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AGRICULTURAL CREDIT BANK OF JAMAICA LIMITED

AGRO-INDUSTRY PROJECT

(GOJ/USAID - 532 - 0081)

J A M A I C A

CHECCHI AND COMPANY

PROGRESS REPORT NO.6

FEBRUARY 6, 1984

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A. INTRODUCTION

The following report is presented by the Resident Consultants from  
Checchi and Company.

B. PROJECT IMPLEMENTATION STATUS

1. USAID informed the AC Bank that a Letter of Commitment with regard to the disbursement of USAID Project funds was provided to the Barclays, N.Y.
2. The Chief of Party (C.O.P.) received an official response from the AC Bank's Managing Director with regard to the Progress Report for December 1983. The AC Bank informed his response to USAID by means of a copy of AC Bank's memorandum on this matter.
3. The Workers Bank and the NC Bank discussed with the ADU Staff the operational aspects of the Project. These two Banks seem very interested in principle to participate in the Project.

C. PROMOTION

1. The ADU staff held a meeting with two Commercial Banks (attended by C.O.P.) for discussing operational aspects of the Project as indicated above.
2. Agro-industry businesses that are interested in obtaining Project sub-loans have kept inquiring about the Project. Representatives of approximately five businesses made their first inquiry to the Bank and/or presented information related to their Projects.
3. The C.O.P. submitted to the consideration of the Director of Operations a paper with suggestions for promoting the Project (memorandum No. 84-06, January 16, 1984) in the Banking and the Agro-industry sectors.

D. CREDIT MANUAL

1. New Document

The initial steps were taken for editing a document that will spell out the aspects of the Agro-industry's Credit Manual that are not already included in the AC Bank's Operational Manual. This document would also have to point out any norms and/or procedures established in the Operational Manual which are not applicable to the Agro-industry Project

The above job is carried out at the request of the AC Bank's Managing Director. He requested "to initiate steps to facilitate the presentation of one document to the Commercial Banks, which will include all loans to these banks irrespective of the source of funding. It would mean that the draft document (Agro-industry's Credit Manual) as prepared by the ADU would have to be incorporated into the Financial Institutions Operational Manual".

2. Forms and Guidelines

The C.O.P. submitted to the Director of Operations a paper describing the forms and guidelines included in the Credit Manual. The descriptions include the following aspects:

- i) person who established or prepared the form,
- ii) sender
- iii) receiver,
- iv) objectives
- v) justification, and
- vi) suggestions for revising some of the forms.

3. Amendments

The C.O.P. suggested and the ADU agreed to make five minor amendments for improving some editing aspects, and also two additional amendments for eliminating references to the parallel market rate of exchange. The Government established a single rate of exchange policy in November 1983.

E. ORGANIZATION

1. In accordance with the new organizational arrangements, the formal coordination of the consulting team's activities will be carried out through the office of the Director of Operations.

2. Work Flow

The Director of Operations provided an outline of the work flow related to

the normal steps for processing loan/sub-loan applications (January 30, 1984). The outline provides a break down of the activities and identifies the responsibilities of the staff and the consultants. It should be a useful guideline for the ADU.

3. Organizational Manual

The C.O.P. submitted to the consideration of the Director of Operations, a paper describing the objectives and functions of the Agro-industry Unit (January 6, 1984). The paper could form part of AC Bank's Organizational Manual.

4. Assignment of Responsibility

A paper suggesting the division of work within the Agro-industry Unit was also submitted to the consideration of the Director of Operations (January 11, 1984). This paper spells out the responsibilities of the staff and the consultants with regard to each one of the Agro-industry Unit's functions.

F. GOJ's NEW MONETARY POLICIES

The GOJ modified by the end of month, some of the monetary policies.

A ceiling of 12% for the growth of the Commercial Banks' private sector portfolio is one of the main features of the new policies as originally published in the newspaper.

