markets (New Zealand, Australia, U.S., Canada, Japan and Korea) expected to be serviced by users of the HTFA equipment.

Sections 10 and 11, below, relate primarily to the work of the ACDI Marketing Advisor based in Western Samoa. They were taken from his final report and duplicate some of the material reported on earlier. New information expands the work mentioned elsewhere.

Task: 10. Distribution of market information to commercial enterprises and producers - The contractor's main contribution to commercial information dissemination will be through the long-term marketing coordinator based at USP in Alafua.

The preparation and distribution of the export quality manuals (task 6 above) will provide and initial focus for this activity. This will be supported by other members of the contractor working with exporting enterprises. The marketing coordinator will also have an outreach orientation and work with export industries throughout the region.

Accomplishments

Market Assistance and Information Distribution

A major barrier to exports out of the region has long been the limited and inadequate use of market information by agribusiness exporters. In response to this lack of information, CAD compiled information on prices, trade figures, products standards and forwarded it to interested businesses and exporters. Many regional agribusinesses have not yet realized the cost benefit of receiving current market and industry information.

Marketing information and pricing data dispatched throughout the region was beneficial in the following ways:

- Linking exporters with prospective buyers in North America, Australia and New Zealand;
- Enabling exporters to find new markets to increase exports and profits;
- Linking regional producers to equipment manufacturers and product suppliers to facilitate value-added product development.
- Providing information to regional governments to assist in market research for their commercial agribusiness industries.
- Assisting buyers in North America, Australia and New Zealand to purchase South Pacific Island agricultural products through contacts with local exporters.

South Pacific countries that benefited from marketing assistance:

Fiji:	Assisted several root crop exporters find new markets in California.
Western Samoa:	Developed new taro (<i>Xanthosoma</i> spp.) export business able to replace the one decimated by disease (<i>Colocasia</i> spp.). Identified potential export market for frozen taro (<i>Xanthosoma</i> spp.) to New Zealand.
Niue:	Markets found for honey. There are interested buyers awaiting production increases.
Fiji, Tonga & Niue:	Potential new market identified for fresh waxed cassava to New Zealand and Australia. Procured and disseminated information on how to use wax and where to obtain it.

Tonga, Fiji,
& W Samoa: Developed organic food production.

Established and disseminated a database of prices on exports and potential export commodities. The database consists of weekly and monthly market prices for the U.S., Australia and New Zealand. The database is at the USP, Alafua Campus library.

Numerous market resources were routinely utilized and provided valuable information for development activities. These reports and news publications were used to develop market databases. A list of these publications was sent to regional exporters and government marketing offices and appears below.

Brisbane Market New Reports
Sydney Market News Report
South Pacific Trade Office - New Zealand
Los Angeles Wholesale Market Report
The U.S. International Market Report
The Packer Newspaper
The Produce News
International Produce Journal
The Red Book
Produce Marketing Association

Task: The USP Agricultural Liaison Officer (ALO) network will be utilized and assisted to disseminate market and marketing information to the commercial sector (see Task 11, above).

Accomplishments

In each MOA in the South Pacific, one individual is appointed to serve as the liaison officer between USP/IRETA and agricultural ministries in each country. During project implementation, USP/IRETA expended considerable effort to focus its research extension and training on commercially important issues. This is evidenced by the increase in commercially oriented articles in the IRETA Newsletter, Videos, Workshops, and the GRA program.

However, since ALOs are employees of the MOAs in each country, they focus primarily on distributing information within their Ministries, and not to the private sector. Unless information is sent directly to growers, exporters, processors, etc., there is little likelihood that they will receive it (and certainly not in a timely manner). One of the most pressing challenges facing every government in the region is how to get this necessary information to

those who need it most. The present extension systems are extremely costly, highly ineffective, and a hinderance to development. What is needed are highly skilled personnel who can utilize the media, mail, fax and other methods, to distribute information to the commercial sector. In such a system ALOs could play a very important role.

