

A.I.D. EVALUATION SUMMARY - PART I

PD-ABG-138

- 1. BEFORE FILLING OUT THIS FORM, READ THE ATTACHED INSTRUCTIONS.
- 2. USE LETTER QUALITY TYPE, NOT "DOT MATRIX" TYPE.

IDENTIFICATION DATA X D SA 82951

<p><b>A. Reporting A.I.D. Unit:</b></p> <p>Mission or AID/W Office <u>BELIZE</u> (ES# _____).</p>	<p><b>B. Was Evaluation Scheduled In Current FY Annual Evaluation Plan?</b></p> <p>Yes <input checked="" type="checkbox"/> Slipped <input type="checkbox"/> Ad Hoc <input type="checkbox"/></p> <p>Evaluation Plan Submission Date: FY <u>93 Q 1</u></p>	<p><b>C. Evaluation Timing</b></p> <p>Interim <input type="checkbox"/> Final <input checked="" type="checkbox"/></p> <p>Ex Post <input type="checkbox"/> Other <input type="checkbox"/></p>
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**D. Activity or Activities Evaluated** (List the following information for project(s) or program(s) evaluated; if not applicable, list title and date of the evaluation report.)

Project No.	Project /Program Title	First PROAG or Equivalent (FY)	Most Recent PACD (Mo/Yr)	Planned LOP Cost (000)	Amount Obligated to Date (000)
505-0008	Commercialization of Alternative Crops Project: <u>Belize Agribusiness Company (BABCO) Component.</u>	'85	12/92	4,800	

**ACTIONS**

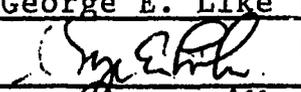
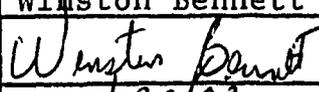
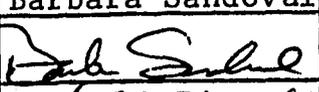
E. Action Decisions Approved By Mission or AID/W Office Director	Name of Officer Responsible for Action	Date Action to be Completed
<b>Action(s) Required</b>		
1. Diversify and commercialize at least two other marketable crops to compensate for any potential loss in revenues from papayas (e.g. change in Medfly status, mealy bug infestation).	BABCO	N/A: Project Completed
2. Pursue other marketing opportunities for papayas, both locally and internationally, especially in Japan.	BABCO	"
3. Revise employee compensation packages.	BABCO/BOD	"
4. Hire a marketing specialist.	BABCO	"
5. Expand packing house facilities.	BABCO	"
6. Access and provide funds for the establishment of an adequate, self-contained, extension and quality control unit within BABCO.	GOB	"
7. Alter Board's structure to reflect the changing needs of the company as a commercial oriented, self sustaining company.	BOD	"

(Attach extra sheet if necessary)

**APPROVALS**

**F. Date Of Mission Or AID/W Office Review Of Evaluation:** \_\_\_\_\_ (Month) \_\_\_\_\_ (Day) \_\_\_\_\_ (Year)

**G. Approvals of Evaluation Summary And Action Decisions:**

	Project/Program Officer	Representative of Borrower/Grantee	Evaluation Officer	Mission or AID/W Office Director
Name (Typed)	George E. Like		Winston Bennett	Barbara Sandoval
Signature				
Date	Jan 3, 1993		6/22/93	6-22-93

**ABSTRACT**

**H. Evaluation Abstract (Do not exceed the space provided)**

The CAC Project was designed to assist sugarcane farmers find alternative export crops after sugar cane prices fell in the early 1980's and to develop oil seed crops to serve as import substitution for edible oils and animal feed protein. A Cooperative Agreement was signed in 1985 between USAID and BABCO to carry out research and development to identify and promote at least two alternative export crops and at least one import substitution crop. USAID assistance to BABCO was completed in December 1992.

BABCO found that "sun solo" type papaya was profitable and could be grown and shipped all year round. Approximately four thousand 10-lb. boxes (worth US\$28,000) are now being shipped weekly to the U.S. While BABCO's main income generating crop is sun solo papaya, it also carries out research trials on mango, starfruit, avocado, passion fruit, rambutan, lychee and mangosteen. These other crops only total 0.5% of BABCO total revenues.

In early 1993, an evaluation team Miller and Miller, Ltd. (Belize City), was contracted to carry out a review of BABCO. The team conducted 80 persons days of work to complete the report. The major findings and conclusions of the review are:

1. BABCO's revenue generating capacity is adequate to financially sustain the current level of expenses incurred by the company;
2. the qualifications of BABCO's staff are appropriate for its mandate and operations;
3. the relationship between BABCO's Board of Directors, the Managing Director and staff works reasonably well;
4. BABCO may reach record levels of production per acre of papayas on a commercial scale and exceed those achieved in Hawaii;
5. GOB's assistance to BABCO must be tangible if the industry is to continue to flourish;
6. the continuation of the R & D program to bring about the commercialization of at least two other crops will further stabilize the company by eliminating its total dependence on a single crop.

**Lessons:**

BABCO has become a central figure in the fledgling Belizean papaya industry. Possessing the technological capability, key technical assistance, a committed staff and the financial potential to sustain itself, BABCO has many of the characteristics necessary for its continued success. The Government of Belize has taken an active role in the technical accomplishments of BABCO and because of its demonstrated successes, area farmers are beginning to shift from the production of sugar cane to other export oriented crops.

**COSTS**

**I. Evaluation Costs**

1. Evaluation Team		Contract Number OR TDY Person Days	Contract Cost OR TDY Cost (U.S. \$)	Source of Funds
Name	Affiliation			
G. Winston Miller	Miller and Miller, Ltd.	20	19,110	Project No. 505-0000: Sustainability Review of Selected Agricultural Development Activities.
John Briggs	"	20		
Lucia Fanning	"	20		
Norris Wade	"	20		
2. Mission/Office Professional Staff Person-Days (Estimate) _____		4	3. Borrower/Grantee Professional Staff Person-Days (Estimate) _____	
			12	

10

## A.I.D. EVALUATION SUMMARY - PART II

### SUMMARY

**J. Summary of Evaluation Findings, Conclusions and Recommendations (Try not to exceed the three (3) pages provided)**

Address the following items:

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Purpose of evaluation and methodology used</li> <li>• Purpose of activity(ies) evaluated</li> <li>• Findings and conclusions (relate to questions)</li> </ul> | <ul style="list-style-type: none"> <li>• Principal recommendations</li> <li>• Lessons learned</li> </ul> |
|--|--|

Mission or Office: <b>USAID/Belize</b>	Date This Summary Prepared: <b>06/03/93</b>	Title And Date Of Full Evaluation Report: <b>Evaluation of the Progress Made by BABCO funded under the CAC Project-USAID/Belize.</b>
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**Purpose of Evaluation:** The purpose of this review was to assess BABCO's current structure, effectiveness, impact, and financial viability to see if it is achieving its stated goals and purposes, and to make recommendations for its continued viability upon termination of financial assistance from USAID.

**Methodology:** The consultants examined pertinent documents at USAID, BABCO and the Ministry of Agriculture and Fisheries. Details of the project were discussed with USAID Officers, the Managing Director of BABCO, and a cross section of BABCO staff members, and other individuals dealing with BABCO.

**Purpose of activity evaluated:** The project was developed to find alternative export crops and to develop oil seed crops to serve as import substitution for edible oils and animal feed protein.

**Findings and Conclusions:** In conducting the evaluation, the following topics were examined: 1) financial viability of BABCO; 2) staff qualifications; 3) personnel and remuneration structure; 4) Board/Managing Director/Staff relationships; 5) transportation and marketing; 6) BABCO/Government of Belize/Farmer relationships; 7) impacts of BABCO; and 8) constraints and contributing factors to BABCO's success.

1. **Financial Viability of BABCO:** BABCO's revenue generating capacity is adequate to financially sustain the current level of expenses incurred by the company. BABCO also possesses the technological capability; committed core staff and the financial potential to grow well beyond its present levels. It was noted that the knowledge and capability of BABCO's current production/post harvesting staff and their supervisors are crucial to maintaining financial viability.

2. **Staff Qualifications:** BABCO's staff is comprised of twelve members whose qualifications adequately meet the responsibilities of the tasks assigned to them. Approximately one hundred casual laborers are employed in the field and post harvesting operations. It was found that the Managing Director has the capability to carry out all of the responsibilities assigned to him in an effective and timely manner. Although the qualifications of all BABCO staff members are appropriate for its mandate and operations, the existing staff complement is insufficient to carry out planned activities. The evaluation team also noted that continued training to upgrade the effectiveness and expertise of staff, in both the administrative and production sides of the operation, needs to be given greater priority.

3. **Personnel and Remuneration Structure:** The majority of staff have a long history with BABCO. The staff displayed a level of commitment to the company that exceed traditional employee/management relations. All of the staff interviewed acknowledged full understanding of the criteria used to measure job performance and attribute such understanding to an annual evaluation. It was felt, however, that present salary levels did not adequately compensate the staff. No over time is paid except in the case of casual workers. The staff were unclear as to how the remuneration process worked but felt it was not tied to the performance of BABCO.

S U M M A R Y (Continued)

4. Board/Managing Director/Staff Relationships: BABCO is a nonprofit, private sector organization whose policies and general direction are set by a Board of Directors consisting of nine representatives of the public and private sectors. The day to day affairs of the company are managed by a Managing Director. The evaluation team found that the relationship between BABCO's Board of Directors, the Managing Director and staff is reasonably good. However, in order to enhance the information flow and efficiency of Board members, senior staff members, such as the production supervisor and chief accountant, should be requested at Board meetings to serve as resource persons for specific agenda items. This could lead to heightened recognition of their efforts by the Board as well as a reassurance to the Officers that their inputs are not only appreciated but are important contributions to the success of the Company.

The public sector representation on the BABCO Board appears quite strong and could well be a potent force in charting the policy direction of the Company. The Board lacks full participation from private growers. BABCO is changing from a project oriented company to a commercial enterprise, and the capability exists to revise the constituency of the Board. The evaluation team determined that BABCO should take steps to alter its present Board structure to have a stronger representation from the private sector which will make the company more sound.

5. Transportation and Marketing: The marketing of fresh fruit and vegetables is a complex and extremely competitive business. BABCO has, by personal contact and hard work, established itself as an exporter to the U.S. market. BABCO has a marketing contract with J. R. Brooks & Sons Ltd. for an initial period of two years. J.R. Brooks indicated that they can accommodate 30,000 boxes per week in its existing marketing network, but BABCO is equipped at present to handle approximately 10,000 boxes per week.

BABCO's production level is expected to increase later this year as crops already planted come into bearing and the packing house is expanded. BABCO has conducted successful market trials in Japan, but due to a lack of sufficient product, BABCO has not followed up on these successes with commercial shipments.

6. BABCO/Government/Farmer Relationships: BABCO has limited staff and funds. Many farmers have been accustomed to receiving advice and assistance from government and other organizations free of charge. When asked to pay full cost for advice or services at BABCO, most shy away even though the benefits far outweigh the cost. Due to the shortage of staff, transport, and funds, and the concentration by BABCO on its own survival, the contact between farmers and BABCO has not been a sufficient catalyst to get the papaya industry on a wider footing.

The GOB, while investing in the commercialization of alternative crops, and supporting BABCO at the Board level, has yet to be seen by farmers to be fully committed to the establishment of the papaya industry. The GOB should have greater input in facilitating the establishment the extension unit within BABCO, since the unit would serve to coordinate the supervision and dissemination of technical packages developed by BABCO to farmers country wide.

7. Impacts of BABCO: The impact of BABCO has been significant. It has established its credibility with papaya production with the resultant impact on foreign exchange earnings, local sales, and farmers earnings.

In the area of research and development, BABCO has been a pioneer. The continuing programs of research and development with specific crops and technologies, could maintain BABCO (and thus Belize) in the Regional forefront in this area.

- d'

## S U M M A R Y (Continued)

8. Constraints and Contributing Factors to BABCO's Success: The papaya industry is on the threshold of becoming a major export producing sector for Belize. However, insufficient attention and resources are being invested by the GOB to the fledgling industry.

Should two or three key people decide to leave BABCO, then it is difficult to envisage the company continuing on its present course. Failure to invest in expanding this pool of expertise increases the risk factor in the industry and in BABCO itself. The present staff complement of BABCO is a serious constraint to BABCO in its quest to maximize its potential. As BABCO supports the efforts at marketing other commodities and explore other markets, then comprehensive analysis of those commodities and markets is essential. BABCO does not have that capability in house at this time.

Were BABCO to fail for any reason, then the program of commercialization of papaya and alternative crops in Belize would grind to a halt. It would then be even more difficult for Belize to become reestablished in the international market place. Neither the Ministry of Agriculture, other research organizations nor the private sector separately or combined, could carry out the functions that BABCO is currently carrying out with the same degree of success.

CONCLUSIONS: BABCO has done much to establish Belize's reputation for providing high quality and timely produce to the international market. Its pioneering role in the development of the "sun solo" papaya industry for Belize and its commercialized approach towards research and development activities have already proven to be beneficial. It is anticipated that BABCO will continue to have significant, positive short-, medium-, and long-term effects on the economy of Belize;

The current level of BABCO's success can be further enhanced by addressing factors pertaining to staffing; marketing and shipping; financing and the enabling legislation for the industry.

### PRINCIPAL RECOMMENDATIONS:

1. Financial Viability
  - a. cultivate at least 100 acres of papaya, with a minimum of 75 acres available for production and harvesting;
  - b. diversify and commercialize two other marketable crops to compensate for any potential loss in revenues from papayas;
  - c. reinvest earnings in training, meeting staffing requirements, providing adequate resources for the staff to perform their duties, capital investment and maintenance;
  - d. approve a financial compensation plan for its workers in keeping with revenue and expenditure projections;
2. Staff Qualifications
  - a. Increase staff by at least two members in FY 93 with consideration given to a shipping/payroll clerk at the Corozal Office.
  - b. Create a position assisting the post harvest/packing/marketing operations.
  - c. Seek assistance in implementing office management techniques and using economical software packages.
3. Personnel and Remuneration Structure
  - a. Provide additional compensation, financial or time off, for production/packaging staff who work more than forty-five hours per week; and develop a compensation package for all workers that adequately reflects job responsibilities and performance.

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## SUMMARY (continued)

- b. The responsibilities of the soon to be hired Office Manager must be clearly articulated to all staff especially in the administrative unit, in order that perceived threats to their job security be properly alleviated.
4. Board/Managing Director/Staff Relationships
- a. BABCO should take steps to alter its present Board structure to reflect the changing needs of the company. The revised Board should have much stronger representation from the private sector.
  - b. The Operations Manager and Accountant should be present at appropriate Board meetings for presentation, questions and further elucidation of topics specifically dealing with their areas of responsibility.
5. Transportation and Marketing
- a. Continue to explore and follow up on market opportunities locally and internationally, especially in the lucrative Japanese market, not only for papaya but also for the other crops.
  - b. Hire a marketing specialist on BABCO's staff who will be responsible to build up historical price indexes for an expanded range of products and an expanded range of markets and seek cost-effective transportation modes and routes for those markets.
  - c. BABCO is in dire need of additional vehicles and equipment if it is to maintain its current level of operation.
6. BABCO/Government/Farmer Relationships
- a. The GOB should access and provide funds for the establishment of an adequate, self-contained, extension and quality control unit within BABCO.
  - b. The role assigned to the Papaya Growers Association (PGA) must be reexamined by the government, in light of the present lack of capacity within the fledgling Association to adequately perform the tasks assigned to it.

