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CONSULTANCY REPORT ON TECHNICAL ASSISTANCE TO FEPROEXAAH FOR A PINEAPPLE EXPORT PROGRAM IN HONDURAS.

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P R O E X A G
NON-TRADITIONAL AGRICULTURAL EXPORT SUPPORT PROJECT

CONSULTANCY REPORT ON
TECHNICAL ASSISTANCE TO FEPROEXAAH FOR
A PINEAPPLE EXPORT PROGRAM IN HONDURAS

Assignment Number: ST/90-05C

SUBMITTED TO:

The Non-Traditional Agricultural Export Support Project
(Project No. 596-0108-3-60011)
Regional Office for Central America and Panama (ROCAP)
United States Agency for International Development (USAID)
Guatemala City, Guatemala

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(Contract AID No. 596-0108-C-00-6060-00)

May, 1990

PREFACE

The purpose of this consulting assignment was to continue the technical assistance program to FEPROEXAAH (FPX) which was initiated during three previous visits. Focus of the technical assistance program is the development of fresh pineapple export projects in Honduras.

Objectives of this mission were to assist the FPX Product Development staff in providing further technical information and advice to small and medium size producers of pineapple; assist in teaching the proper procedures, methods, and operation of harvesting and packing fresh pineapple for export; and to encourage the further expansion of the fresh pineapple industry in Honduras.

The methods used to perform the assignment were similar to those used in past visits, including visits to production and packing sites; preparation of technical recommendations; and discussions with FPX and FHIA staff members.

The Consultant wishes to acknowledge the support and assistance provided by the staff of FPX in performing the consulting mission, particularly, Ing. Nelson Ortiz, Ing. Medardo Galindo, and Jessica Canelo for her secretarial help.

EXECUTIVE SUMMARY

The program of providing technical assistance through FEPROEXAAH to small and medium sized pineapple producers in Honduras continued during this visit, and was expanded to two additional growers.

Primary focus of the visit was to provide information and training in the harvesting and packing of fresh pineapple to various growers ready to begin these operations. Two visits were made to the farm of the Rosenthal group in the Chumbagua Valley. During these visits, harvested fruit was inspected and training provided in the selection and identification of proper shell color and ripeness, translucency, porosity, brix, and acid as well as common fruit defects. A demonstration of proper packing procedures was also provided, and recommendations provided for improving the packing plant operations. In field training and demonstrations were also conducted for estimating the yield, fruit size distribution, percent exportable fruit, and estimated dates of harvest.

Technical assistance was provided to the Hacienda Maicabe in Naco de Santa Barbara and to the Citrus Development Corporation pineapple operations in San Isidro de Lago Yojoa. Hacienda Maicabe is interested in the production of pineapple and a visit made to the intended site to confirm its suitability and to comment on methods of beginning operations. At CDC, a field visit was made to give technical advice on the proper ripeness for harvesting pineapple and cultural practices for pineapple in the growing stage.

A high level of interest in pineapple production by small to medium size growers exists in Honduras. A new marketing possibility was discussed with the CDC company which has a pineapple and orange processing plant for fruit juice concentrate. They are seeking suppliers of raw material for their plant and will give contracts for fruit supply.

Discussions were held with the Deputy Director and Director of Research of FHIA regarding assistance for field trials in pineapple production, mainly directed towards agronomic practices.

The Product Development Manager has indicated that pineapple will remain as a major product line for development in Honduras and continued technical assistance provided for interested growers.

TRAVEL ITINERARY AND WORK ACTIVITIES

Saturday May 19 : Trip preparation.

Sunday May 20 : AM - Leave for Honduras.
PM - Arrive Honduras.

Monday May 21 : AM - Office of FPX. Discuss
pineapple export program, review Mango
trial results, prepare pineapple
harvesting & packing manual.

PM - Meeting with FHIA on Mango trial and
pineapple research plans.

Tuesday May 22 : Contact with Chiquita Brands to discuss
pineapple development program
in Honduras. Visit to Hacienda Maicabe
in Naco and to Rosenthal farm in
Chumbagua Valley.