G. PRODUCTION/PROCESSING (P/P)

Mr. Steve Morgan, P/P consultant, provided assistance to the ADU in:

- i) carrying out interviews and preparing preliminary notes with regard to the sub-projects of four new potential sub-borrowers (2 saw-mills and 2 meat processors),
- ii) identifying equipment and sources for four plants and obtaining varied information related to the advancement of the meat processing industry,

- iii) following up on information that should be provided by four Agro-processors who submitted loan inquiries in previous months, and
- iv) preparing a summary of some of the USAID's regulations related to cargo preference and eligibility of commodities. Please refer to the attached monthly report from Mr. Morgan, for detailed information on his activities.

H. PLAN FOR FEBRUARY

Continue providing assistance in :

- i) the discussions and implementation of the Credit Manual, and
- ii) lending and Project promotional activities.

Also, prepare the document described under section D,1 of this report.

MEMORANDUM

AGRICULTURAL CREDIT BANK OF JAMAICA LIMITED

11A-15 Oxford Road, Kingston 5. Telephone: 929-4000

TO: <u>MR. GUSTAVO GOMEZ - COP/USAID/CHECCHI</u>	SUBJECT: <u>ACTIVITIES FOR MONTH OF JANUARY 1984</u>
FROM: <u>S. R. MORGAN - PRODUCTION SPECIALIST</u>	DATE: <u>FEBRUARY 10, 1984</u>

1. Provide Technical Assistance and Assessment Inputs for Loan Requests

This is on a continuing basis.

Considerable activity was experienced during the month of January. Approximately 22 days were dedicated to field trips, new potential loan contacts, follow-up on developing clients and meeting attendance.

To this is added time required for sourcing equipment request and miscellaneous supply.

A. New Potential Clients

Consist of preliminary meeting orientation, initial general screening, case write up for further development through the Specialists ADU.

Mr. Lindal Stennett.

Enhancement of lumber milling 60%, woodworking 40%. Bog Walk and Linstead. Report in typing unit.

St. John Bosco - Hatfield, Manchester

Preliminary orientation completed. Awaiting proposal request and need. Expansion of meat processing development.

This is a successful on going operation that assists in supporting a schooling and hands on training program for some 132 homeless boys.

Christopher Aguilar - Auchindown, Westmoreland

Interested in the manufacturing of cedar shingles, moulding primarily, general lumbering secondarily. Preliminary discussion and advice provided. Report in typing pool.

Mr. Aguilar has been requested to further discuss his interest with Mr. Kutzler and to prepare a proposal as a first step prior to further review.

Wynne Flynn - Castle Mountain, Portland

Interested in examining the possibility of obtaining equipment and associated facilities for meat processing. Several meetings have been set up for initial orientation - screening; but due to Mrs. Flynn activities, we have had to place this prospect on hold.

Note: We are fortunate to have been working closely with Mr. Henry Kutzler, Forestry Industry Consultant. Mr. Kutzler is assisting FIDCO and the lumber sector throughout Jamaica. We are hoping some 10-15 potential clients will eventually be contacted within this Agro-Industry Sector.

B. Potential Clients in Advanced Development Stage

North Clarendon Processing Company  
Tijule Company Ltd.  
Gray's Pepper Sauces Company

C. Potential Clients in Several Levels of Development

Portland Blue Mt. Coffee  
\* Byfield Wood Products  
West Side Farms  
Scott's Preserves  
Christiana Potato Growers Association Cooperative  
B and B Honey  
Mrs. J. Wright (Nursery)  
\* Byfield searching for 3 acre land site

2. Assistance in Identifying Equipment and Source

1. Processing equipment for French fries.  
Six (6) firms contacted. Two (2) firms responded with chipping equipment and pricing.

New contacts made specifically for fryer line and freezing unit.  
Proposed on basis of 5-6 million lbs.  
CPGCA Ltd. received one estimate for US\$200,000

The writer is attaching an example for the development file for CPGCA Ltd., which appears very promising at this point in time.

2. Processing equipment for candid fruits. Have received equipment and price response for bag packager and sealer for North Clarendon Processing Other equipment.
3. Ornamental Horticulture. Requested catalog (s) pricing for mini tractor, trailer. Nursery equipment for 3-5 acre nursery venture. (Plant shredder).
4. Wood products manufacturer. Requested source, description, pricing for making cedar shingles, moulding.
5. Requested catalog (s) Food Preservation preparation and supplies.

Koch, meat industry.

One response, Proforma Quotation (INDN) other source.