### LESSONS LEARNED:

- 1. The GOB should be actively involved in and committed to project implementation and sharing in the responsibility of project outcome. Apart from fruit fly surveillance and phytosanitary oversight, BABCO did not receive the support that was expected from the GOB in the dissemination of technology and the provision of credit.
- 2. Targets such as crop acreages planted by a specific date, development of technological information packages and marketing systems in place should realistically be set. Development packages should contain financial credit as needed. Accomplishments should be then measured only by outputs whose development is under project control.

**ATTACHMENTS**

**K. Attachments** (List attachments submitted with this Evaluation Summary; always attach copy of full evaluation report, even if one was submitted earlier; attach studies, surveys, etc., from "on-going" evaluation, if relevant to the evaluation report.)

Attachment: Evaluation Report entitled:

An Evaluation of the Progress Made by the Belize Agribusiness Company (BABCO) funded under the Commercialization of Alternative Crops Project - USAID dated February 26, 1993, and received March 1, 1993, by Miller and Miller, Ltd.

**COMMENTS**

**L. Comments By Mission, AID/W Office and Borrower/Grantee On Full Report**

XD-ABG-138-A

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**AN EVALUATION OF THE PROGRESS MADE**  
**BY THE**  
**BELIZE AGRIBUSINESS COMPANY (BABCO)**  
**FUNDED UNDER THE**  
**COMMERCIALIZATION OF ALTERNATIVE CROPS PROJECT**  
**UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT**

**SUBMITTED TO: UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT  
MISSION TO BELIZE**

**AND**

**BELIZE AGRIBUSINESS COMPANY**

**SUBMITTED BY: MILLER AND MILLER LTD.**

**PARTICIPATING CONSULTANTS:**  
**G. Winston Miller**  
**John Briggs**  
**Lucia Fanning**  
**Norris Wade**

**February 26, 1993**

*Received 3/1/93*

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## **EXECUTIVE SUMMARY**

The commercialization of Alternative Crops (CAC) Project was designed in response to a request from the Government of Belize to assist sugarcane farmers to find alternative export crops after sugar cane prices fell in the early 1980's and to develop oil seed crops to serve as import substitution for edible oils and animal feed protein. The geographic area covered by this project includes primarily the sugar cane producing districts of Corozal and Orange Walk but also includes the Cayo District. A Cooperative Agreement was signed in 1985 between USAID and the Belize AgriBusiness Company (BABCO), a non-profit private sector company, to carry out research and development to identify and promote at least two alternative export crops and at least one import substitution crop. Project funds of \$4,800,000 have been devoted to this Cooperative Agreement. Research and development was carried out using on-farm trials with cooperating farmers over a two-year period. Two vegetable crops were found to be profitable during the limited marketing season. One fruit, papaya, was found to be profitable and could be grown and shipped all year round. Due to the Medfly-free status of this portion of Belize, ripe papaya can be shipped directly into the United States. Approximately four thousand 10-lb. boxes (worth US \$28,000) are being shipped weekly to the United States. Buyers have found this papaya to be of superior quality and have expressed willingness to purchase larger quantities of this fruit. BABCO is also carrying out research trials on mango, starfruit, avocado, passion fruit, rambutan, lychee and mangosteen.

This report documents the present BABCO structure and makes recommendations on its effectiveness, impact and financial viability in light of the completion of USAID funding and involvement in the CAC Project. Specifically, the evaluation team concluded the following:

- BABCO's revenue-generating capacity is adequate to financially sustain the current level of expenses incurred by the company;
- the qualifications of BABCO's staff are appropriate for its mandate and operations but the current staff complement is deemed to be inadequate to carry out these functions;
- BABCO's remuneration package to its employees, particularly in the production/packing component of the operation, needs to be upgraded, in light of its

**revenue-generating capability;**

**- the relationship between BABCO's Board of Directors, the Managing Director and staff is one that works reasonably well however, direct input from senior staff to the Board can serve to further enhance the efficient functioning of the Board and Managing Director;**

**- the marketing agreement with J.R. Brooks provides an established structure through which fruit is being transported to the US market and Europe. Nonetheless, BABCO needs to pursue other marketing opportunities, both locally and internationally, particularly in the lucrative Japanese market;**

**- along with access to financing, farmers, BABCO and the Government of Belize cite research and development and extension activities, particularly those relating to the commercial production of papayas, as being essential components of the crop diversification program in Belize. Government's assistance to BABCO in carrying out these activities must be in a tangible form if the industry is to flourish, given BABCO's current level of self-sustainability;**

**- BABCO has proven to be a primary force in the establishment of Belize's reputation for providing high-quality and timely produce to the international market. Its pioneering role in the development of a papaya industry for Belize and its "commercialized" approach towards research and development activities have already proven to be beneficial and it is anticipated that BABCO will continue to have significant, positive short-, medium-, and long-term effects on the economy of Belize;**

**- the current level of BABCO's success can be further enhanced by addressing factors pertaining to marketing and shipping, financing and the enabling legislation for the industry.**

**With the commitment of its staff, their knowledge and expertise and the prior and on-going assistance of experts in papaya cultivation and production, it is the view of the evaluators that BABCO can look forward to maintaining its place at the forefront of the crop diversification effort in Belize.**

## **I. PURPOSE AND METHODOLOGY**

### **(a) PURPOSE.**

The purpose of this consultancy is to evaluate the current measure of success of the Belize Agribusiness Company (BABCO) in achieving stated goals and purposes and to make recommendations for its continued viability on the termination of financial assistance from USAID. Details of the Statement of Work are given in ANNEX A.

### **(b) METHODOLOGY.**

In carrying out this evaluation which was requested by U.S.A.I.D., the consultants examined all relevant documents and project files at offices of USAID, BABCO and the Ministry of Agriculture and Fisheries. Details of the project were discussed with Mr. George Like, Agricultural Development Officer, USAID and on a number of occasions, with Mr. Fred Hunter Jr, Project Officer, USAID and Mr Jose Novelo, Managing Director of BABCO. In addition, in order to more effectively gauge the impact of the project, interviews were conducted with a wide cross-section of staff members, resource persons and other individuals. A list of persons interviewed, locations of interviews and time spent with each is given as ANNEX B.

## **II. PROJECT BACKGROUND**

The Commercialization of Alternative Crops (CAC) Project was authorized in September 1985 to generate increased employment, income and foreign exchange and to expand the base of economic activity in Belize by developing alternative agricultural products for export and import substitution. This followed a request by the Belize Government for assistance to reduce the dependence on monocrop sugar cane, primarily in the Northern Districts of Belize.

A cooperative agreement was signed in 1985 between USAID and the Belize Agribusiness Company (BABCO) a non-profit, private sector company. Project funds totalling US\$4,800,000 were devoted to the cooperative agreement of which US\$1,700,000 were obligated in the original agreement. An additional estimated US\$100,000 was subsequently provided to BABCO in 1992.

The project was amended a number of times principally to extend the project completion date to 30th June 1990 and later to 31st December 1992 and to alter line item budgets within the overall budget total. A number of the amendments were related solely to other components on the CAC project and did not affect the BABCO component.

### Project Strategy

The primary focus of the project was on the private sector efforts to develop non-traditional agricultural products which would in some cases, replace sugarcane as a crop, and in other cases, be added to the cropping system of the farmer. The products were to be developed for both the export market and for domestic import substitution as Belize has traditionally imported a high proportion of its foodstuffs including lard and vegetable oil and livestock feed.

Because of a decline in foreign exchange earnings from sugar, there was a considerable desire to develop alternative export commodities especially for the northern districts. The project design team identified winter vegetables as having the highest potential immediate payoff. Other potential products identified included ornamental foliage, cut tropical flowers, vanilla, and ginger.

BABCO was established as a non-profit company with public sector, institutional and private sector interests represented. A prime contractor was to be engaged who would have overall responsibility for the implementation of the project. BABCO was expected to provide logistical and operational support. The prime contractor, utilizing several sub-contractors, was responsible for the identification of potential crops, gathering information regarding production/processing/marketing of these commodities, developing additional information and the organization of these commodities for commercialization.

The principal target beneficiaries of the project were to be the cane farmers and any other farmers willing to diversify their production. Corozal, Orange Walk and Cayo Districts were identified as the most appropriate areas of Belize for the production of commodities which had been initially selected.

### Project funding

The total funding of the CAC Project/Private Sector Component was US\$5,045,341 comprising US\$4,800,000 from Private Sector Component funds and US\$245,341 from Public Sector Component funds. The Chemonics contract was signed for US\$3,529,643 and BABCO budgets and support costs had been to date US\$653,679. Of the balance of US\$862,019 remaining, US\$190,800 was required for the Chemonics contract for operations through June 1990. The remaining US\$671,219 was considered sufficient to fund BABCO for the remaining period up to December 31st, 1992.

### BABCO

In the original concept, BABCO was created as the private sector indigenous vehicle through which the private sector component of the commercialization of alternative crops project would be implemented. The assumption was that at the end of the project, commercialization of alternative crops would have been accomplished through a network of direct linkages between marketing firms from the US and local farmers. Once these linkages were established under project auspices, the BABCO function would be complete and BABCO would no longer need to exist.

The stated objectives of BABCO were to mobilize Belizean resources, both public and private sector, to:

-- facilitate development and commercialization of Belize agricultural products for export as well as import substitution;

-- provide technical assistance to new and existing agri-businesses involved in commercialization of Belize agricultural products and agricultural production inputs related to the agricultural diversification effort;

-- facilitate the promotion of Belize agricultural products for both domestic and international markets.

### Prime contractor

The major portion of the funds made available under the project were to be

used in a direct USAID/Belize contract to obtain the services of a Chemonics as prime contractor. As previously indicated, that contractor was responsible for the overall implementation of the project. BABCO was a minor participant providing facilitatory services. That had a significant impact on the development and success of the company.

It was originally intended that BABCO would phase out, along with the prime contractor, on completion of the project. It was expected that a number of viable crop products would have been developed and production in exportable quantities would be in the hands of the private sector. It was considered that a new agricultural industry would have been developed that could continue without further institutional assistance.

### Farm Trials

An extensive farm trial program had been in operation from 1986. Evaluation of those trials as early as 1986/87 (carried out in June 1987) highlighted a number of serious problems and made recommendations to address those problems. Among the constraints listed were:

- shortage of suitable equipment for seedbed preparation and row-crop production;
- lack of adequate irrigation water. Wells thought to be good producers became dried up quicker than expected and had low recharge rates, surface water sources dried up during the trial period which was extremely dry with no rainfall;
- lack of continuity of sub-contractor fieldsmen.

Among the recommendations made for the 1987/88 season was a wider range of crops, totalling 9 vegetable crops, 7 fruit crops, 5 field crops and 1 spice crop. Of these, papaya, passion fruit and carambola were specifically mentioned as being promising crops with a suggestion for increased effort.

Recommendations were also made to discontinue the services of a number of sub-contractors whose performance was not considered to be satisfactory.

A major drawback in determining the economic viability of the various crops was the failure of most sub-contractors to turn in reports and information gathered during the trials.

### Mid-Term Evaluation

The Mid-Term Evaluation, carried out in accordance with the agreement in May 1988, highlighted a number of problem areas that needed to be addressed. The evaluation report provided four alternatives to consider with regards to project implementation. The evaluation highlighted the shortfall in reaching targeted levels of production due to the recent increase in sugar-cane prices and the lack of investment and production capital and/or credit available to the agricultural sector of Belize, especially the cane farmers. Additional constraints identified were the volatility of the US winter vegetable market and its conflict with the availability of labourers during the cane harvesting season.

Based on the evaluation report, the availability of funds remaining in the project and in consultation with GOB, USAID/Belize officials and project personnel, a two-year action plan was prepared by BABCO. That plan considered crop selection, staffing needs and other areas of concern highlighted below.

#### (a) Crop selection

Four crop categories were defined: 1) tropical fruits (papayas, mango, passion fruit, starfruit, pineapples, lychee, mangosteen and rambutan); 2) vegetables (cucumber, squash and hot peppers); 3) grain seeds (corn and sorghum); and 4) oilseeds (soybean and sesame). Marketing trials were to be confined to papayas and hot peppers which were considered to be the two crops with the most potential following two season of trials.

#### (b) Staffing

Subsequent to the mid-term evaluation, the decision was made that the existing Chemonics staff were to remain in accordance with the original project timetable, with the exception of the Agronomist post which was then vacant. Short-term specialists were to be contracted to perform the required activities. BABCO staff was to be increased to reflect the increasing role of BABCO in the project implementation. These

staff were to counterpart the short-term specialists in an effort to build up in-country expertise.

(c) Project Life

The project had been originally scheduled with a completion date of 30th September 1990 and with funding provided to Chemonics up to 30th June 1990. As a result of the mid-term evaluation, the completion date was extended to December 31st 1992, with no additional funding.

(d) BABCO Board

Recommendations were made in the mid-term evaluation to make changes in the constitution of the Board of Directors to reflect the increased responsibility on the part of BABCO for the direction that project activities will take and the increased share of responsibility for activities of project implementation. The changes were made and the new Board first met in February 1989.

(e) Termination of project

It was still considered at that time (1988) that BABCO would be phased out on completion of the project. BABCO had retained its advisory functions even though some suggestions had been made for it to enter the production/packing/marketing fields.

(f) Medfly

The ban on export to the U.S. of fresh fruits and vegetables from Belize following the outbreak of Medfly in southern Belize, in March of 1989, was a serious setback to the papaya industry in particular, which was then becoming commercialized in the Corozal, Orange Walk and Cayo districts.

The project was gradually redirected from a concentration on vegetable crops to longer term crops such as tropical fruits. The CAC project through BABCO had developed production technologies for several promising commodities, but little commercialization occurred. The basic premise that the farmers could absorb and adopt these new technologies within the project time frame was not realistic. More

time was needed to perfect appropriate production and marketing linkages.

### Crop Diversification Efforts Evaluation

A further review was carried out in March 1990 at the request of USAID. The recommendations made by the consultants (Hankins et al) in that review included the following:

"-- The strategy is to institutionalize BABCO as a self-sustaining private sector marketing firm which is capable of offering services in production and marketing. This will be the pivotal effort of the second phase. BABCO, as part of its transformation process, needs to build upon its current research, development and outreach capabilities. It must have a respected presence, with professional marketing capacities to ensure farmer participation in crop diversification programmes that are oriented to quality products. This component will focus on strengthening:

- research and development for new crop development;
- the base for a sustainable marketing operation;
- management and financial viability of BABCO."