Wednesday May 23: Work on pineapple packing manual. Visit
to Citrus Development Corporation
processing plant.

Thursday May 24: Visit to CDC pineapple/orange
farm operations in San Isidro. Visit to
Chiquita Brands/Montoya pineapple project
in Santa Cruz.

Friday May 25: Visit to Chumbagua Valley. Meeting with
advisor to FPX. Continue work on
pineapple packing manual.

Saturday May 26: AM - Discussions and review of trip with
FPX.
PM - Return to Sunriver, Oregon.

Monday May 28: Prepare trip report.

Tuesday May 29: Prepare trip report.

Wednesday May 30: Finish and send trip report.

INTRODUCTION AND BACKGROUND

FEPROEXAAH (FPX) is a Honduran Institution receiving financial and technical assistance from the United States Agency for International Development to promote and assist in the development of non-traditional agricultural exports. It consists of a federation of agricultural companies interested in or actually exporting tropical agricultural products. The mission of FPX is to provide technical assistance in product development, post-harvest technology, and marketing. It also provides technical expertise for selected projects for solving production problems when no in-country expertise is available.

Pineapples and mangoes have been identified by FPX as products having an existing exportable base but lacking technology or marketing expertise to avail of the opportunity. Both products have been subjected to a formal Project Development Plan calling for technical assistance to identify and evaluate possible or existing projects and then provide ongoing assistance to achieve targeted export quantities during the fiscal year.

In accordance with this Plan, FPX requested technical assistance from the PROEXAG Non-traditional Agricultural Export Support Project to assess and provide necessary technical information, training, and encouragement for the targeted projects.

PROEXAG enlisted the services of this Consultant to provide preliminary technical assistance during the period of January and May, 1990 to concentrate on specific programs to assist in the export of current production of both pineapples and mangoes. During this period, approximately 5000 boxes of mangoes and 850 boxes of pineapple were exported, resulting in considerable experience for the exporters.

FINDINGS

A. Quimistan Valley (Chumbagua)

In mid-May, the Rosenthal group harvested and exported one container of fresh pineapple to a Miami broker utilizing their in house staff and the limited supervision of FFX and FHIA personnel. The pineapple was harvested immature and received a low price in the marketplace. This Consultant was brought to provide technical training and demonstrations to the Rosenthal staff to improve future shipments.

A visit was made to the pineapple farm in Chumbagua on Tuesday, May 23. Left-over pineapple from the previous shipment was inspected, visits were made to the pineapple fields, and then a training conducted on selecting the proper shell color, ripeness, translucency, porosity, brix, and acid characteristics of pineapple. Pineapples with common defects were located, and a demonstration of 14 common defects and their identification was conducted in the packing station area.

Observations and comments were made regarding the packing station equipment and layout, the packing process, and proper packing methods. Packing patterns were demonstrated to the supervisory staff.

On Friday, May 25 another visit was made to the farm and pineapple fruit estimating procedures were demonstrated and explained. Two survey stations were established, fruit counting and yield estimation methods explained, and sample fruit harvested to estimate fruit size distribution, average fruit weight, size classification, percent exportable fruit based on fruit size and defects, and estimated dates of harvest based on the fruit maturity stage.

A manual on fresh pineapple harvesting and packing was prepared and left with the project supervisor. (See attachment).

The next harvest of exportable fruit is estimated to be in mid-June and it is felt that the pineapple staff of the Rosenthal group as well as the pineapple product manager of FFX are sufficiently trained to accomplish the quality export of pineapple."

B. Hacienda Maicabe

This farm is located in the Quimistan Valley near the town of Naco and borders the Naco River on one side. The farm is owned by Mario Manuel Belot and is administered by Ing. Eduardo Vasquez. The farm is presently raising livestock for beef and dairy, and some feed crops such as sorghum are produced. The topography is flat to slightly rolling pastureland. Elevation is 250 meters above sea level.