3. Cargo Preference - Eligibility

Reviewed USAID Handbook No. 1, No. 2 and prepared a summary for identifying policy, applicability and requirements. Completed for distribution.

4. Glass Supply and Transport

Working through the Mexican Embassy, developing glass container source point. Transportation route from Mexico to Houston/Galveston Port.

Include frequency, cost, shipping container specs.

Ditto through Mr. M. Bugrgess, Sealand maritime.

For February 1984

1. Provide continuous TA to ADU and loan prospects.
2. Concentrate on pushing through North Clarendon Processors, CPGCA Ltd., St. John Bosco, B and B Honey.

*S R Morgan*

S. R. MORGAN  
PRODUCTION SPECIALIST

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January 24, 1984

Notes on visit to Christiana Potato Growers Cooperative Association (CPGCA Ltd.)

Thursday January 19, 1984 - Christiana

Present:

Mrs. L. Koshy  
Mr. N. Oshourne  
Mr. Tokar  
Mr. Scott  
Mr. S.R. Morgan

The CPGCA has for several years considered the installation of a potato processing line.

The writer had advocated a serious study 1981-82 (while associated with II IRDP) for processing a part of the cooperatives' raw produce.

Facilities in place - Coleyville

Coleyville Packing Shed

U.S. \$80,000 was allocated from the IRDP marketing component budget for updating the facility. Work completed 1982, overall area under roof is 57' x 144' (advisory input by the writer for the Coleyville complex).

Equipment installed:

1. Yam and root crop line
2. General utility packing line
3. Irish Potato line. This has been recently installed and will provide for greater quality and handling efficiency, and operational savings.

Yam Curing, treatment and storage facility.

This is the by-product of a 1981 - 1982 FOA Project with emphasis on quality retention for exportation of yellow yam.

Cold Storage Facility

The facility has six separate rooms maximum storage per room is approximately 800 tons of potatoes at the 12 foot height.

A total storage potential of 4,800 tons.

Inside measurement for each storage room is 36.5' x 94.5'. Four air transfer ducts run the length of each storage room Each duct is 2'4" wide, leaving a center aisleway of 10' 8" for moving produce in and out.

Weakness

1. Present layout is totally deficient . There is no provision for "first in" -"first out". If rotting occurs in the rear storage area, there is

no way to remove spoiling produce until the entire fore area is moved.

- 2. Sorting, varietal separation, and marketing separation of produce is very inefficient.

Corrective Action

- 1. Pending is a plan to install an aisleway through two storage rooms midway and then divide the two rooms to four. And then to subdivide the four rooms to a total of eight storage units. The large front doors fronting the original two rooms will be sealed closed, and entry to eight compartments will be structured from a center point through the side of the building.

The above system will allow for storage of specially graded lots destined for specific marketing requirements. Secondly, a greatly improved retrieval system for removing produce that will not hold and must be moved to market rapidly.

Proposed Processing Facility Area

Would be located on the lower floor under the Packing Shed. There is more than 7,000 square feet available that can be utilized for processing and freezer storage. Only a small area would be required for the processing equipment.

The Coleyville complex has an ideal back-up for establishing a processing unit.

Marketing

A pronounced examination of the market potential must be made. While great expectations are discussed, a more solid outlook and actual outlook must be determined and related to proposed equipment.

We have been informed:

- (a) Jamaican Frozen Foods is currently producing French Fries and uses 320,000 lbs. of potatoes during a two month period. (120 tons of raw produce)
- (b) Approximately 2.0 million pounds of frozen fries are currently consumed in Jamaica.
- (c) CPGCA has available some 3.3 million pounds available during the year for fresh market and other distribution.
- (d) Some 9.0 million pounds of potatoes projected for marketing for 1984-85.
- (e) Burger King, Kentucky Chicken and MacDonalds have indicated strong market requirements for French Fries. Mr. M. Tokar indicates a potential total of 5,000,000 for the three firms plus local outlet. (2,500 ton)

For example: Burger King indicates a need for 600 tons of fries.

100 tons would be diverted to each of six proposed shops.