In effect BABCO was to take the place of the US marketing firms which had failed to show any real interest in the project.

The recommendations to transform BABCO into a self-sustaining (primarily marketing) organization were accepted and implemented. The remaining funding available was considered to be sufficient to establish BABCO in that light. The long term plan still remained that the Papaya Growers Association would take over the functions of BABCO in the papaya industry upon completion of the project. The Association failed to develop the capability to manage the fledgling industry and only a small acreage of papayas was being cultivated by members of the Association.

Early in 1992, BABCO negotiated a two-year marketing agreement with J. R. Brooks & Son Inc. of Florida for up to 10,000 boxes per week of sun solo papayas. To supply that agreement and establish the product on the US market, it became necessary for BABCO to directly enter the production of fruit on its own account, which it did early in 1991. This was a further change in direction for BABCO, but a necessity for it to become self-sustaining as farmers were failing to expand their

production rapidly enough to sustain a share of the market and for BABCO to be self-sustaining purely from the marketing function.

To further encourage the participation of the Association in the industry, BABCO signed a two-year marketing agreement with the Association in June 1992 which covered 5,000 boxes per week for the six months, with an option for that to be increased. Exports of papaya totalled some 1.5 m. lbs in 1992 with a value of approximately \$1.0 million. Less than 1% of that fruit production was being met by the members of the Papaya Growers Association, in spite of the negotiated contractual agreement.

### **III. FINDINGS, OBSERVATIONS AND RECOMMENDATIONS**

In conducting the evaluation, the following topics were examined:

1. Financial Viability of BABCO;
2. Staff Qualifications;
3. Personnel and Remuneration Structure
4. Board/Managing Director/Staff Relationships;
5. Transportation and Marketing;
6. BABCO/Government/Farmer Relationships;
7. Impacts of BABCO;
8. Constraints and Contributing Factors to BABCO's Success.

For each of the eight items listed above, findings and observations are given and if appropriate, recommendations pertaining to the specific issue are made.

#### **III. 1. FINANCIAL VIABILITY OF BABCO.**

##### **Background**

As stated above, since its establishment in September 1985, the structure, mandate and expectations for BABCO have undergone considerable changes, following recommendations outlined in the mid-project evaluation report by Steele et al. (1988), recommendations suggested by BABCO's Board of Directors and those contained in the report assessing the direction of further crop diversification in Belize by Hankins et al. (1990).

It was assumed that by project completion date, the necessary linkages between farmers and US marketing firms would have been established, crop diversification goals would have been accomplished, and BABCO would no longer need to exist. For a variety of as outlined in the previous sections, the expected joint-ventures between local farmers and US firms did not materialize. As a result of it filling the gap originally envisioned for the US marketing firms, BABCO's existence after project completion date became a necessity, especially if the CAC project were to demonstrate some significant measure of success upon project termination.

To provide for a sustainable base and recognizing that the enterprises with immediate income-generating potentials were papayas and a commercial nursery, Hankins et al. (1990) recommended:

- the establishment of a minimum annual production of 24 acres of papayas over two years;
- the establishment of a papaya packing operation that can handle 50 acres of fruit annually;
- a nursery to supply sufficient quality fruit tree seedlings for 100 acres and other plant propagating materials.

Following a preliminary assessment to estimate revenue generation over a five-year period by these enterprises, Hankins et al. (1990) determined that they would be insufficient to contribute to total company costs (salaries, capital, operating and replacement costs) and recommended that the scale of operations be expanded. To finance this expansion, it was suggested that all assets being used by BABCO be turned over to BABCO as part of their capitalization portfolio and that financing requirements to start-up income generating activities be grant-funded. Hankins et al. suggested that with funding of US \$3 million over a period of five years, by year six, the company would be operating at a sustainable level.

It should be pointed out that this recommendation of providing an additional US \$3 million over five years to BABCO was not acted upon.

In August 1991, with the termination of grant funds rapidly approaching and the need to ensure its survival as a self-sustaining, private sector organization for facilitating new crop export programs in Belize, BABCO was restructured to a more market-oriented, research and development company. To coincide with the restructuring, a new team was hired with the primary objective of transforming BABCO into a viable venture while meeting its mandate of the commercialization of papayas and continued crop diversification through research and development in a variety of tropical fruits.

With the termination of incoming grant funds by August 1992, BABCO had a total of 57.9 acres under commercial papaya cultivation (with 20 additional acres in preparation) and 15.5 acres of other tropical fruits (acerola, atemoya, avocado, carambola, guava, lychee, mango, mangosteen, passion fruit and pineapple) in farm trials. Of the 57.9 acres under papaya cultivation, 23.5 acres were in production at that time. Having secured the agreement with J.R. Brooks to purchase up to 10,000 cartons (ten pounds per carton) of papayas per week, this effort provided an income of BZ \$577,506 from the sale of produce for the 1992 year to date, with expenses totalling BZ \$1,124,977 over the same period (see Tables 1a, 1b, 1c).

TABLE 1a. MONTHLY PAPAYA EXPORT STATISTICS (1992)

Month	Cartons	Estimated Gross Revenue (BZD*)
January	1,792	19,994.56
February	3,910	42,192.64
March	6,921	70,253.17
April	4,078	43,310.10
May	7,926	39,630.00
June	14,068	101,570.96
July	20,563	148,464.86
August	18,634	134,537.48
	-----	-----
Total	77,892	599,953.77

\* BZD = Belize Dollars

**TABLE 1b. SOURCES OF FUNDS (BZD)- JANUARY - AUGUST 1992 (BZD)**

Source	Jan-Jul	August	Total	Percent
USAID	594,335.40	0.00	594,335.40	50.7
Export Sales	473,870.20	84,719.18	558,589.38	47.7
Local Sales	9,283.35	8,632.26	18,915.61	1.6
	-----	-----	-----	-----
Total	1,007,489.95	93,351.44	1,171,840.39	100.0

**TABLE 1c. MONTHLY EXPENSES (BZD) - JANUARY - AUGUST 1992**

Item	Total	Percent of Total
Salary	\$ 132,539	12.00
Operating Expenses	\$ 114,756	10.00
Travel	\$ 555	0.05
Audit	\$ 10,190	0.91
Equipment/Vehicles	\$ 0	0.00
Research	\$ 821,381	73.00
Other	\$ 45,556	4.04
	-----	-----
Total	\$1,124,977	100.00

### Current Status

Based on very detailed and realistic assessments of the costs of production, yields per acre and revenues required to meet total company expenditures in the absence of USAID assistance, production schedules were constructed and implemented by BABCO's staff to reflect estimated cost projections for the remainder of 1992 and the subsequent three years.

With 57.9 acres in production, estimated to yield a conservative 5,500 to 6,000 pounds/acre/month by the December 1992 and a selling price of \$8.22/box, BABCO's revenues and expenses for the year resulted in a negative cash balance of \$180,177.89 (see Table 2). It should be noted however that while a deficit is shown, actual fruit shipments that are paid within thirty days would adequately cover this deficit.

TABLE 2. ESTIMATED REVENUES AND EXPENSES (BZD) - 1992

Sources of Funds	Total
Grant (USAID)	596,771.50
Papaya Sales (Export)	1,033,471.84
Papaya Sales (Local)	12,522.65
Trial, Nursery & Other Sales	13,677.21
	-----
	1,656,443.20
	-----
Uses of Funds	Total
Working Capital	1,791,065.09
Capital requirement	45,556.00
	-----
	1,836,621.09
	-----
Cash Balance	(180,177.89)

Cost projections for the period 1993 through 1995, based on similar production yields and acreage under cultivation, demonstrate the financial viability of BABCO in the year following termination of USAID funding (Table 3). Details regarding the statement are given in Annex C.

**TABLE 3. PROJECTED CASHFLOW STATEMENT (BZD) 1993 - 1995**

	1993	1994	1995
<b>Sources of Funds</b>			
Papaya Sales	\$2,370,976.80	\$2,466,000.00	\$2,466,000.00
Trial, Nursery & Other Sales	\$ 11,550.04	\$ 12,127.55	\$ 12,733.90
	-----	-----	-----
	\$2,382,526.84	\$2,478,127.55	\$2,478,733.90
	-----	-----	-----
<b>Uses of Funds</b>			
Working Capital	\$1,899,545.11	\$1,961,918.82	\$1,607,953.36
Capital Requirement	\$ 299,194.00	\$ 50,000.00	\$ 81,000.00
Cash Balance	\$ 183,787.73	\$ 466,208.73	\$ 789,780.54
	-----	-----	-----
Accumulated Cash Balance	3,609.84	469,818.57	1,259,599.11
	-----	-----	-----

**Observations**

Given its inauspicious beginnings, BABCO has become a central figure in the fledgling papaya industry of Belize. Possessing the technological capability, a committed staff and the financial potential to sustain itself, BABCO has many of the characteristics necessary for its success in place. Its financial viability is however entirely dependent on papaya production and sales, having less than 0.5% of its revenues coming from other sales. If, for any reason, papaya production and sales are reduced for an extended period, BABCO will not be able to survive.

From a financial standpoint, BABCO's assets are insufficient collateral for the present loan requirements from commercial lending institutions, should the need arise for a large commercial loan. From a technical standpoint, the knowledge and capability of its current production/post harvesting staff and their supervisors are crucial to maintaining financial viability. The reviewers recognize the potential for perceived inequity with other workers in the agricultural sector if salary levels of BABCO's staff are set significantly higher. Nevertheless, its staff must be adequately recognized and their efforts as pioneers in this venture compensated. This issue will be elaborated upon further in sections III. 2., III. 3 and III 8.

The estimated cost projections over the next three years for BABCO assume research and development in crops other than papayas remaining at the status quo, due to limited financial and human resources. The funding for such efforts, as well as for extension activities to farmers interested in tropical fruit production, are presently accounted for entirely from BABCO's projected revenues. The benefits from such activities have the potential to contribute to the attainment of government policy objectives regarding the commercialization of alternative crops, not only in the Corozal and Orange Walk districts, but country-wide. Government contribution to these activities of BABCO, whether in the form of actual financial support for R and D and extension activities or through in-kind contribution by providing extension personnel and other services, can have significant impact on BABCO's financial viability -- directly, by providing an alternative source of revenue for some of the expenditures currently funded by BABCO and indirectly, by eventually increasing the potential number of farmers requiring BABCO's services as a post-harvesting/packaging/marketing facilitator, for which a charge payable to BABCO could be applied.

### Recommendations

The following recommendations are offered as a means of strengthening BABCO's projected sustainability status.

1. In light of current market demands, the objectives of the diversification program (covered elsewhere in this report) and the current self-sustainability requirements of BABCO, acreage under papaya cultivation by BABCO should be in the vicinity of 100 acres, with a minimum of 75 acres available for production and harvesting.

2. While papaya is the mainstay of the BABCO operation, to compensate for any potential loss in revenues from papayas (change in Medfly status, mealy bug infestation, crop failure, decrease in market demand, decrease in commodity price, etc.), BABCO should increase its efforts to diversify and commercialize at least two other marketable crops. The selection of crops should be based on advice provided by BABCO's current US marketing partner and subsequently, from BABCO's own marketing intelligence.

3. Given the research and development and extension services provided by BABCO to the agricultural sector in Belize, government contribution to these activities should be actively pursued as a means of increasing the company's viability by both direct and indirect methods.

4. BABCO should maintain its non-profit status and immediately seek all fiscal incentives for which it is eligible.

5. Reinvestment of earnings in training, meeting appropriate staffing requirements, providing adequate resources for the staff to perform their duties, capital investment and maintenance, should be a priority.

6. The skills, capabilities and commitment of BABCO's staff must be recognized as being essential to BABCO's viability and be compensated for as such. A clear financial compensation plan, in keeping with revenue and expenditure projections, should be an immediate priority of BABCO's Board of Directors. Progress regarding its formulation should be regularly communicated to staff and the plan be available for inclusion in the 1994 round of contractual renegotiations with staff.

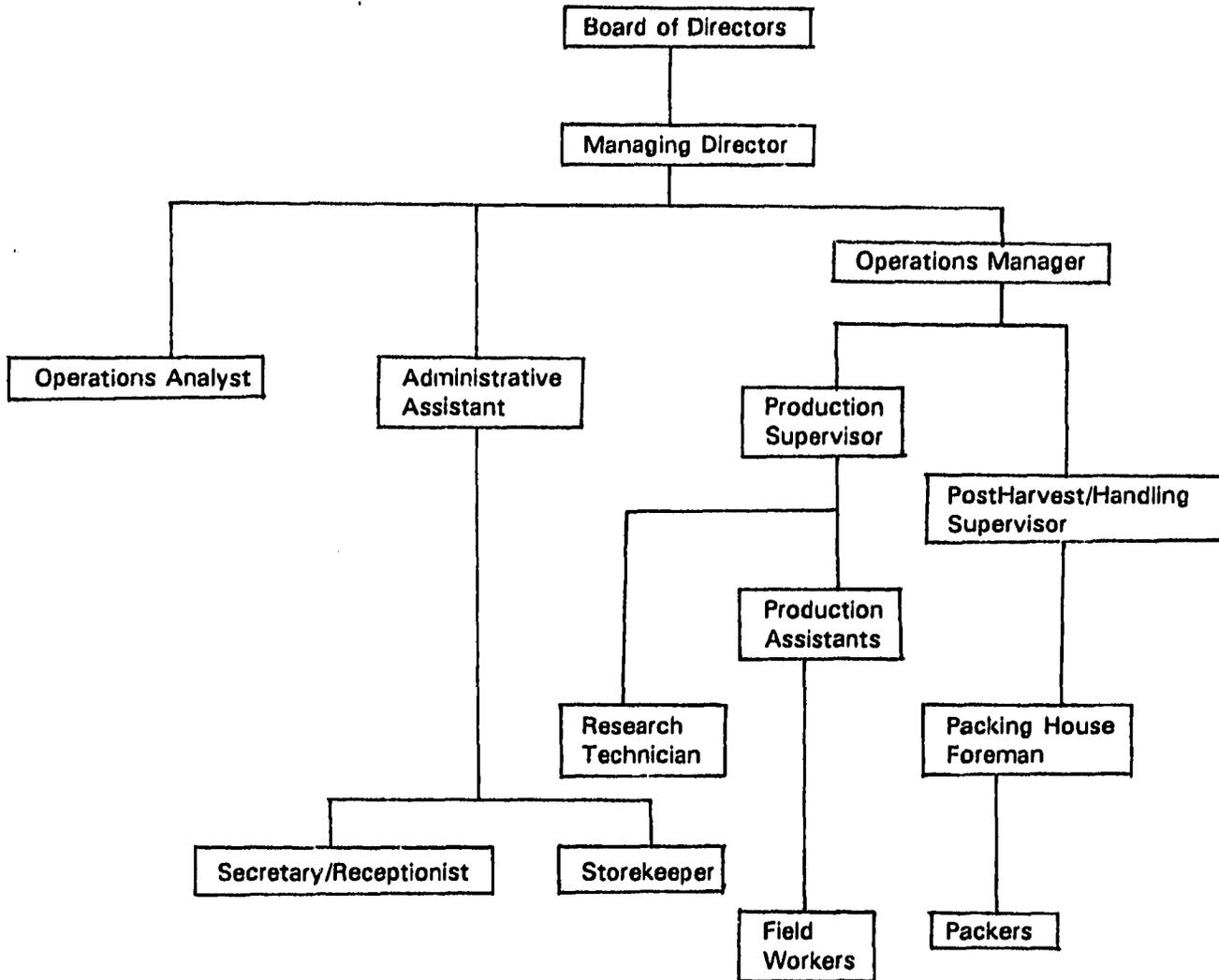
7. With its dependence on papaya sales to the United States for revenue generation and the subjection of estimated earnings to commodity price fluctuations, BABCO must continue to update and utilize real production costs and all other costs data in its cash flow projections so as to base its management decisions on information that accurately reflects current market conditions.