Task: 11. Preorientation of USP's research and IRETA toward commercial agriculture - This will be a major task of the marketing coordinator. In addition to the contractor's outreach work to enterprises, he will participate in marketing workshops and seminars, assist in supervising graduate students' research on commercial industry problems, and contribute to the development of marketing teaching program. The coordinator will assist in developing a mechanism to systematically obtain commercial industry input into determining USP's research agenda and contribute to the commercial industry publication program through quality control manuals and other publications prepared by USP.

Accomplishments

CAD sponsored and organized six workshops during the project as follows:

1. Fiji Ginger Industry Conference, April 1993 - Lami, Fiji
2. Agricultural Liaison Officers Workshop, July 1993 - Alofi, Niue
3. Marketing of South Pacific Root Crops, November 1993 - Apia, W. Samoa
4. High Temperature Forced Air Quarantine Treatment, July 1994 - Avarua, Cook Islands
5. South Pacific Indigenous Nuts Workshop, November 1994 - Port Vila, Vanuatu
6. Farm Supply Store Managers' Workshop, June 1994 - Suva, Fiji

With the exception of the Fiji Ginger Industry Conference, all of the workshops were organized regionally, through IRETA, and attracted a significant amount of additional non-USAID funding. Participants included private agribusiness firms in the region and their overseas buyers or suppliers. Workshop themes were market-driven agricultural development that emphasized *quality excellence* to meet international standards and competition. The workshops also encouraged better communication between industry and government so that industry could have more input into the direction of agricultural research and extension activities to enable them to meet the most important and immediate needs of industry.

The workshops were highly successful as exemplified by the following results;

- As a result of the workshop the ginger industry in Fiji successfully convinced Government to eliminate all production and export controls which were a significant drag on the entry of new participants in the industry. A Ginger Council was established and is

successfully focusing research and extension activities in areas where maximum cost benefits can be expected, many in a relatively short period of time. Weekly reporting of local and overseas market information on ginger is now included in the newspapers.

- Increased trade activity has occurred among the South Pacific Islands.
- Root crop exports from Fiji, Niue, Cook Islands, and Tonga increased and expanded to new markets.
- Expansion of new root crop exports: Western Samoa began exporting a new taro species "Xanthosoma" as a direct result of the root crops workshop. Two other countries are also attempting to export the new taro species to North America. Tonga developed a significant yam export trade.
- Product development - Information on postharvest waxing of cassava was distributed to several countries with good likelihood that new markets could result.
- Increased communication between commercial businesses in and out of the region, as well as increased awareness of the importance of root crop exports to donor agencies.
- Initiated *networking* and communication between South Pacific island nut producers and researchers that is leading to improved research activities and product development.
- There is strong support for the adoption of the HTFA quarantine treatments in Tonga and Fiji. Western Samoa, Niue and Vanuatu are actively seeking to adopt the technology.
- Farm supply businesses are beginning to network among themselves to find better and cheaper sources of supply. There is also a growing awareness of their role in the supply of farm extension information.

The fundamental benefit of the workshops was an increased awareness of commercial opportunities, contacts, and a continuing dialogue among and between participants which will improve trade and transfer knowledge and technology.

FOLLOW-UP ACTIVITIES

Commercial Agricultural Assistance for Specific Target Markets

A good deal of CAD activity revolved around providing informal business assistance for microenterprise activities involving horticultural products. The following is a briefing on products, business and persons who received assistance and should be considered if future U.S. aid is given in the South Pacific region.

Taro

Initially targeted as a major project activity, it suffered a major setback when the Western Samoa taro crop developed taro leaf blight in 1993. This disaster effectively wiped out Western Samoa's only export crop and CAD plans to establish an association, improve product quality, and value-added development were scrubbed. The taro blight is now seen as a blessing. It forced Western Samoa growers and the agricultural department to finally focus serious attention on developing other crops and improving the current export system.

The loss of taro, a major income generator and food staple for the Samoans, initiated interest in other crops and business activities and growers are now planting other crops of economic importance, including taro palagi, yam, vegetables, and fruits. The best alternative crop to adapt to the Samoan system and generate reasonable economic returns is taro palagi, *Xanthosoma spp.*, a blight resistant taro with a strong market.