The soil is a sandy-clay-loam which is very compacted due to the many years of livestock grazing. Soil depth is 75 - 80 centimeters, underlain by a gravelly layer. It is expected that deep sub-soiling will fracture the existing hardpan and greatly improve internal drainage. Soil pH is estimated to be in the range of 5.0 to 6.0 and soil tests have been taken.

Ing. Vasquez has three years of pineapple research experience with Dole, and is interested in planting pineapple in the Hacienda Maicabe. The area receives 1500 - 2000 millimeters of rainfall annually, but mostly in a short period between June to December. To achieve acceptable yields and quality of pineapple in this area, irrigation would be necessary during the dry season. Sun burn from the intense sunlight in this zone could be a serious problem, and measures would be needed to protect the fruit during certain periods of the year. This can be accomplished by the proper density and plant spacing and the application of paper or plastic shields on the fruit near harvest time.

The farm has one deep well and hydrology studies indicate that approximately 100 GPM of water at a depth of 100 feet is available. In addition, a year round river is within 800 meters of the production area. Water from this source is clean and it is expected that no problems will arise by partially damming the river to pump water during the dry season.

The available area for planting pineapple is 100 manzanas (174 acres), an economic project size. The Belot family has several agri-business projects including ornamental plants, ferns, and bananas which are sold to the Tela Railroad Company (Chiquita). According to Ing. Vasquez, financing and technical help is available.

A trial planting of Smooth Cayenne planting is recommended for this farm, and perhaps this farm could also be the site for a pineapple seed nursery due to the availability of irrigation and some pineapple cultivation experience.

It is recommended that FPX follow-up on the development of this pineapple project.

C. Citrus Development Corporation

The CDC Company is owned by the Griffin and Brand Company of McAllen, Texas and is primarily involved in the production and processing of oranges for processing into fruit juice concentrate. Their production farms are in various locations, but the farm with pineapple planted between the orange tree rows is located in Loma Linda, San Isidro de Lago Yojoa. About 10 manzanas of Smooth Cayenne pineapple is planted at this farm, which is about 2000 feet elevation.

A tour of the processing plant was conducted on Wednesday, May 23 accompanied by Claudio Paz, harvesting coordinator. The plant was not operating, as the orange season is in October to December. A pineapple processing line is included in the plant. It consists of a fruit receiving conveyor, line to remove the fruit head and base, a hot water washing system, conveyor to the processing area, fruit grinder, finishers, storage tanks, evaporator, and filling area. The whole fruit is processed, including the shell. According to Ing. Paz, the quality of the product is very good.

CDC does not process much pineapple due to lack of a constant supply of the smooth cayenne variety. The Montufar pineapple does not process well due to its low acid level, resulting in a dark juice. CDC is trying to arrange a processing contract with Dole using their reject fruit, but to date have not been able to sign a contract.

CDC would like to sign contracts for supply of pineapple by small growers of the smooth cayenne variety, but cannot provide a fixed price due to the fluctuating world price of pineapple juice concentrate. This could be an excellent outlet for the reject fruit of pineapple growers, or even as the primary market. The offered price during our visit was the equivalent of 1 Lempira per fruit or U.S.\$0.25 each. At a saleable density of 43,800 fruits per manzana, this would be a gross revenue of \$10,950 per manzana. The end product is exported, so the goal of increasing farmer income and generating foreign exchange earnings for Honduras would be accomplished.

On Thursday, May 24 we visited the farm of CDC in Loma Linda to observe their pineapple plantings. We were shown one area with 190,000 plants claimed to be of the variety "Champaka" which is also known as clone F-153 and is the variety grown by Del Monte in Costa Rica and by Chiquita in Honduras. Apparently this seed came from Guatemala, remaining from a Del Monte Fruit Co. trial planting. It was difficult to verify the variety as it was in poor condition and little fruit was observed. This seed will be isolated on the farm and more area planted. It should be compared to the seed at the nearby Montoya farm of Chiquita to ascertain its true variety.

The quality of pineapple grown on the Loma Linda farm is excellent if harvested at the proper stage of ripeness. The fruit tends to be somewhat translucent, and should be harvested at shell color 1 and 2 for fresh export. This condition is due to the weather conditions in the Lake Yojoa area, which are warm and cloudy.