### **III. 2. STAFF QUALIFICATIONS.**

At the present time, BABCO's staff is comprised of twelve members, five responsible for the administrative requirements of the company and seven in

production, harvesting and packaging. Approximately one hundred casual labourers are also employed in the field and post harvesting operations. The present organizational structure of the company is given below in Figure 1.

FIGURE 1. ORGANIZATIONAL STRUCTURE OF BABCO



Interviews were conducted with all of the staff, with the exception of the packaging foreman and one of the production assistants. The qualifications for both administrative and production staff members adequately met the responsibilities of the tasks assigned. Personal data sheets and job descriptions are appended in Annex D.

## Observations

With almost seven years of experience in papaya production, harvesting and marketing, BABCO's Managing Director has the capability to carry out all of the responsibilities assigned to him in an effective and timely manner. Trained as an entomologist and the former Head of Department for Plant Protection and Agronomy, Central Farm Research and Development Station, he also has considerable expertise in conducting extension activities, preparation of work plans and budgets. His extensive network of contacts within the region, country, and internationally, along with his vision for BABCO, which includes a thorough understanding of the role BABCO can play in developing the papaya industry in Belize, make him an ideal candidate for the position.

In addition to their academic qualifications, the staff responsible for production possess considerable experience in the cultivation, harvesting and packaging of papayas. All members interviewed were graduates from post-secondary agricultural institutions. They have attended workshops and training sessions conducted by papaya consultant and expert, Mr. Mike Strong and the Operations Manager has attended marketing shows and sessions in the United States, upgrading his knowledge in marketing, processing and packaging techniques. Familiarity with techniques essential for the proper cultivation (land preparation, drip irrigation, tree selection, pest prevention and control); harvesting (pruning, selection of fruit and timing); packaging and shipping have made these employees an invaluable resource in the lucrative papaya industry.

Under the direct supervision of the Operations Manager, the production/post harvesting component of the BABCO organization, while extremely competent, is unable to carry out all the tasks assigned to it within regular working hours. Given the geographical separation of fields, the expanded acreage under cultivation, extension activities and an increasing post harvest/packaging operation, human resources are stretched. Extension activities need to be enhanced, potential markets more actively pursued and the tasks of field preparation, cultivation, harvesting and packaging shared among more than the existing five staff members. There is negligible administrative support for the production staff at their headquarters in Corozal and this adds an additional burden to both the production staff and the support staff in Orange Walk.

The administrative support staff, although well-qualified, can be made to better utilize their individual talents with the practising of a stream-lined, system of office management. This problem has been recognized by BABCO and a position for an Office Manager/Accountant has recently been advertised. It is expected to be filled in March 1993. The position of Operations Analyst will become redundant upon the hiring of an Office Manager who should also be a trained accountant.

As is the case with the production staff, the expansion of BABCO from a research, project-driven entity into a commercial enterprise has placed extreme demands on the administrative staff. In this area however, the evaluation team believes that the immediate use of appropriate computer technology and a restructuring of job descriptions to maximize the capabilities of the staff can contribute significantly to the increased efficiency and productivity of this unit.

Although the qualifications of all BABCO's staff members are appropriate for its mandate and operations, the existing staff complement is insufficient to carry out the scope of activities now expected for BABCO. The evaluation team also noted that continued training to upgrade the effectiveness and expertise of staff, in both the administrative and production sides of the operation, needs to be given greater priority.

### Recommendations

1. Staff complement should be increased by at least two members in the 1993 fiscal year.

i). Consideration should be given to creating and locating the position of shipping/payroll clerk at the Corozal Office in 1993, to streamline packing/shipping operations and to increase the administrative efficiency at this location. These activities are now being performed by the secretary/receptionist at the Orange Walk office and her transferral to Corozal will necessitate the hiring of a replacement secretary/receptionist for the Orange Walk office.

(The evaluation team understands that steps have been taken to hire a person as support staff at the Corozal office.)

ii). The creation of a position assisting the post harvest/packing/marketing operations of BABCO should be given priority in the 1994 budget estimates. With

increasing production, the justification for such a position lies in the absolute requirement for BABCO to secure its markets and to continue to ship high quality product that is immediately acceptable to the buyer.

2. BABCO should seek immediate assistance in implementing office management techniques that lends itself to increasing office efficiency. Additionally, by using readily-available, economical software packages, many of the manual, time-consuming tasks currently performed can be automated.

3. Attendance of appropriate administrative and production staff at training sessions, workshops, and trade shows should be used as a means of improving employee contribution to the success of BABCO. Trade journals and other publications should continue to be subscribed to as a vehicle to increase and improve worker knowledge on current technologies which may be beneficial to improving BABCO's performance.

### **III. 3. PERSONNEL AND REMUNERATION STRUCTURE.**

A specific requirement from USAID of the evaluation team was the determination of compatibility of salaries earned by BABCO employees with job descriptions and responsibilities, if job performance criteria and remuneration processes were clearly spelled out and if there exists any unresolved personnel issues.

Attempts were made to obtain comparative salary levels from the Government of Belize and other agricultural enterprises and extensive interviews were conducted with BABCO's staff and representatives of BABCO's Board of Directors since salary scales and remuneration packages are set and approved by the Board.

#### **Observations**

Perhaps because the majority of staff have a history with BABCO that goes as far back as its creation, there was a strong correlation between professional accomplishment and satisfaction and the future success of BABCO. As such, the staff displayed a level of commitment to the company that exceed traditional employee/management relations.

All of the staff interviewed acknowledged full understanding of the criteria used to measure job performance and attribute such understanding to an annual evaluation process, recently implemented by the Managing Director. In addition, a Personnel Administration Policy Manual, aimed at clarifying the working relationship between BABCO and its employees, has been developed and approved by the Board. Copies of the document have been given to all staff.

Administrative support staff were generally satisfied with the level of remuneration they received. Due to the capabilities of the incumbent secretary/receptionist, the evolution of the position into responsibilities normally assigned to a shipping/accounts clerk (which BABCO currently lacks), seems to have outpaced adequate compensation efforts.

The production support staff, on the other hand, were generally dissatisfied with the level of remuneration they received. While the staff were committed to working beyond a nine-hour day and on weekends, should production necessitate this, it was felt that present salary levels did not adequately compensate for such efforts. This complaint appears to be valid when a comparison is made between BABCO's salary scale and that of the government and related companies for roughly equivalent positions (see Table 4). No over-time pay is paid to BABCO's staff, except in the case of casual workers.

There was a definite sense among production/packaging staff that performance criteria were not sufficiently tied to BABCO's remuneration process. In addition, the staff were unclear as to how the remuneration process worked. There was a sense of alienation among the production/packaging staff in Corozal and a perception that the importance of their efforts, relative to those of the administrative unit, were not adequately recognized by BABCO's Board or the administrative unit in Orange Walk.

The evaluation team was sensitive to some inter-personal difficulties within the administrative unit. Primarily these were arising over the lack of ready access to computers and a lack of understanding of the essentiality of roles being played by members of the staff.

**TABLE 4. COMPARISON DATA ON REMUNERATION PER ANNUM- 1992**

Position	BABCO	GOB <sup>1</sup> (x \$1000)	BSI <sup>2</sup>	Private Sector	BGA <sup>3</sup>
Managing Director	\$43,400	30 - 43	50 - 80	\$60,000 <sup>4</sup> \$32,000 <sup>5</sup>	\$72,000
Operations Manager	\$38,440	22 - 42	30 - 50	NA	NA
Administrator	\$19,120	15 - 26	NA	NA	NA
Analyst	\$18,400	15 - 26	NA	NA	NA
Production Supervisor	\$18,600	16 - 29	24 - 36	NA	NA
Harvest Supervisor	\$13,952	16 - 29	18 - 24	NA	NA
Production Asst.	\$11,656	10 - 19	10 - 18	NA	NA
Packing House Foreman	\$ 9,000	9 - 17	10 - 18	NA	NA
Research Asst.	\$ 9,300	9 - 17	10 - 18	NA	NA
Secretary/Receptionist	\$ 9,000	5 - 11	NA	NA	NA
Storekeeper	\$ 9,000	5 - 10	NA	NA	NA

**NOTES:**

- <sup>1</sup> Salary range for equivalent occupational categories in the Government of Belize.
  - <sup>2</sup> Salary range for equivalent occupational categories at Belize Sugar Industries.
  - <sup>3</sup> Banana Growers Association.
  - <sup>4</sup> Salary of Manager responsible for 3,300 acres under citrus cultivation.
  - <sup>5</sup> Salary of Manager responsible for 300 acres under banana cultivation.
- NA Not available.

**Recommendations**

1. An effort must be made by BABCO to provide additional compensation, financial or time off, for production/packaging staff who work more than forty-five hours per week and to develop a compensation package for all workers that adequately reflects job responsibilities and performance.
2. The recently-introduced procedure of alternating the location of staff meetings between Corozal and Orange Walk must be continued, so as to assist in mitigating the perception of alienation demonstrated by the Corozal staff. The presence of the Managing Director in Corozal at more frequent intervals would also assist in this matter.
3. The responsibilities of the soon-to-be hired Office Manager must be clearly articulated to all staff and in particular those in the administrative unit. Perceived threats to job security by existing staff must be properly alleviated prior to the filling of this position.

4. The Managing Director should convey Board meeting decisions to senior staff, and the rationale for such decisions, as soon as possible after such meetings.

#### **III.4. RELATIONSHIP BETWEEN BABCO BOARD OF DIRECTORS, MANAGING DIRECTOR AND STAFF.**

BABCO is a non-profit, private sector organization whose policies and general direction are set by a Board of Directors consisting of nine persons representing the public and private sectors. The day to day affairs of the company are managed by a Managing Director. An organizational chart of the Company can be seen in section III. 2. of this document.

At present, the composition of the Board is as follows:

- Permanent Secretary, Ministry of Agriculture and Fisheries (MAF), Mr. Rodney Neal;
- Permanent Secretary, Ministry of Economic Development (MED), Mr Orlando Puga;
- General Manager, Development Finance Corporation (DFC), Mr. Oscar Alonzo;
- Manager, Belize Export and Investment Promotion Unit (BEIPU), Mr. Santiago Gomez;
- 1 Technical representative, Dr. Erasmo Franklin;
- 1 Business Sector representative, Mr. Eduardo Zetina;
- 2 representatives from the farmers/growers, Messrs. Arsenio Carillo and Carlos Chan;
- The Managing Director of BABCO, Mr. Jose Novelo.

The Chief Agricultural Officer, Ministry of Agriculture and Fisheries, Mr. Eulalio Garcia, the Senior Economist in the Ministry of Economic development, Mr. Alfred Ramirez, and the Head of the Agricultural Division of the Development Finance Corporation, Mr. Celso Pott, are alternative Directors from MAF, MED and DFC respectively.

The Board of Directors selects a Chairman from among its private sector members. The current Chairman is Mr. Eduardo Zetina of Belize Sugar Industries Limited.

## Observations

The public sector representation on the BABCO Board appears quite strong and could well be a potent force in charting the policy direction of the Company. That sector's potential for influencing the direction that BABCO follows is strengthened by the rather frequent absence from meetings by at least one of the representatives of the growers. It would not be in BABCO's best interest to pursue a course based on a public sector design which lacks the aggressive behaviour so necessary for success in today's highly competitive, global market place. It may perhaps be the time, now that BABCO is playing a lead role in the commercial production and marketing of papayas, for a revision of the composition of the Board to be seriously considered.

In addition to his other duties, the Managing Director provides a two-way communication link between the Board of Directors and the staff of the organisation. By and large, the system has been reasonably effective and a two way flow of information has been taking place. The production and administrative sections routinely pass data to the Managing Director and he in turn passes pertinent information to the Board. Decisions taken by the Board are passed on to the staff, although not as rapidly as some members would like.

It is felt that in order to enhance the information flow and the efficiency of Board members, the Managing Director and staff, senior staff members, such as the production supervisor and chief accountant, should be requested at Board meetings to serve as resource persons for specific items on the agenda. In addition to clarifying issues directly relating to their areas of responsibility to the Board, thereby minimizing the time spent by the Managing Director in conveying this information second-hand to the Board and back down to the staff, this would have the additional benefits of giving those staff members a greater feeling of involvement in the company's affairs and providing the Board with first hand information on their particular skills. This could lead to heightened recognition of their efforts by the Board as well as a reassurance to the Officers that their inputs are not only appreciated but are important contributions to the success of the Company.

## **Recommendations**

1. In light of its transition from a project-oriented organization to that of a unique commercial enterprise and having the capability to revise the constituency of the Board, as written into the Articles of Association, BABCO should immediately take steps to alter its present Board structure to reflect the changing needs of the company.
2. The revised Board should have much stronger representation from the private sector. The ratio of Board members from the private sector relative to the public sector should typically be in the range of 2:1.
3. The selection criteria for membership of the Board should be the individual's own expertise and experience and not affiliation to a particular organisation.
4. The Managing Director should convey to the Board the benefits of having the Operations Manager and Accountant present at all appropriate Board meetings. A decision should be made to have such staff available at meetings for presentation, questions and further elucidation of topics specifically dealing with their areas of responsibility.

## **III.5 TRANSPORTATION AND MARKETING STRUCTURE**

The marketing of fresh fruit and vegetables is a complex and extremely competitive business. There are a number of well-established importers and brokers with good business reputations. As an unknown quantity, it is extremely difficult to enter that market and become established as a producer of acceptable products. The established firms rarely want to take the time to evaluate a new producer and support that producer through the initial learning stages of exporting to the US market.

The hassles and the risk of failure associated with many new suppliers are strong deterrents to importers and brokers who have established market shares which they have guaranteed to supply. As such, the new producer/exporter is at the mercy of the less reputable firms or brokers. In dealing with such firms, the producer, who might not get paid for his shipment, incurs a greater percentage of the risk. Papaya growers in Belize have been through that situation on more than one occasion, prior to the offering of BABCO's services as a packing/marketing enterprise.