By project end, production of taro palagi reached a level adequate to meet export demands. Working closely with the best exporters in Western Samoa, CAD helped send the first shipment to the U.S. With proper development of production, quality control, promotion and marketing, there is no doubt that taro palagi can become an important new export industry for Western Samoa. Kruse Group Businesses Limited in Apia is supporting new export development and are the ones to contact should additional U.S. aid be considered. By project end, two taro palagi buyers were identified in California, one of them the largest specialty produce handler in the U.S.

Discussions were held with C. J. Exports & Import Ltd. and Natural Foods International Ltd. to develop taro chips and frozen taro. The former company is highly recommended should future assistance be considered. By project end, arrangements were being made to develop subsidiary industries to supplement the fresh taro export business.

All work development for taro palagi exports and processing was conducted without government involvement. All parties agreed to this as a means of reducing the problems often inherent in and accustomed to when working with government.

Xanthosoma taro was found to have an expanding market in the Pacific Rim countries and good potential as a South Pacific export commodity. This was verified by market surveys in California and in New Zealand which prefer the product in frozen form. Fiji, Tonga, and Niue have potential for developing taro palagi exports and CAD provided marketing information to those interested. Businesses that were most receptive to assistance for both taro species (*Colocasia*, and *Xanthosoma*) were:

Fiji	Freshpac Tropical Produce Balthan International Waisali Farm Produce UNO Limited	Yee Wah Sing Graham Thorpe Sam Foy Chung Alf Hazelman
Tonga	Ha'amo Growers Ltd FIMCO	
Niue	Niue Growers Association	

The loss of the *Colocasia* spp. taro crop in Western Samoa was a boon to Fiji, Tonga and Niue. Fiji, in particular, capitalized and benefited tremendously from high taro prices in New Zealand and California during 1994 and 1995. Some exporters benefited by making business contacts at the root crops workshop held in 1993.

Taro farming and microenterprises food manufacturing have excellent potential to provide stable incomes in the Pacific region. However, continued assistance is required in production, postharvest handling, quality assurances, marketing and promotion.

Ginger

The majority of ginger activity was conducted in Fiji. The onset of disease problems in Fiji and Hawaii resulted in high market prices that stimulated the Western Samoan government's interest in developing a ginger export industry. Western Samoa agronomic conditions are only fair for ginger production and local farmers and agriculture officials generally disregard recommended guidelines.

Most discouraging was the continued importation of ginger rhizomes by government and private individuals from Brazil, South Africa and Hawaii. It is almost certain that, with

current production practices, ginger quality will remain minimal. Project staff do not expect Western Samoa to compete effectively in the international ginger market. However, by project end, ginger production was the major activity of the agricultural department with approximately 73 farmers growing ginger of substandard quality.

Markets are growing for fresh and processed ginger in North America, Japan, New Zealand and Europe. Key Fijian companies to concentrate on for future activities with ginger marketing are:

Freshpac Tropical Produce
Balthan International
Waisali Farm Produce
UNO Limited

Yee Wah Sing
Graham Thorpe
Sam Foy Chung
Alf Hazelman

Yam

This crop has been underestimated in all the South Pacific countries as an export crop. Market demand is high in North America, Australia, New Zealand and in the South Pacific Islands. Fiji, Tonga, Niue, Vanuatu are well positioned to develop yam exports. Niue has the best in the South Pacific to support high quality exports.

Future commercial development work in the region should be directed at expanding yam exports. The Niue Growers Association should be part of any regional yam development project. There are several groups in Tonga that should also be included in future regional work with yam. Tonga is now the largest exporter of yams in the region.

Cassava

Tonga, Fiji, Cook Islands, and Niue have been involved with sporadic cassava exports over the years. Minuscule amounts of fresh cassava were exported primarily to New Zealand. However, the short shelf-life of fresh cassava prohibits large quantities to be exported, unless waxed. The majority of exported cassava was in frozen form and that is mostly from Tonga to New Zealand.