(f) The Tourism Industry purchased some 1,500,000 pounds of Irish Potatoes during 1979. Projection for 1982-83 was set at 2,700,000 lbs. Considerable importation is required to satisfy demand, quality and availability for the Hotel kitchens.

Taken as a whole, the above (a) (f) adds up to "a lot of potatoes".

It is important to note that recovery is low in preparing French Fries. It was said during our meeting, French Fry recovery is 60 to 80% with a 20 to 40% trim out.

R.M. Reeve, American Potato Journal, reports for fries yield of finished frozen product may be only 50% or less of the original fresh potatoes.

Peeling loss under good conditions for all processed potatoes average 17%.

Raw Produce Production Capability

The CPGCA will be required to increase the current raw produce volume if it intends to market both fresh and processed product. With a storage potential of over 4,000 tons, seasonal intake is slightly over 1,000 tons.

In order that the processing sector to survive, greater field yields and lower production costs must be achieved. These targets must be attacked (and they can be achieved), or movement into processing may be questionable.

For example: The planting rate varies from 10 to 20 sacks per acre. (100 lb. sack). The cost per acre at J\$2,700. Using the early 1982 selling price at 0.40 lb., the farmer would need to produce 6,752 lbs. to break even - or a yield ratio of about 3.5:1. Many farmers produced less than this level. (M. Holiness, Marketing Extension Officer MOA).

According to the MOA, Manchester Office, the average yield for potato is 5 tons/acre. 3.5 tons/acre yield was common place for 1982-83. (70 to 100 sacks per acre). 250 - 350 sacks/acre is traditional in the U.S.

Out of storage pricing at Coleyville December 1981 varied from J\$45 to \$ 55/100 lbs. January 1984 price J\$120/100 lbs.

*S.R. Morgan*

S.R. MORGAN  
Production Specialist

## General Processing Procedure for French Fries

### French Fries

A large percentage of the frozen French Fries are now par-fried packed for restaurants and other trade and prepared for serving by finish frying in deep fat.

Frozen French Fries packed for the home consumer are finished fried by the processor and are oven heated in the home.

This latter product usually is of lower quality than those finish fried in deep fat after being frozen.

1. Potatoes for fries should have the same qualities as potatoes for chips.
2. The reducing sugar content should be low to avoid dark fried pieces although a higher sugar content can be tolerated than those for chipping.
3. High specific gravity is desirable and shape is important.
4. Discolouration is an important problem.
  - Sodium acid pyrophosphate is now used almost universally in processing to prevent graying.
  - Low concentrations of ammonia must be avoided.

The above is pointed out to emphasize the need for a qualified quality control supervisor.

### Preparation

Washing and Peeling: Processors of Frozen Potato Products peel potatoes with steam or lye. A braison peeling results in high finished losses.

#### Steam Peeling:

- Batch method. Pressures up to 100 lbs. per sq. in. are held for 30-90 seconds.
- Continuous method. Produce held about 30 sec. in steam at 60 psi.

#### Lye Peeling:

- By immersing potatoes from 2 - 6 minutes in a lye solution of 15-25% @ 190° - 200° F.
- Immersion time, concentration and temperature of solution will depend on the age of the tuber and variety.

#### Washer:

For both cases, potatoes are discharged from the peeler into a washer to complete removal of the peel by water sprays.

During any use of mechanical peeling, surface cells are destroyed and a large

amount of the sucrose in these cells is extracted into the wash water.

Trimming:

Decayed portions, black spots, unpeeled portions are removed as they are conveyed over trimming and inspection belts.

Sorting: Cutting:

Most popular cuts are strips 3/8" or 1/2" square in cross section. Crinkle cuts have more than 50% of the market in the U.S.

Slivers and nubbins are separated from the desirable pieces with a rotating reel or a shaker screen having slots through which the slivers fall as they pass through the reel or over the screen bed.

Low Yield can be expected (related to the size and grade of potatoes and the peeling method), this can range from 15% - 40% from peel and trim.

Slivers and nubbins can add up to another 10% loss. Yield of raw French Fries cuts range from 50 to 75% of the raw product weight.

(Common: 100 lbs. of potatoes = 30-45 lbs. French Fries by weight).

Blanching:

Prior to frying, French Fry strips are blanched in hot water.