## Observations

The expectations in the original project concept was that US marketing firms could be persuaded to come to Belize and establish direct linkages with growers but that was never accomplished. Marketing of growers' produce was done through a number of brokers. At one stage, the Belize Enterprise for Sustainable Technologies (BEST), another USAID-funded project, attempted to undertake marketing and failed badly. Without experience in the US market and a good reputation for the product and producer (and country), marketing efforts can be, at best, only "hit and miss".

BABCO has, by personal contact and hard work, established itself as an exporter to the US market. The marketing contract with J. R. Brooks & Son Ltd., a marketing firm with a good reputation, is for an initial period of two years. Through careful quality control, a good reputation has been established by BABCO for its produce and by extension, the produce of Belize.

The initial shipping of produce by BABCO was by air, which is costly. However, with the access J.R. Brooks provided to other markets, notably Europe, it was still profitable, albeit marginally, to produce and export the papayas. The air freighting enabled the produce to be on the retail shelf within a few days of being picked. Air freighting further allowed for the fruit to be picked at a riper stage when selection is somewhat easier. The exposure of Belizean produce on the international market during this period enabled the fruit and BABCO's name to become known and established.

Once the volume had increased sufficiently, shipment was made by sea to Florida on the regularly scheduled shipping line. This lowered the cost considerably but lengthened the time between picking and the retail shelf.

Belize is fortunate in being classified free of fruit fly for the purposes of papaya on the US market. The result is that the papayas do not undergo treatment before being shipped. The treatment processes undergone by other suppliers (notably Hawaii) have a significant impact on the fruit. Different varieties have different capabilities of withstanding the treatments given. The requirement for treatment is one reason for the decline in the Hawaiian papaya industry. As a result, Belizean sun solo papayas can be picked at a later stage and have a much longer shelf life than the Hawaiian product. This is an advantage which has been exploited to enable Belize to become established in the US market place.

Other countries notably Jamaica and Costa Rica are trying to establish their own papaya industry under similar treatment free conditions. This would compete directly with Belizean produce in the US market. Costa Rica continues to export papayas to Europe, which is a more lucrative market.

Approximately one third of Belize's exports are shipped on to the European market by J. R. Brooks. The market requirements are slightly different requiring a smaller fruit but still packaged in 8's or 10's, giving a lighter weight per box.

The relationship between BABCO and J. R. Brooks is excellent. Brooks' employees frequently visit Belize and are in regular contact with BABCO on the day to day market variations, enabling BABCO to slightly shift its picking specifications to take advantage of the demands of the market place and the best prices available.

Although the US east coast is the most accessible market at the present time, other markets need to be explored. J. R. Brooks provides access to specific market areas in which the firm has regular dealings and for a specific time frame - two years (from March 1992).

BABCO has conducted successful market trials in Japan (currently supplied by Hawaii with a different variety). Belizean produce received premium acceptance over the Hawaiian counterpart which the Japanese found to be unpleasantly aromatic. To date, due to a lack of sufficient volume, BABCO has not followed up on the success of those trials with commercial shipments to Japan. In addition, to pursuing lucrative market opportunities, the seeking out of alternative transportation modes and routes, the lack of which significantly restrict the markets which Belize can profitably access, needs to be addressed by BABCO.

In relation to the domestic market, BABCO has not made more than token efforts to explore and penetrate it. With the expanding tourist industry, which is primarily based on US citizens, there is an unsatisfied demand for fresh fruit, including papayas, within the country. As the volume of fruit produced increases and the volume of reject or over-ripe fruit also increases, the opportunity will arise for marketing of that reject /over-ripe fruit within Belize. If the local demand for fruit reaches full market potential, there may be a need to establish ripening facilities.

Packing of fruit is done at BABCO's packing house in San Andres (Corozal) at scheduled times to facilitate shipment to the US. In the event of delays, BABCO is equipped with a holding reefer container in which the fruit can be stored until shipment is made. The grading and packing of all farmers' fruit is the responsibility of BABCO, under the marketing agreement signed with the PGA. The farmer is responsible for hauling away any reject fruit. At present, most of that fruit is sold to a drying plant operated by Tropical Produce Co. Ltd. south of Mango Creek, the fruit being backhauled by trucks delivering bananas to the Orange Walk and Corozal districts.

The current marketing firm of J.R. Brooks has indicated that it can easily accommodate 30,000 boxes per week in its existing marketing network. The packing house is not equipped to handle that volume. The maximum possible in the present building and with the existing equipment is in the region of 10,000 boxes per week. That production level will be exceeded later this year as crops already planted come into bearing.

#### Recommendations

1. Notwithstanding the relationship with J. R. Brooks, BABCO must continue to explore and follow up on market opportunities locally and internationally, not only for papaya but also for the other crops in its portfolio. In particular, emphasis should be placed on establishing a Belizean presence, and taking advantage of acceptability, in the lucrative Japanese market.
2. The inclusion of a marketing specialist on BABCO's staff should be given a high priority. That specialist would be expected to build up historical price indexes for an expanded range of products and an expanded range of markets and seek cost-effective transportation modes and routes for those markets.
3. Expansion of the packing house facilities must be an immediate priority, given the increases in production expected from BABCO and hopefully other papaya growers, in the near future.

### **III.6. RELATIONSHIP BETWEEN BABCO, GOVERNMENT AND FARMERS**

Although BABCO has demonstrated its marketing capability and obtained a marketing contract and has also signed a contract with the PGA for the marketing of growers' fruit, farmers are still hesitant to invest in the papaya industry. Papaya growers in both Orange Walk and Corozal districts have suffered losses on a number of occasions when attempting to enter the export market. It is seen to be a high risk crop requiring a relatively high investment. Farmers are not convinced that the returns quoted by BABCO are realizable.

The Government of Belize (GOB), whilst investing in the commercialization of alternative crops through the USAID financed programme, and supporting BABCO at the Board level, has yet to be seen by farmers to be fully committed to the establishment of the papaya industry. The Ministry of Agriculture relies quite heavily on BABCO for expertise and advice, especially on vegetables and tropical fruits. The GOB obviously has confidence in BABCO and the company's ability to provide such advice. Government's dependence on BABCO is however not widely disseminated and, when combined with BABCO's own relatively low profile, the potential impact farmers can reap by sharing in such success has not been adequately promoted by the GOB, or BABCO for that matter.

#### **Observations**

As elaborated upon earlier in the report, BABCO has limited staff and limited funds. Many farmers have been accustomed to receiving advice and assistance from government and other organizations free of charge. When asked to pay full cost for advice or services, most shy away even though the benefits far outweigh the cost. Due to the shortage of staff, transport, and funds, and the concentration by BABCO on its own survival, the contact between farmers and BABCO has not been a sufficient catalyst to get the papaya industry on a proper footing. Those farmers who have started growing papayas are, for the most part, those who had close contact with BABCO and its staff through its field trial programmes or through personal contact.

The transfer of technology is always a relatively slow process when it comes to traditional farmers. The growing of papayas according to the technological package prepared by BABCO is no different, especially when the cost, frequency and rates of

application of inputs are so different from the crop the farmers know best - sugarcane.

Whereas they appreciate BABCO's lack of sufficient field staff, it was considered by the growers/Association members that more extension personnel are required if they are to realize similar production goals to BABCO. Farmers interested in papaya production considered that BABCO, with its in-house technological expertise, should be responsible for providing them with technical support in the field and instruct and supervise the daily management of their crops.

BABCO does not have a fully-functional extension unit, nor does it have the funds to establish one at this time. It was felt by members of the PGA and small farmers that the GOB should have a major input in facilitating the establishment of such a unit within BABCO. Since the unit would serve to coordinate the supervision and dissemination of the technical packages developed by BABCO to farmers country-wide, funding for the provision of such services could not reasonably be expected to be met by BABCO.

Other weaknesses within the industry, as listed by farmers, included:

- inadequate dissemination of information emanating from BABCO;
- BABCO's inability to make payments promptly for the papayas delivered, notwithstanding the fact that payments are timely in accordance with the agreement between the PGA and BABCO. Farmers are used to receiving a first payment within a few days of delivery of their cane;
- the difficulty in meeting loan requirement criteria by those farmers wishing to invest in the production of papaya. The Development Finance Corporation has made funds available through the PGA for growers in the Corozal District;
- a lack of infrastructure support such as roads, electricity and water, in many of the areas potentially available for alternative crop cultivation.
- the inability of the PGA to set the standards for the papaya industry given the current lack of the Association's expertise relative to the obvious strengths demonstrated by BABCO in these matters.

It should be reiterated that the weaknesses outlined above are those perceived by the papaya growers.

### Recommendations

1. The Government of Belize should access and provide funds for the establishment of an adequate, self-contained, extension and quality control unit within BABCO. The unit would serve to coordinate the dissemination of the technical packages developed by BABCO and the supervision of commercial crop cultivation by farmers.

2.. The costs to government for support staff and associated activities of the unit should be reduced over time by the levying of a cess on all fruit shipped. With increasing production, the need for external funding of this vital activity should eventually be eliminated.

3. The introduction of a quarterly newsletter should be considered by BABCO as a means of informing farmers of what is happening in the industry.

4. The role assigned to the Papaya Growers Association must be re-examined by the government, in light of the present lack of capacity within the fledgling Association to adequately perform the tasks assigned to it.

### **III. 7. IMPACTS OF BABCO ON BELIZE**

The impact of BABCO has been very significant in all areas. The company has established its credibility in the technical field, being recognized as the organization with expertise in the field of tropical fruits and vegetables in Belize.

It has established its credibility in the area of production with the resultant impact on foreign exchange earnings, local sales, and farmers earnings. It has accordingly had a significant impact on employment in the areas in which it is working. In addition, the company has established credibility on the export market/US import market for fresh fruits and vegetables, not only for itself but also for all Belizean produce. Such recognition is worth a great deal to any Belizean exporter and must be protected at all costs by adequate quality control. BABCO has also introduced a totally different level of technology and approach to crop production and even research and development.

## Observations

BABCO began its work in 1985, principally in the area of winter vegetables and fresh fruit (papaya). Its functions at that time were research and development, and advisory, in relation to production. The company provided technical assistance to commercial producers and exporters. Two major companies became involved in the production and exportation of winter vegetables during the period 1986 to 1989. These companies - Gourmet Produce Co Ltd and Caribe Farm Industries Ltd relied heavily on the expertise of BABCO in the area of production and also on the connections formed in the area of marketing. The production and exportation of papayas resulted directly from the work carried out by BABCO and the assistance provided by BABCO to the papaya growers.

Exports of winter vegetables and papaya increased from some 300,000 lbs in 1986 to a peak of 4 million lbs in 1987 and a further 2.8 million lbs in 1988. Thereafter, exports fell to zero in 1990 as the two companies went out of business for reasons not directly associated with the production and exportation of winter vegetables. In addition, the outbreak of Medfly in 1990 brought about a total ban on imports into the US of Belizean fresh fruits and vegetables. That outbreak came at a time when a number of commercial growers were getting into production of papayas outside the northern districts.

One of the groups involved in papaya production lasted out the Medfly induced ban and continued shipping papayas from October 1989 until January 1991. At the time they stopped shipping due to internal problems, they had about 80 acres planted. Exports of papayas began again in June 1991 mainly from BABCO's own production acreage. Some 1.5 million lbs were exported valued at just over \$1.0 million.

BABCO itself currently employs some 85 persons with a payroll of some \$14,000 weekly. That number will increase as the production acreage increases. In addition, associated farmers also provide employment.

BABCO provides technical assistance to all crops except sugar in the northern districts. The Ministry of Agriculture has recognized the expertise developed at BABCO and frequently sends farmers and others seeking advice to BABCO. BABCO collaborates with the Ministry of Agriculture in all research and development being carried out on tropical fruits and has in effect been appointed technical advisor to the

Ministry on tropical fruits. The company also serves on a number of Task Forces under the auspices of the Ministry of Agriculture; it serves as the Ministry's technical organization on Crop Diversification. The company is a technical representative on the Belize Export Development Strategy Council. The Chamber of Commerce forwards all matters related to non-traditional crops to BABCO. The Managing Director also serves as the Chairperson of the Pesticide Control Board.

In the area of research and development, BABCO has effectively been a pioneer. Other organizations involved in agricultural research, such as CARDI, have approached that research in a traditional, scientific method. Research programmes concentrated on one specific area, seeking a solution to a specific question such as the optimum level of fertilizer to be used on a crop when all other variables are held constant, using replicated plots of small size. Such a programme would be repeated over several years. If another problem arose during the programme, it would usually remain untreated so as not to affect the scientific/statistical accuracy of the research trial. Frequently those results were not reproducible at a commercial or field scale. That approach to research takes no account of economic factors and tends to aim for maximum yields rather than economic optimum yields.

The BABCO approach was to determine the optimum technical production method as rapidly as possible - not only on trial plots but also at a commercial farm/field scale with the participation of farmers. The programmes were flexible and therefore able to be adapted as problems arose. As such, BABCO was able to develop reasonably accurate technical specifications for production of individual products quite rapidly. These specifications would ensure production levels close to the optimum and are subject to modification to take account of other outside variable factors as information becomes available.

This "commercial" approach to research and development adopted by BABCO has provided a formula for other extension-related, research institutions or commercial growers to follow.

In the case of papayas, it appears that BABCO will soon reach record levels of production per acre on a commercial scale and exceed those achieved in Hawaii, the current holder of the production record.

BABCO has introduced new technologies to Belize, especially in the area of drip irrigation and integrated pest control management. This technology is enabling farmers to cultivate soils previously considered too dry. Those soils do not contain the levels of clay found in higher rainfall areas and are, in agricultural terms, better soils. The introduction of these dryland farming techniques has boosted the overall yield levels. The drier areas are subject to lower levels of pests and diseases due to the lower rainfall and humidity conditions. Higher sunshine hours on a year-round basis also boost yields. Due to the lower incidence of pests and diseases, fruit quality is higher thus increasing the level of marketable fruit per acre. As any commercial producer will agree, the production and sale of marketable fruit is the sole aim of the producer.

The maintenance and enhancement of BABCO's ongoing research and development will ensure a sustained impact on the agriculture and the economy of Belize. There are promising developments in other longer-term tropical fruits which BABCO is maintaining under its R & D programme. Each of these have the potential to develop into a new industry, adding to the overall diversification of Belize's economy.

Much of the ground work has been done on a wide range of crops and products. BABCO has been instrumental in developing technical production packages for a wide range of crops. Successful production has been demonstrated. The limitation to many of these crops is lack of accessible, economically-viable markets for the products. The international export market is extremely competitive for most agricultural products. As was discussed earlier in section III. 5., transportation routes, shipping schedules, and trans-shipment costs restrict those markets that Belize can profitably access. In that light, the sole competitive edge that Belize can lay claim to is that of proximity to the southern and east coast US markets. The development of these technical production packages is having a continuing impact on the domestic market for a number of these products. As an example, irish potatoes are being produced seasonally on a regular basis for the domestic market, thus reducing imports during a part of the year.

The development of the papaya crop has presented a real, legitimate alternative to sugarcane in the northern districts, in particular due to the Medfly free status and the quality and yields per acre of the fruit.