The agronomic practices used on the Loma Linda farm are not modern and several production problems exist. Planting density is very low, with in-line planting of 15 inches and row to row distance of 18 inches. The estimated distance between beds (center to center) is 48 inches. This would result in a plant density of approximately 17,424 plants per acre versus standard densities of 28,000 plants per acre, or 62 percent of the possible production density. The recommended spacing is 10 inches in-line, 18 inches row to row, and 44 inches bed center to bed center.

Weed control and fertilization were sub-standard, with many weeds growing over the plants. The plants exhibited deficiencies of potassium, nitrogen, magnesium, and iron. According to the farm foreman, only urea was applied at planting time. Soil testing and plant tissue samples need to be taken and submitted to FHIA for analysis and fertility recommendations. A general fertility program was discussed with Tim Beck, farm manager. I believe about 500 Lbs. of Nitrogen, 50 Lbs. of Phosphorous, 500 Lbs. of Potassium, 60 Lbs. of Magnesium, 15 Lbs. of Iron, and 5 Lbs. of Zinc should be applied to the plant crop.

Weed control can be accomplished by applying 2-4 Lbs. per acre of Hyvar within two weeks of planting followed by applications of 2 Lbs. of Karmex plus 2 Lbs. of Ametryne every 3-4 months up to forcing time. Hand weeding should be practiced for resistant weeds or when the herbicide applications begin wearing off.

Plants were seen with small fruit, and this is undoubtedly due to forcing early of small plants. In this area, it is estimated that forcing should occur about 10-12 months after planting or when the average plant weight is 5.0 Lbs. Forcing can be done with Ethrel in the early morning or late afternoon when air temperature is less than 78 degrees Fahrenheit and no rain is expected within two hours. The proper dosis of Ethrel is about 1200 to 1800 cc of 4.0 Lb. per gallon of Ethrel in 400 gallons of water per acre. Jrea in the amount of 87 Lbs. should be added to the mixture, as well as 2.2 Lbs. of calcium carbonate depending on water pH.

An area of plants about 8-9 months old was seen which lack the size and vigor of plants for that age. Time exists to improve these plants before forcing at 12 months age. It is recommended to apply 50 Lbs. of Urea plus 24 Lbs. Potassium every two weeks until forcing time, adding 2 Lbs. of Iron and 0.5 Lbs. Zinc per application. Apply 100 Lbs. of Potassium in one application just prior to forcing.

It is recommended that this farm obtain a technical assistance contract with FFX to solve existing production problems and improve future plantings.

With proper farming practices and using still unplanted area, production of pineapple for the company processing plant could be a profitable business. This farm should also consider the establishment of a seed nursery for improving and expanding the Champaka seed they possess and for sale to small growers in the area to expand the base of smooth cayenne production in Honduras.

CONCLUSIONS AND RECOMMENDATIONS

Although PROEXAG has indicated that they do not wish to provide further pineapple technical assistance to FPX, the prospects for developing a small to medium size pineapple program in Honduras still retains some significant merits.

New grower interest and the entry of the CDC processing plant opportunity presents additional reasons for continuing the program of providing technical assistance. With the expansion of the Chiquita Brands project in the Lake Yojoa area, it is predicted that the purchase of high quality pineapple from independent growers in Honduras will become a reality in the next few years. This is predicted because it will be a supply of low cost pineapple necessary to establish a marketing program with sufficient volume for economy of scale in packing, transporting, and distributing Honduran pineapple.

Contacts with the newly interested growers should be exploited due to their interest and capacity to become substantial producers of pineapple. Seed supply is becoming less of a bottleneck, with the seed availability from the Rosenthal, Valerio, Fernandez, Rivera, and CDC farms.

It is recommended that pineapple continue to be a major product line for development by FPX. A consulting proposal to continue technical services was requested by FPX and will be provided at the earliest opportunity.

Discussions were held with FHIA regarding their involvement in providing laboratory and research facilities and manpower. Details of this cooperation need to be prepared and reviewed in the near future so that continued assistance can be provided.