A presentation was given to Fijian exporters on how to prepare waxed cassava to extend shelf-life. They were impressed and began making plans to send test samples to New Zealand. This could result in a new export market for Fiji, Tonga and Niue to New Zealand and later to Australia. Samples of paraffin wax were distributed to Tongan government people and Fijian exporters for experimental use so they could send samples of fresh waxed cassava to prospective buyers.

The Fijian businesses to be considered for any future assistance for cassava exports are the same listed previously for taro.

Other Taros - Eddo or giant taro

Mention should be made of the increased production of *Eddo*, giant, taro in Western Samoa. This taro variety is the least palatable of the taros. However, substantive amounts are grown in Tonga and Fiji. Investigation into processing methods should be conducted to develop valued-added products. *Eddo* is an uncommon taro species found primarily in New Caledonia. During a field trip to northern Australia, the CAD Marketing Advisor visited the largest taro grower in Australia who grew eddo taro entirely by machine. That system and taro specie could easily be adapted to some South Pacific island nations.

Jicama

This crop was added to the marketing manual at the request of the Tonga MOA. Jicama has potential for substantial exports from September to December when Mexico is out of production and must rely on cold-stored jicama. This is when South Pacific jicama would be available for shipment. However it will only be viable if it can be shipped on chartered ships. It appears that this is quite possible from Tonga where the shipments could be combined with squash and other root crops. This timing coincides with the lowest charter rates for refrigerated ships. U.S. is the main consuming country and receives its supplies from Mexico. Jicama is also a prospect for niche markets in New Zealand and Australia.

Jicama is an extremely attractive crop because of its high yields, up to 20 tons an acre, and the fact that it requires very small amounts of inputs. As it is a legume, nitrogen is left in the soil, thus reducing fertilizer requirements for the following crop.

Banana

This crop was targeted for CAD assistance in export development for Western Samoa but never materialized for the following reasons:

1. The government-owned and -operated Agricultural Store was not privatized, as promised, a condition of IMF assistance and, therefore, not a proper enterprise for CAD collaboration. Inquiries at project inception indicated a willingness on the part of the Store manager and the MOA to consider privatization.

At present the Agricultural Store has the sole right to import agricultural chemicals. In addition, all other agricultural supplies may be imported by the Agricultural Store duty free while private sector businesses must pay duty. Among the agricultural nations in the South Pacific, Western Samoa has the worst agricultural supply situation. Project staff

suggested that no further assistance to Western Samoa agriculture is appropriate until the private sector is allowed to participate in a meaningful and equal way in the farm supply business.

2. The Store has a monopoly on banana production and trade, thereby blocking any private sector initiative.
3. There is inadequate infrastructure for handling bananas for export trade.
4. The Agricultural Store was unwilling to work with others.

However, a CAD initiative in Fiji did lead to the export of significant quantities of organic banana puree to Germany by South Pacific Food (Fiji) Ltd.

Indigenous Nuts

Vanuatu, Solomon Islands, Papua New Guinea (PNG) and to a lesser extent Fiji and Tonga were identified as having good potential for establishing nut exports. A regional workshop, publication of a marketing and quality control manual, and development of a nut cracking machine were CAD's major assistance activities for indigenous nuts.

The leading production and trading countries for several types of indigenous tree nuts are Vanuatu, PNG and Solomon Islands. The private and governmental operated businesses that were the leading developers in nut processing were:

Vanuatu	The Kava Store, Mr. Charles Long Wah
PNG	The Niugini Nut Company
Solomon Islands	CEMA, Moses Pelomo

Still in its infancy, the indigenous nut industry has great potential for international trade. The CAD-supported workshop held in November 1994 was instrumental in bringing together all the people involved commercial and research nut activities and led to a continuation of dialogue between the different countries that produce nuts in the region. IRETA received funding for a follow-up workshop in 1996 that will expand on the first workshop.

Other Crops

Other South Pacific produced crops that have good potential for international trade, but were not given extensive assistance due to the early closure of the project are:

Papaya, Mango, Drinking Coconut, Pineapple, Kava, Eggplant, Leafy Greens and some citrus varieties.