The continuing programmes of research and development, not only with specific crops, but also with technologies, will maintain BABCO (and thus Belize) in the forefront.

Were BABCO to fail for any reason, then the programme of commercialization of alternative crops would grind to a halt. The papaya industry would also come to a halt. It would then be even more difficult for Belize to become established in the market place again. Neither the Ministry of Agriculture, other research organizations nor the PGA, separately or combined, could carry out the functions that BABCO is currently carrying out with the same degree of success.

### **III. 8. MAJOR CONSTRAINTS AND CONTRIBUTING FACTORS TO BABCO'S SUCCESS.**

It should come as no surprise to the reader that many of the observations and recommendations given in the preceding sections of this report will reappear as constraints and factors contributing to the success of BABCO, both present and future.

The evaluation team has undertaken to treat this section as a cohesion of all of the issues covered under separate headings and would like to suggest that readers view this section as a summary of the essential factors influencing BABCO's development to date.

#### **Constraints:**

##### **Expansion of core of expertise**

BABCO has built up a core of expertise which is recognized at the international level, especially in the field of papaya production. The sustainability of that core of expertise depends on a number of factors. The primary key to that sustainability is the increase in that small number of experts by the transmission of information and technology, and training of additional personnel in BABCO, the Ministry of Agriculture and the private sector.

The papaya industry is on the threshold of becoming a major export producing sector for Belize. However, insufficient attention and resources are being invested by

the government into the fledgling industry. It appears that the government has yet to recognize the potential of the industry, with a much smaller acreage and with much less impact on the environment, to rival the banana industry in export earnings .

Failure to invest in expanding the pool of expertise increases the risk factor in the industry and in BABCO itself. Should two or three of those few people with the expertise be enticed away from the industry in Belize, then the industry itself might collapse before replacements can be found. The same applies to BABCO, should two or three key people decide to leave BABCO, then it is difficult to envisage the company continuing on its present course.

### Government of Belize

The commitment of the Government of Belize to the papaya industry is limited. Political considerations seem to be as important as economic ones in determining the support being provided. For the industry to grow and the goals of alternative crop production be accomplished, there has to be farmer/grower participation in the production sector, preferably up to 70% of total production. One of the primary functions of the Ministry of Agriculture's Agricultural Extension Services Division is "promoting of sustainable agriculture among small farmers" and "promoting measures to increase productivity . . . in crops". BABCO has neither the staff nor the finance to undertake the intensive extension effort required to assist and train farmers in the technology of papaya production. The Ministry of Agriculture should therefore at this time invest personnel and transportation in properly establishing the papaya industry from which the returns to the economy are potentially substantial.

Research and development of new agricultural products is the primary role of the Research and Development Division. BABCO has been carrying out much of this function in the northern districts, especially in the area of vegetables and tropical fruits. As a self-sustaining organization, it will only be able to invest surpluses from its production and marketing arms in R & D. That may well be insufficient to maintain the existing R & D programmes. The Ministry of Agriculture should contribute personnel and funds, either from its own resources or seek funds from other agencies to maintain the R & D programme. The R & D programme is critical to the establishment of alternative crops to enable the diversification process to continue.

### Members and Directors

The relationship between the Board of Directors and the staff is undoubtedly undergoing change as the status of BABCO changes to one of becoming commercially-oriented, income-generating, and self-sustaining. The relationship between the Board and the staff and operations of the company should develop into that of a commercial business. Along with this change, is the shift in decision making from the Board to the Managing Director. The Board becomes contributory rather than regulatory.

Consideration should be given to expanding the membership of the company to reflect the continuing commercialization of the company and private sector participation. It is further recommended that the public sector and institutional members of the company and the Board no longer be ex-officio members but be appointed as individuals.

The selection process of Directors and Members of the company should consider what the individual can contribute to the company. The possibility of expanding the Board to include two or three independent business or professional individuals not linked to the papaya industry should also be considered.

### Accounting system

The current accounting and reporting system is cumbersome and must be streamlined as the company takes on its commercial status. The documentation prepared regularly for Board meetings is excessive and a direct result of the original project status of the company. The Board should be involved in budgetary approval on an annual or semi-annual basis. Thereafter summarized monthly profit and loss statements and actual performance data in comparison to the projections used to prepare the budgets would be sufficient for Board meetings. Should problems arise or serious shortfalls appear, then additional detailed information may be necessary. The Managing Director is the decision making authority in any business. He operates within budgetary guidelines approved in advance by his Board of Directors. The Managing Director of BABCO must be allowed to operate in a similar manner.

### Financing

BABCO has one major difficulty in obtaining financing, it is a non-profit organization with assets which can, by agreement with the donor agency, through its Articles of Association, only be transferred to a similar non-profit organization. It has no shareholders nor collateral. Thus it can only grow at the rate it is able to generate its own capital, (ie. slowly) from ploughing back the surpluses generated from its production and marketing operations.

### Chemonics

Considerable friction developed between Chemonics and BABCO over the direction of the research and development program, including the selection of crops. The decision making authority appeared to be invested in Chemonics who appeared to have had their own agenda which was not necessarily in line with that of BABCO. This, along with the lack of reporting by Chemonics and various sub-contractors on the results of the various components of the program, have detracted from the overall success of the project. It may well result in BABCO repeating some of the R & D work carried out in order to gather information which was already collected by the sub-contractors but not transmitted to BABCO or Belize.

The form of contractual arrangement between USAID and Chemonics and the separate cooperative agreement between USAID and BABCO, with only a nominal connection between the two organizations, was the primary cause of the friction. There were also problems between Chemonics and the sub-contractors which impacted negatively on the performance of the overall project. BABCO had no control or authority over the prime contractor or sub-contractors nor was there any consultative role for BABCO. Decisions were made at the Chemonics home office in Washington and communicated to BABCO as and when necessary for BABCO to provide the logistical and operational support.

Little in the way of counterpart programming was included to ensure the transfer of technology and skills from the various contractors to Belize. The core of expertise developed by BABCO was totally separate from the various contractors and was a direct result of technical assistance obtained independently by BABCO under the project.

## Takeovers

There have been several attempts by a number of organizations and institutions to gain control of BABCO within the past two years, at least one of which involved some members of the company and Board. Much time had to be devoted to maintaining BABCO's integrity and independence, which are essential to the survival of the papaya industry. With the establishment of a self-sustaining operation and the amendments to the Memorandum and Articles of Association of the company, there is less likelihood of further takeover attempts being successful.

## Papaya Growers Association

The legislation introduced to establish the Papaya Growers Association in 1992 was premature. The Association is charged with the duty of promoting, protecting and regulating the growing of papayas for the export market. Such an association need only be set up by the growers themselves, after the industry is well established and without any necessity for legislation. As the legislation is currently written: membership of the Association is restricted to those whose land produced not less than 100 boxes of papayas during the preceding crop year; members of the Association are required to pay a cess for the operation of the Association; all expenditures are subject to the approval of the Minister responsible for Industry.

The Association is of little functional use except to access certain financial assistance through the Government.

At this time, the Association is still in its infancy and would experience great difficulty in managing the affairs of the papaya industry. In June 1992, the PGA signed an agreement with BABCO for the production of 5,000 boxes per week of papayas, using BABCO's technology and technical services, packing, shipping and marketing capability. The PGA was unable to organize timely participation in the inspection and assessment of fields of its own members, as required by the same agreement.

At this time, neither BABCO nor the Association's own members can benefit technologically from the PGA, however the PGA stands to benefit greatly from BABCO.

The introduction of regulatory legislation into an export industry which competes on the open market can often be detrimental. Oftentimes, it is an added cost to growers and on occasion, can stifle the total development of the industry. At this stage in the development of the industry, what is needed is a rapid increase in production of quality fruit to establish and maintain a high enough profile in the market place. There is a need to encourage other private sector investment in the industry in cooperation with BABCO. The present enabling legislation, which implies that the PGA will regulate the export of papayas from Belize, is likely to discourage other (especially foreign) investment in the industry,.

BABCO is not a member of the Association although it is the largest producer of papayas for export. The structure of the PGA is such that each member has one vote regardless of the level of production and the cess contribution of the member.

It is a common failing of small and traditional farmers that the approach to production is not a totally business one and the detailed recommendations for the production process are compromised with traditional habits, resulting in a failure to reach production targets and maximize returns and profits.

Farmers achieving the best results are those having a direct relationship with BABCO. BABCO does not have the personnel nor the finance to monitor Association members' fields to ensure that the correct practices are carried out at the correct time. The PGA is unlikely to be willing to bear the full cost of such services and the Ministry of Agriculture does not have the wherewithal to carry out that function. In short, those farmers willing to follow BABCO's recommendations and directions as closely as possible, will succeed. Those that fail to do so will continue to produce inferior grade fruit and achieve lower yields and therefore make less profit. When the membership of the Association comprises more of the former and less of the latter, it will have matured and be able to contribute to the growth of the industry.

### Staffing

The present staff complement of BABCO is a serious constraint to BABCO in its quest to maximize its potential. In order to keep fully abreast of marketing trends and opportunities and maintain a Commodity Price Database, there is a need for the appointment of a marketing specialist to BABCO staff. It is not enough to have a US importer doing all the marketing for the company's products. At the present time, a

proportion of BABCO's production is re-exported to Europe where market conditions are significantly different from those in the US. With BABCO being asked to support the efforts at marketing other commodities and explore other markets, then comprehensive analysis of those markets is essential. It does not have that capability in house at this time.

With the current expansion of the papaya industry to Orange Walk and the planned expansion to the Cayo district to meet export targets, additional field staff are needed to provide the technical advice to growers in those areas. A minimum of four fieldsmen with adequate transportation are required to meet the demands being placed on BABCO's services.

In order to service the Cayo District a sub-office will need to be established.

#### Vehicles, machinery and equipment

BABCO is in dire need of additional vehicles and equipment if it is to maintain its current level of operation. Two vehicles have been ordered and are due to be delivered shortly. A further three vehicles will be needed before the end of 1993 to properly manage and transport the fruit to the packing shed. In addition a number of small tractors are required for in-field management of the crop, especially the upper fruit.

The administration's computer capability and requirements should be reviewed to determine whether a network of PCs or a mini mainframe computer system, with appropriate software, would best serve the expanding operations of the company.

#### Packing Sheds

The existing packing shed in Corozal needs to be expanded and re-equipped to handle the increasing volume of fruit. By September, it is estimated that the volume of fruit will exceed 20,000 cartons weekly. The expansion of the industry into the Orange Walk district during 1993 will require the establishment of a suitable packing house within the district, in close proximity to the main concentration of growers early in 1994.

## Shipping

Accessibility of markets in terms of regularity, cost and shipment time are critical factors for most fresh agricultural products. The most accessible market for Belize is the south and east coast of the US with regular shipping and short shipment times out of Belize City and Big Creek. Access to Europe, although on a regular schedule has shipment times in excess of 15 days and in some cases, up to 23 days, which is too long for most products. The introduction of direct shipping to Europe with a shipment time of less than 10 days would be a key factor in accessing European markets for all but the high value products which could afford shipment by air. Similarly, a direct shipping connection with the Caribbean would open up those markets to Belizean produce. Current routes include trans-shipment through Florida which is costly and liable to time delays.

A combination of sea and air shipment through a transportation hub such as Florida is a viable alternative for some products (e.g. papayas).

Air freight is costly and the airlines serving Belize will not guarantee space. This is primarily because of insufficient competition on the routes through Belize. Air cargo flights are less costly but irregular. Chartering of cargo planes requires the establishment of backhaul loads to bring the cost down to viable rates. Such arrangements take time to establish and require specialized knowledge and expertise not normally available to a grower/ exporter. Air shipment does enable produce to access more distant (and more lucrative) markets such as Japan. BABCO should continue to explore this possibility and look at alternative routes to connect to scheduled flights which have excess space on a regular basis (eg via Guatemala or Martinique to Europe). Investigations should be made of the feasibility of airfreighting using the storage facilities at the export processing zone adjacent to the international airport and in cooperation with the fishing cooperatives which have been able to access freighters returning empty to the US from Panama.

## Contributing Factors:

### Consultant Expertise

The single factor to which the success of the papaya programme can be attributed is the connection between BABCO and Mike Strong, an expert in papaya

production, from Hawaii. The contact was made by BABCO on the recommendation of Matt Tokar who had been a part of the Chemonics team in Belize. Mike Strong is a leading papaya producer in Hawaii, achieving extremely high yields on a field scale (120,000 lbs per acre per year over a 50 acre field). He introduced three varieties of papaya to Belize for trials. Of these, the variety which is least successful in Hawaii became the most promising for Belize - the sun solo. Mike Strong is ultimately responsible for the introduction of the technology for papaya production that is now being used in Belize. He is a commercial grower and not a research specialist. There may well be a lesson to be learned when the commercialization of other crops is being considered.

### Strengths of BABCO

BABCO has built up a core of expertise which has an exceptional level of loyalty to the company. Their success being closely identified with the success of the company. That core of expertise has to be nurtured and built upon. Those professionals in the company should become a more integral part of the decision making process with direct contact to the Board as resource persons in the Board's deliberations.

The continuation of the R & D programme to bring about the commercialization of at least two other crops will further stabilize the company by eliminating its total dependence on a single crop.

The further investigation of markets will reduce the dependence on a single market /importer and enable some diversification of the product. That will strengthen the industry as a whole.

### ACKNOWLEDGEMENTS

The evaluation team would like to thank all those who willingly gave of their time to discuss the issues pertaining to BABCO that have assisted in the generation of this report.

Special thanks also go to Enrique Carballo for facilitating visits to the BABCO fields, nursery and packing house and to Jose Novelo for allowing us to intrude into the working schedule of his operation at a time not ideally conducive for doing so.

STATEMENT OF WORK

I. Background

The commercialization of Alternative Crops (CAC) Project was designed in response to a request from the Government of Belize to assist sugar cane farmers to find alternative export crops after sugar cane prices fell in the early 1980's and to develop oil seed crops to serve as import substitution for edible oils and animal feed protein. The geographic area covered by this project includes primarily the sugar cane producing districts of Corozal and Orange Walk but also includes the Cayo District. A Cooperative Agreement was signed in 1985 between USAID and the Belize AgriBusiness Company (BABCO), a non-profit private sector company, to carry out research and development to identify and promote at least two alternative export crops and at least one import substitution crop. Project funds of \$4,800,000 have been devoted to this Cooperative Agreement. Research and development was carried out using on-farm trials with cooperating farmers over a two-year period. Two vegetable crops were found to be profitable during the limited marketing season. One fruit, papaya, was found to be profitable and could be grown and shipped all year round. Due to the Medfly-free status of this portion of Belize, ripe papaya can be shipped directly into the United States. Approximately four thousand 10-lb. boxes (worth US \$28,000) are being shipped weekly to the United States. Buyers have found this papaya to be of superior quality and have expressed willingness to purchase larger quantities of this fruit. BABCO is also carrying out research trials on mango, starfruit, avocado, passion fruit, rambutan, lychee and mangosteen.