Two blanches usually are used, the first containing hot water and the second a dilute dextrose solution.

- (a) If sugar content in raw potatoes is high - both blanches contain hot water.
- (b) With many plants, a solution of Sodium Acid pyrophosphate is placed in the second blancher to prevent after cooking darkening, especially with par fries.
- (c) Calcium Lactate can be added to the second blancher to bring about an improvement of the texture.
- (d) Blanching results in leaching sugars - resulting in a more uniform lighter colour fry.

Frying:

Blanched strips are conveyed to the fryer at a uniform rate and moved continuously toward the end of fryer. Can be fried in one fryer or in two fry series.

Temperature: usually @ 350° - 375°F.

Defatting:

1. Excess fat is removed from the product by passing it over a vibrating screen allowing the fat to drain off.

2. The use of high velocity stream of hot air is also used.

The product is air cooled as it is conveyed on a wire mesh belt from the fry area toward the freezing tunnel.

Freezing and Packaging

Freezing of the product may be done before or after packaging. The loose pieces are frozen on a continuous belt in a freezing tunnel. This method requires only about 12 minutes @ -40°F.

- Over-wrapped, retail size cartons are frozen in a blast or multiple plate contact freezer. It could take up to 2½ hours for the product to reach 0°F by this method.
- Fries are packed in 9 oz. , or 1 lb. cartons. And in poly bags of 1 and 2 lb. units for retail outlets.
- The 30 lb.case with 6 bags was traditional in the institutional trade. Now replaced with 5 lb. cartons.

Utilization of slivers, nubbins from French Fry line, and from chopped and or sliced small potatoes.

Example:

Potato Patties

Slivers, nubbins, and broken, small potatoes are steam blanched, cooled, shredded or chopped.

This is then mixed with potato or rice, flour, salt, and monosodium glutamate or other seasonings.

A pattie forming machine forms round or rectangular patties of three ounces each. Can be frozen prior to or after packaging.

Other: Hashed - Brown, Diced

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% Peeling - Trim loss Averages

	<u>Katahdin</u>			<u>Kennebec</u>			<u>Russet Burbank</u>		
Abraison	18.6	21.4	21.1	26.9	23	21.8	25.0	27.0	24.0
Steam	13.7	18.2	17.8	12.6	16.9	15.4	17.0	20.4	20.8
Lye	15.8	17.9	19.0	15.3	15.5	18.6	16.3	22.5	22.8
Lye and Steam	13.9	18.0	19.8	12.3	13.4	17.2	19.0	18.3	19.0

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Equipment:

Magnuson Engineering  
Salvo Machinery Co.  
J.D. Ferry Company Inc.  
Cryodry Corp.

Varieties:	Russet Burbank	Excellent for French Fries
	Kennebec	Good Chips
	Superior	" "
	Norchip	Excellent for French Fries
	Katahdin	

The writer has been advised, CPGCA has contacted and has received information for setting up a French Fry processing line.

Cost of line estimate @ US\$200,000

Meanwhile the writer has contacted additional manufacturers for equipment description, sourcing, pricing for examination and added reference to CPGCA planning material. (Washer, peeler, inspection line, blancher, slicer, fryer, defatter, freeze tunnel, Packaging).

I would propose that the following persons examine and assist in moving this project forward:

- Mr. N. Osbourne
- Mrs. D. Brown
- Mr. G. Gomez
- Mr. S. Morgan

Mr. Tridib Mukherjee has suggested he join in the group for "field exposure"

*S.R. Morgan*  
S.R.MORGAN

ADDENDUM:

PAR FRIED

There has been a very rapid increase during the past few years in producing par-fries or oil blanched French Fries.

1. Potatoes are peeled, cut into strips, partially cooked in deep fat, cooled packaged and delivered to customers.
2. The cooking inactivates the enzymes responsible for discoloration.
3. Only 2 to 3 minutes cooking in deep fat is necessary to serve.
4. Par Fried potatoes are nearly sterile when removed from the fryer.  
(Must be kept under cond. of minimal microbial action).
5. Cool to 45° as soon as possible following frying. (While conveyed on wire mesh belt, the pieces are cooled with a large volume of air at near 0° F.