Fruits, including banana, also have good potential for international trade as processed products such as in the form of purees, concentrates and dehydrated.

Assistance was given to several Western Samoa private businesses to develop processed banana and drinking coconut products.

APPENDIX 1

REVISED SCOPE OF WORK (April 1994)

Project Overview

The project has two broad components composed of nine activities: the first component is concerned with improving enterprises, and the second component with improving products.

Component A: Strengthening commercial exporting enterprises

1. Privatizing government and parastatal export marketing operations and the operation of quarantine treatment facilities.
2. Improving organizational and operational aspects of enterprises.
3. Identifying business expansion opportunities.

Component B: Improving product competitiveness

1. Establishing industry standards.
2. Changing pre-and post-harvest practices.
3. Introducing new quarantine treatments.
4. Introducing new processing technologies.
5. Researching commercial problems and opportunities.
6. Distributing information to enterprises.

Fiji can take immediate advantage of new high value export opportunities and thus will be the initial hub of CAD's regional activities. A long-term agribusiness advisor will be stationed in Suva and will coordinate assistance to regional agribusinesses from there. In PNG, CAD's main focus will be on assisting selected agribusinesses and in developing a regional management training facility, run for and by the private sector. A marketing coordinator will be stationed at USP- Alafua in Western Samoa. Quarantine work will be associated with the South Pacific Commission's fruit fly project in Fiji. Research on treatment protocols will be conducted initially in Fiji and later extended to other countries.

Project Outputs

Prior to the conclusion of the project, the following outputs will be achieved:

1. Quality standards will be established and adopted by industry for root crops, fruit and vegetables, spices and ginger;
2. Several export industries and commercial activities now in the public sector will be privatized and at least five associations involved in the export of agricultural produce or products will be strengthened;
3. Technical packages including more sustainable production methods for ginger will be in operation and new agro-processing equipment will be installed in commercial enterprises;
4. Quarantine treatment will be researched, and equipment purchased and operated by the private sector;
5. The research agenda at USP will be influenced by industry; and
6. The value of agricultural exports increased as a result of project.

MARC is designed to work with businesses after they demonstrate the potential or size to access foreign capital, technology, information or markets. While MARC will also work in the agricultural sector, it has a more general mandate that also covers non-agricultural export industries.

Both CAD and MARC personnel will keep each other fully informed of their project activities so as to avoid possible conflicts. MARC and CAD personnel will work together on such areas as: identifying opportunities for business expansion; changing the policy and regulatory environment; and distributing information to enterprises.

Role of Each Implementing Organization

Implementation of CAD will involve three different organizations under the overall guidance and coordination of RDO/SP:

1. A U.S. private organization under a contract with A.I.D. to provide personnel and services described herein (Component A, all three activities and Component B, activities 1 and 2 above).
2. U.S. Department of Agriculture (USDA) under a participating agency service agreement (PASA) who's main focus will be on the transfer of quarantine treatment technology to the region (Component B, activities 3 and 4 above). This includes research, training, study tours and equipment.

3. University of the South Pacific's Institute for Research, Extension, and Training for Agriculture (IRETA) at Alafua in Western Samoa under a cooperative agreement with A.I.D. to provide the following activities (Component B, activities 5 and 6 above) :
 - a. research by USP's graduate research assistants on problems of commercial agriculture exports;
 - b. publication and distribution of quality control manuals to be prepared by the contractor's marketing coordinator;
 - c. support for the commercial orientation of USP's agriculture liaison officers in nine South Pacific countries;
 - d. preparation of three commercial agriculture training videos;
 - e. presentation of two workshops; and
 - f. some logistical support for the contractor's marketing coordinator.

There is some linkage of the activities of the three organizations; e.g., (a) USP may sponsor a workshop on quarantine treatment, (b) the contractor's marketing coordinator will assist IRETA in the preparation of videos and selection of research subjects. Therefore, cooperation among the three organizations and close coordination of activities are critical to obtaining the objectives of each organization and the project as a whole.