II. Purpose

The purpose of this statement of work is to evaluate the progress made by the Belize Agribusiness Company funded under the CAC Project in achieving stated goals and purposes, and to make appropriate recommendations of these components in light of the termination of A.I.D. financial assistance.

III. Objective

The objective of this evaluation is to present to USAID and the management of BABCO a measure of BABCO's structure, effectiveness, impact, and financial viability in light of the completion of A.I.D. funding in December 1992.

IV. Scope of Work

In meeting the above-stated objectives, the contractor will assess:

1. the revenues and expenses of BABCO to determine if it will be financially viable following the conclusion of A.I.D. assistance and what steps, if any, are needed to ensure this viability;
2. the qualifications of BABCO's staff members, and if they are appropriate for its mandate and current operations;

3. the personnel structure to determine if salaries of BABCO's staff are compatible with job descriptions and responsibilities, if job performance criteria and remuneration processes are clearly spelled out, and if there exists any unresolved personnel issues;

4. the relationship between BABCO Board of Directors, the Managing Director, and staff;

5. the established structure to transport fruit to market and the relationship with markets;

6. the relationship between BABCO, the Government of Belize, and participating farmers;

7. the overall short-, medium-, and long-term effects of BABCO on Belize and what is the probability for sustained impact; and.

8. BABCO's major constraints to achieving its goals, what factors contributed to the success of particular areas or components of BABCO and what strengths BABCO can utilize for further successes.

#### V. Methodology

The contractor will obtain needed information through the review of documents found at the USAID Office in Belize City and the BABCO Office in Orange Walk. Interviews will also be conducted with USAID and BABCO officials and individual farmers associated with BABCO. The evaluation will be initiated with an orientation meeting held at BABCO's Office.

#### VI. Work Schedule

It is anticipated that this evaluation will require the full-time services of four individuals for twenty working days. Some travel to Orange Walk and Corozal will be required. The travel schedule will be arranged by the contractor.

#### VII. Reporting

The contractor will brief USAID and BABCO in Belize City between the 15th and 20th work day of this contract. Copies of the draft report will be submitted which will detail procedures, contacts, findings, and recommendations. In addition, this report will list the individuals interviewed, their positions and the time spent with each in conducting this review. The contractor will present a briefing to USAID and BABCO at this time and will incorporate comments into the final written evaluation. The final evaluation will be presented not later than 5 days after the termination of the contract. Three copies of the final report will be submitted to USAID and three copies of the final report will be submitted to BABCO. In addition, a copy of the document will be submitted to USAID on a 5-1/2 inch diskette on a Word Perfect format.

#### VIII. Logistical Support

The contractor will be responsible for all logistical and secretarial arrangements required for the execution of this contract. Neither USAID nor

BABCO will provide any logistical or secretarial services.

IX. Method of Payment

Payment will be made within thirty days on presentation of final report and submission of an invoice to the Controller Office, P.O. Box 817, Belize City.

X. Period of Service

Services under this statement of work are expected to commence on January 25, 1993, through February 26, 1993.

ANNEX B

INDIVIDUALS INTERVIEWED AND TOTAL TIME SPENT BY ALL CONSULTANTS

Belize City

Mr. G. Like, Agriculture Development Officer, USAID - 8 hours  
Mr. P. Hunter Jr., CAC Project Officer, USAID - 14 hours  
Mr. G. Graham, Former BABCO Board Member, BEIPU - 4 hours

Belmopan

Mr. Rodney Neal, BABCO Board Member, Permanent Secretary,  
Ministry of Agriculture and Fisheries - 3 hours  
Dr. Singha, Research Director, CARDI, 3 hours  
Mr. Albert Ramirez, BABCO Board Member, Economist,  
Ministry of Economic Development - 3 hours  
Mr. A. Cawich, PGA member and former BABCO Board Chairman - 2 hours  
Mr. O. Alonzo, BABCO Board Member and Manager, DFC - 2 hours  
Mr. C. Pott, Agricultural Loans Officer, DFC - 2 hours

Corozal

Mr. Enrique Carballo, Operations Manager, BABCO - 14 hours  
Mr. Gilberto Vivas, Production Supervisor, BABCO - 3 hours  
Mr. Florencio Esquivel, Post Harvest Supervisor, BABCO - 3 hours  
Mr. Wilbur Vega, Production Assistant, BABCO - 2 hour  
Mr. Alberto Gutierrez, Research Technician, BABCO - 3 hours  
Mr. Carlos Chan, PGA member - 2 hours  
Mr. Everaldo Puch, PGA member - 2 hours

Orange Walk

Mr. Jose Novelo, Managing Director, BABCO - 16 hours  
Ms. Ada Vargas, Administrative/Executive Assistant, BABCO - 5 hours  
Ms. Ana McLaughlin, Operations Analyst, BABCO, - 6 hours  
Mr. David Uk, Storekeeper, BABCO - 2 hours  
Ms. Rosio Ake, Secretary/Receptionist, BABCO - 3 hours  
Mr. Eduardo Zetina, Chairman of the Board, BABCO - 5 hours  
Mr. E. Gutierrez, farmer - 3 hours  
Mr. J. Carillo, farmer - 3 hours  
Mr. O. Carballo - 3 hours

## ANNEX C

## DETAILS OF ESTIMATED COST PROJECTIONS - 1993 TO 1995

## PROJECTED CASHFLOW STATEMENT 1993 - 1995

	1993	1994	1995
<b>SOURCE OF FUNDS</b>			
Papaya Sales	\$2,370,976.80	\$2,466,000.00	\$2,466,000.00
Trial, Nursery, Other Sales	11,550.04	12,127.55	12,733.90
	<u>\$2,382,526.84</u>	<u>\$2,478,127.55</u>	<u>\$2,478,733.90</u>
<b>USES OF FUNDS</b>			
Working Capital	\$1,899,545.11	\$1,961,918.82	\$1,607,953.36
Capital Requirement	299,194.00	50,000.00	31,000.00
Cash Balance	183,787.73	466,208.73	789,780.54
	<u>\$2,383,626.84</u>	<u>\$2,478,127.55</u>	<u>\$2,478,733.90</u>
<b>ACCUMULATED CASH BALANCE</b>	<b>(\$3,609.84)</b>	<b>\$469,818.57</b>	<b>\$1,259,599.11</b>

PROJECTED EXPENSES 1993 - 1995

	1993	1994	1995
<b>ADMINISTRATIVE EXPENSES:</b>			
Bank Service Charge	\$225.00	\$245.00	\$270.00
Cleanup	\$3,840.00	\$3,840.00	\$3,840.00
Depreciation	\$0.00	\$0.00	\$0.00
Director's Expenses	\$6,360.00	\$6,360.00	\$6,360.00
Electricity	\$8,450.00	\$8,871.00	\$9,315.00
Fuel Oil - MV	\$18,000.00	\$18,900.00	\$19,845.00
Maint & Repair - Building	\$3,000.00	\$3,150.00	\$3,310.00
Maint & Repair - Vehicle	\$12,000.00	\$12,600.00	\$13,230.00
Maint & Repair - Equipment	\$15,330.96	\$16,405.00	\$17,550.00
Board Meetings	\$6,380.00	\$6,575.00	\$6,770.00
Miscellaneous	\$8,000.00	\$8,240.00	\$8,490.00
Office Supplies	\$13,255.00	\$14,580.00	\$16,040.00
Rent - Building	\$6,000.00	\$6,000.00	\$6,000.00
Rent - Equipment	\$660.00	\$726.00	\$800.00
Rent - Vehicles	\$4,000.00	\$4,000.00	\$4,000.00
Telephone	\$17,940.00	\$19,195.00	\$20,540.00
Trade Show	\$3,140.00	\$3,235.00	\$3,335.00
Insurance	\$8,000.00	\$8,000.00	\$8,000.00
Water	\$3,605.00	\$3,860.00	\$4,125.00
Subscriptions	\$8,000.00	\$8,000.00	\$8,000.00
Audit & Attorney Fees	\$15,000.00	\$15,000.00	\$15,000.00
<b>Salaries &amp; Employee Benefits</b>			
Leave Grant	\$0.00	\$0.00	\$0.00
Temporary Help - BABCO	\$3,000.00	\$3,000.00	\$3,000.00
S.S. Contributions	\$7,647.95	\$7,877.39	\$8,113.71
Salaries	\$222,401.80	\$249,899.78	\$274,890.60
Bonuses	\$18,533.48	\$20,824.98	\$22,907.55
Clothing Allowance	\$1,800.00	\$1,800.00	\$1,800.00
Employee Insurance	\$8,066.52	\$8,066.52	\$8,066.52
Consultant	\$5,000.00	\$5,000.00	\$5,000.00
<b>Travel &amp; Training</b>			
Travel	\$6,500.00	\$5,500.00	\$2,500.00
Training	\$0.00	\$0.00	\$0.00
<b>ADMINISTRATIVE EXPENSES</b>	<b>\$434,135.71</b>	<b>\$469,750.67</b>	<b>\$501,098.38</b>

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**PROJECTED EXPENSES 1993 - 1995**

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	1993	1994	1995
<b>RESEARCH &amp; DEVELOPMENT</b>			
<hr/>			
<b>Trial Operating Expense</b>			
<hr/>			
Fuel & Oil	\$2,500.00	\$2,525.00	\$2,550.25
Main & Repair	\$1,000.00	\$1,010.00	\$1,020.10
Temp. help	\$1,000.00	\$1,010.00	\$1,020.10
Irrigation	\$7,000.00	\$7,070.00	\$7,140.70
Materials	\$12,000.00	\$12,240.00	\$12,484.80
Miscellaneous	\$4,000.00	\$3,000.00	\$2,000.00
CARDI - Research Exp.	\$0.00	\$0.00	\$0.00
<b>Nursery Operating Expense</b>			
<hr/>			
Fuel & Oil	\$100.00	\$125.00	\$150.00
Maint. & Repair	\$100.00	\$125.00	\$150.00
Temp. Help	\$5,720.00	\$5,720.00	\$5,720.00
Irrigation	\$250.00	\$275.00	\$300.00
Materials	\$2,500.00	\$2,600.00	\$2,700.00
Misc.	\$100.00	\$150.00	\$200.00
<b>Prod. Pack &amp; Mkt. - Papayas</b>			
<hr/>			
Cost of Production	\$582,764.99	\$592,318.15	\$236,219.03
Harvest & Other Costs	\$126,368.40	\$129,000.00	\$124,700.00
Packing & Marketing Costs	\$720,006.00	\$735,000.00	\$710,500.00
<hr/>			
<b>R &amp; D OPERATING EXPENSE</b>	<b>\$1,465,409.39</b>	<b>\$1,492,168.15</b>	<b>\$1,106,854.98</b>
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PROJECTED EXPENSES 1993 - 1995

	1993	1994	1995
<b>CAPITAL EXPENDITURE</b>			
Vehicles - Flatbed 350	\$ 42,000.00	\$ 0.00	\$ 0.00
Vehicles	84,000.00	0.00	56,000.00
Well	10,000.00	10,000.00	0.00
Knapsack Sprayers	1,500.00	0.00	0.00
Mist Blowers	7,200.00	0.00	0.00
Mist Blasters	0.00	20,000.00	0.00
Pumps (Water)	4,000.00	0.00	0.00
Pumps (Submersible)	0.00	20,000.00	0.00
Packing Shed	28,444.00	0.00	0.00
Precooling Tunnel	48,000.00	0.00	0.00
Corozal Warehouse Imp.	15,000.00	0.00	10,000.00
Photocopier	7,000.00	0.00	0.00
Office Furniture	1,050.00	0.00	0.00
Tractor	15,000.00	0.00	15,000.00
Generator Set 20KW	24,000.00	0.00	0.00
Computer 486-33Mz	8,000.00	0.00	0.00
UPS System	4,000.00	0.00	0.00
<b>CAPITAL EXPENDITURE</b>	<b>\$299,194.00</b>	<b>\$50,000.00</b>	<b>\$81,000.00</b>
<b>TOTAL EXPENSES</b>	<b>\$2,198,739.11</b>	<b>\$2,011,918.82</b>	<b>\$1,688,953.36</b>

**REVENUE**

Comm. Operation Sales	\$2,370,976.80	\$2,466,000.00	\$2,466,000.00
Trial, Nursery, Other Sales	11,550.04	12,127.55	12,733.90
<b>TOTAL INCOME</b>	<b>\$2,382,526.84</b>	<b>\$2,478,127.55</b>	<b>\$2,478,733.90</b>

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SUPPORTING SCHEDULES 1993 - 1995

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1. Personnel

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SALARIES

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	1993	1994	1995
Managing Director	\$47,740.00	\$57,765.40	\$63,541.96
Operations Manager	\$42,284.00	\$46,512.40	\$51,163.64
Admin. Executive Ass.	\$22,320.00	\$24,555.20	\$27,013.60
Operations Analyst	\$22,320.00	\$24,555.20	\$27,013.60
Production Supervisor	\$20,460.00	\$22,506.00	\$24,756.60
Post Harvest Hand/Pack Ass.	\$15,351.20	\$16,886.32	\$18,574.96
Production Assistant	\$12,821.60	\$14,103.76	\$15,514.12
Research Assistant	\$10,230.00	\$11,253.00	\$12,378.32
Secretary Receptionist	\$9,675.00	\$10,642.50	\$11,705.40
Technician # 1	\$9,600.00	\$10,560.00	\$11,614.20
Technician # 2	\$9,600.00	\$10,560.00	\$11,614.20
	<hr/> \$222,401.80	\$249,899.78	\$274,890.60

BONUS

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Managing Director	\$3,978.33	\$4,813.78	\$5,295.16
Operations Manager	\$3,523.67	\$3,876.03	\$4,263.64
Admin. Executive Ass.	\$1,860.00	\$2,046.27	\$2,251.13
Operations Analyst	\$1,860.00	\$2,046.27	\$2,251.13
Production Supervisor	\$1,705.00	\$1,875.50	\$2,063.05
Post Harvest Hand/Pack Ass.	\$1,279.27	\$1,407.19	\$1,547.91
Production Assistant	\$1,068.47	\$1,175.31	\$1,292.84
Research Assistant	\$852.50	\$937.75	\$1,031.53
Secretary Receptionist	\$806.25	\$886.88	\$975.45
Technician # 1	\$800.00	\$880.00	\$967.85
Technician # 2	\$800.00	\$880.00	\$967.85
	<hr/> \$18,533.48	\$20,824.98	\$22,907.55

SUPPORTING SCHEDULES 1993 - 1995

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	1993	1994	1995
<b>CLOTHING ALLOWANCE</b>			
Admin. Executive Ass.	\$200.00	\$200.00	\$200.00
Operations Analyst	\$200.00	\$200.00	\$200.00
Production Supervisor	\$200.00	\$200.00	\$200.00
Post Harvest Hand/Pack Ass.	\$200.00	\$200.00	\$200.00
Production Assistant	\$200.00	\$200.00	\$200.00
Research Assistant	\$200.00	\$200.00	\$200.00
Secretary Receptionist	\$200.00	\$200.00	\$200.00
Technician # 1	\$200.00	\$200.00	\$200.00
Technician # 2	\$200.00	\$200.00	\$200.00
	\$1,800.00	\$1,800.00	\$1,800.00

**INSURANCE/MONTH**

Coverage	Rates	# Of Employees	Total Cost
Group Life Cost	\$17.96	11	\$197.56
Group Medical Cost	\$43.15	11	\$474.65
	\$61.11		\$672.21
MONTHLY:		\$672.21	
ANNUAL:		\$8,066.52	

**2. Consultancy**

VOIT	\$0.00	\$0.00	\$0.00
MIKE STRONG	\$5,000.00	\$5,000.00	\$5,000.00
	\$5,000.00	\$5,000.00	\$5,000.00

**3. Training**

International	\$0.00	\$0.00	\$0.00
Local	\$0.00	\$0.00	\$0.00
	\$0.00	\$0.00	\$0.00

SUPPORTING SCHEDULES 1992 - 1995  
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	1993	1994	1995
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4. Travel			
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International	\$6,500.00	\$5,500.00	\$2,500.00
Local	\$0.00	\$0.00	\$0.00
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	\$6,500.00	\$5,500.00	\$2,500.00
	-----	-----	-----

5. Commercial Sales

Yields from 1991 Planting	\$133,492.80	\$0.00	\$0.00
Yields from 1992 Planting	\$2,237,484.00	\$228,516.00	\$0.00
Yields from 1993 Planting	\$0.00	\$2,237,484.00	\$228,516.00
Yields from 1994 Planting	\$0.00	\$0.00	\$2,237,484.00
Co-venture Revenue	\$0.00	\$0.00	\$0.00
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	\$2,370,976.80	\$2,466,000.00	\$2,466,000.00
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6. Cost of Production

	1993	1994	1995
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**COP 1991 - 23 ACRES**	\$14,329.73	\$0.00	\$0.00
**COP 1992 - 75 ACRES**	\$212,336.13	\$23,882.89	\$0.00
**COP 1993 - 75 ACRES**	\$356,099.12	\$212,336.13	\$23,882.89
**COP 1994 - 75 ACRES**	\$0.00	\$356,099.12	\$212,336.13
**COVEN 1990 - 8 ACRES**	\$0.00	\$0.00	\$0.00
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	\$582,764.99	\$592,318.15	\$236,219.03
	=====	=====	=====

SUPPORTING SCHEDULES 1993 - 1995

	1993	1994	1995
<b>7. Harvesting &amp; Packing Costs</b>			
Harvest Costs 1991	\$3,904.40	\$0.00	\$0.00
Harvest Costs 1992	\$118,164.00	\$6,536.00	\$0.00
Harvest Costs 1993	\$4,300.00	\$118,164.00	\$6,536.00
Harvest Costs 1994	\$0.00	\$4,300.00	\$118,164.00
Co-venture Harv.	\$0.00	\$0.00	\$0.00
	<b>\$126,368.40</b>	<b>\$129,000.00</b>	<b>\$124,700.00</b>
Pck & Mkt Costs 1991	\$22,246.00	\$0.00	\$0.00
Pck & Mkt Costs 1992	\$673,260.00	\$37,240.00	\$0.00
Pck & Mkt Costs 1993	\$24,500.00	\$673,260.00	\$37,240.00
Pck & Mkt Costs 1994	\$0.00	\$24,500.00	\$673,260.00
Co-venture Pk. & Mk.	\$0.00	\$0.00	\$0.00
	<b>\$720,006.00</b>	<b>\$735,000.00</b>	<b>\$710,500.00</b>
<b>8. Farmer Payment</b>			
Co-venture Revenue	\$0.00	\$0.00	\$0.00
Co-venture COP	\$0.00	\$0.00	\$0.00
Co-venture Harv.	\$0.00	\$0.00	\$0.00
Co-venture Pk. & Mk.	\$0.00	\$0.00	\$0.00
	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
Farmer Revenue - 40%	\$0.00	\$0.00	\$0.00
BABCO Revenue - 60%	\$0.00	\$0.00	\$0.00
	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>

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ANNEX D

JOB DESCRIPTIONS AND PERSONAL DATA SHEETS OF BABCO EMPLOYEES

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5. follows:

The duties of the Managing Director shall be as

- (a) to assume complete authority and responsibility for the management and operation of BABCO.
- (b) to commercialize the production, postharvest handling and marketing of non-traditional crops.
- (c) to transform BABCO into a packer, shipper and marketer company.
- (d) to provide guidance and report to the Board of Directors on the direction and performance of the company.
- (e) to provide to the Board members a monthly written report of activities versus work plan.

### OPERATIONS

5. The duties of the ~~Postharvest Handling/Packing~~ Manager shall be as follows:

- (a) supervise the commercial production of tropical fruits for the export market.
- (b) assist Production Supervisor and Post Harvest Handling/Packing Assistant with their respective responsibilities.
- (c) manage and operate the packinghouse.
- (d) ensure quality control at the packinghouse.
- (e) coordinate fruit harvesting.
- (f) ensure that proper documentation is done and arrange for produce to be shipped.
- (g) assist the Managing Director with marketing.
- (h) provide production forecasts to assist with field production and marketing.
- (i) provide monthly reports on duties performed, work plan and constraints.
- (j) any other duties that may be assigned from time to time.

5. The duties and responsibilities of the Production Supervisor shall be as follows:

- (a) responsible for the commercial production of crops on BABCO's program.
- (b) identify and recommend farmers for inclusion into the production of non-traditional crops.
- (c) timely distribution of materials to production units.
- (d) coordinate land preparation and other associated activities.
- (e) provide technical assistance and daily supervision of farms, farmers and other production units such as BABCO's.
- (f) coordinate activities with office personnel, postharvest handling/packing supervisor and operations manager.
- (g) assist in providing production forecasts.
- (h) coordinate harvesting with postharvest handling/packing assistant and production assistant.
- (i) develop a professional working relationship with farmers, BABCO personnel and others.
- (j) coordinate entire production program (acreage, time of planting etc.) with Managing Director, Operations Manager and assistants.
- (k) provide monthly reports on plans, actual work accomplished, problems etc.)
- (l) portrayal of Company's image and professionalism to the public.
- (m) any other duties that may be assigned from time to time.

5. The duties and responsibilities of the Production Assistant shall be as follows:

- (a) assist with commercial production of crops on BABCO's program.
- (b) identify and recommend farmers for inclusion into the production of non-traditional crops.
- (c) distribute materials to production units.
- (d) coordinate land preparation and other associated activities.
- (e) provide technical assistance and supervise farmers.
- (f) coordinate activities with office personnel and operations manager.
- (g) assist in providing production forecasts.
- (h) coordinate harvesting with production supervisor and post harvest handling/packing assistant.
- (i) produce seedlings and propagate other plant materials.
- (j) develop a professional working relationship with farmers, BABCO personnel and others.
- (k) provide monthly reports to production supervisor.
- (l) portrayal of Company's image and professionalism to the public.
- (m) any other duties that may be assigned from time to time.

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5. The duties and responsibilities of the Research Technician shall be as follows:

- (a) monitor tropical fruit trials in Corozal and Orange Walk Districts.
- (b) collect data from all trials.
- (c) harvest and assist with marketing produce from trials.
- (d) provide technical assistance and supervise farmers.
- (e) coordinate activities with office personnel and Operations Manager.
- (f) assist in production forecasts.
- (g) coordinate harvesting with production assistant.
- (h) provide monthly reports.
- (i) portrayal of Company's image and professionalism to the public.
- (j) any other duties that may be assigned from time to time.

5. The duties and responsibilities of the Administrative Assistant shall be as follows:

- (a) Responsible for maintaining proper bookkeeping and accounting records.
- (b) Prepare paysheets for BABCO staff and other related expenses.
- (c) Make postings of transactions and prepare relevant reports such as monthly cash receipts and disbursements, monthly financial reports and others for submission to USAID.
- (d) Prepare detailed monthly financial statements for all programs (commercial and production trials being undertaken, including packinghouse, nursery and warehouse. Assistance for this shall be provided by Production Supervisor, Postharvest Handling/Packing Assistant, Research Technician and other relevant officials.
- (e) Reconcile bank statements, inventory and store records.
- (f) Advise the Managing Director on matters relating to finance, personnel and office management.
- (g) Prepare and request advances for the proper financial operation of BABCO in collaboration with the Managing Director.
- (h) Assist the Managing Director in the preparation of the annual budget.
- (i) Prepare technical reports as requested by BABCO personnel.
- (j) Liaise with BABCO personnel for information on expenses on research, development, marketing and other programs.
- (k) Provide monthly reports.
- (l) Portrayal of Company's image and professionalism to the public.
- (m) Any other duties that may be assigned from time to time.

OPERATIONS ANALYST

5. The duties and responsibilities of the shall be as follows:

- (a) Prepare detailed monthly financial reports for all programs (production trials and commercial operations being undertaken, including packinghouse, nursery and warehouse. Assistance for this shall be provided by Production Supervisor, Postharvest Handling/Packing Assistant, Research Technician and other relevant personnel. In the case of joint ventures monthly financial reports are to be shared with partner(s).
- (b) Advise the Managing Director on matters relating to administration and financial management.
- (c) Prepare and update cost of production information on a periodic basis.
- (d) Prepare cash flows of non-traditional crops and other analysis as requested.
- (e) Analyse market data and keep marketing information on commodities of interest to BABCO. (Update commodity price database periodically).
- (f) Assist the Managing Director in the preparation of the annual budget.
- (g) Prepare technical reports as requested by BABCO personnel.
- (h) Liaise with BABCO personnel for information on expenses on research, development, marketing and other programs.
- (i) Provide monthly reports.
- (j) Undertake consultancy projects/services as determined by BABCO.
- (j) Portrayal of Company's image and professionalism to the public.
- (k) Any other duties that may be assigned from time to time.

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5. The duties and responsibilities of the Secretary/Receptionist shall be as follows:

- (a) Receptionist for BABCO
- (b) Prepare payments of expenses from Imprest. & Research Fund Bank Accounts.
- (c) Make postings of transactions and prepare relevant reports such as monthly expense reports for submission to Administrative Secretary
- (d) Assist StoreKeeper in Data input of all items issued out from warehouses to reconcile inventory records
- (e) Liaise with Agriculture and Finance Sections for information on expenses incurred in research, development, marketing and other programs
- (f) Transact business on export of papayas, liaising with packinghouse, shipping agency and trucking companies.

5. The duties and responsibilities of the Store Keeper shall be as follows:
- (a) procure materials necessary for research and commercial programs.
  - (b) keep current inventory of all stock, through a program of monitoring of all inflows and outflows of materials.
  - (c) coordinate activities with office personnel and operations manager.
  - (d) provide monthly reports.
  - (e) portrayal of Company's image and professionalism to the public.
  - (f) any other duties that may be assigned from time to time.

SUMMARY DATA SHEET: MANAGING DIRECTOR

Education:

University of London, M.Sc. in Applied Entomology, 1984.

University of Florida, B.Sc. in Agriculture, 1980

Escuela Agricola Panamericana, Diploma in Tropical Agriculture, 1978.

Work Experience:

- 1989 - present     Managing the implementation of the BABCO component of the USAID/GOB Commercialization of Alternative Crops project;
- 1986 - 1988         Administrator, BABCO
- 1984 - 1986         Department Head, Plant Protection and Agronomy, Central Research Farm, Ministry of Agriculture, GOB
- 1982 - 1983         District Agriculture Officer, Orange Walk, Ministry of Agriculture, GOB

SUMMARY DATA SHEET: OPERATIONS MANAGER

Education:

New Mexico state University, B.Sc. in Agriculture, 1975.

Escuela Agricola Panamericana, Diploma in Tropical Agriculture, 1974.

Work Experience:

- 1991 - present     Operations Manager, BABCO
- 1986 - 1991         Agronomist and Marketing functions, BABCO
- 1984 - 1986         Agricultural Science Lecturer, Orange Walk Technical High School
- 1980 - 1984         Livestock Feed Importer/Marketer

SUMMARY DATA SHEET: PRODUCTION SUPERVISOR

Education:

Centro de Bachillerato Tecnológico, Diploma in Agricultural Technology, specializing in industrial crops, 1985.

Escuela Agrícola Panamericana, Diploma in Tropical Agriculture, 1981.

Belize School of Agriculture, Diploma in Agriculture, 1978.

Work Experience:

1991 - present	Production Supervisor, BABCO
1988 - 1991	Field Officer, in charge of R and D Program, BABCO
1985 - 1989	Extension Officer, Ministry of Agriculture, GOB. Assigned to work with BABCO

SUMMARY DATA SHEET: POST HARVEST/HANDLING SUPERVISOR

Education:

Belize School of Agriculture, Diploma in Agriculture, 1985.

Work Experience:

1991 - present	Post Harvest/Handling Supervisor, BABCO
1989 - 1991	Field Technician, BABCO
1987 - 1989	Medfly trapper under contract to BABCO
1986 - 1987	Private Farmer participating in BABCO farm trials
1985 - 1986	USDA Medfly trapper

SUMMARY DATA SHEET: ASSISTANT PRODUCTION SUPERVISOR

Education:

Belize College of Agriculture, Diploma in Agriculture, 1989.

Work Experience:

1991 - present     Assistant Production Supervisor, BABCO  
1989 - 1991        Store keeper/Research Technician, BABCO

SUMMARY DATA SHEET: RESEARCH TECHNICIAN

Education:

Belize School of Agriculture, Diploma in Agriculture, 1990.

Work Experience:

1992 - present     Research Technician, BABCO  
1991 - 1992        Private Farmer involved in BABCO farm trials  
1991                Post-harvest loss reduction project, C.A.R.E.

SUMMARY DATA SHEET: ADMINISTRATIVE EXECUTIVE ASSISTANT

Education:

Belize Technical College, Associate Degree in Secretarial Studies,  
1979.

Work Experience:

1989 - present     Administrative Executive Assistant, BABCO  
1987 - 1989        Assistant Office Administrator and Office Administrator,  
Chemonics International Consulting Division, Belize  
Commercialization of Alternative Crops Project, liaising  
with BABCO

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SUMMARY DATA SHEET: OPERATIONS ANALYST

Education:

Federal Reserve System Banking School, Washington, D.C.  
Certificate in Banking, 1989.

Le Moyne College, Syracuse, New York. B.Sc. in Accounting,  
1988.

St. John's College, Associate of Arts in Business, 1986

Work Experience:

1992 - present	Operation Analyst, BABCO (part-time position)
1990 - 1992	Statistician and Assistant to the former Economist position, BABCO
1988 - 1990	Bank Examiner, Central Bank of Belize
1987 - 1988	Tutor, Counsellor, Higher Education Preparation Program, Syracuse, New York

PERSONAL DATA SHEET: STORE KEEPER

Education:

Belize Technical College, Building Technician, 1991.

Work Experience:

1992 - present	Inventory/Store Keeper, BABCO
1991	Shop Assistant

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