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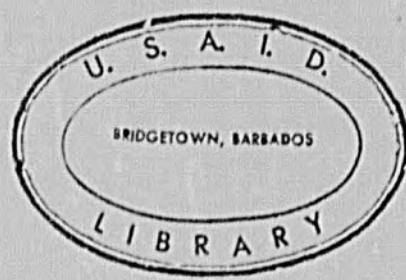
EVALUATION OF PROJECT

538-I-006

PD-APP-466

CARIBBEAN REGIONAL
INTEGRATED AGRICULTURAL DEVELOPMENT

By



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Evaluation of A.I.D. Loan 538-T-006
CARIBBEAN REGIONAL-INTEGRATED
AGRICULTURAL DEVELOPMENT PROJECT

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GLOSSARY

*Only use Abb.
These are generally
used or
recognized.*

- ~~AC~~ Accounts Clerk
- ADC Agricultural Development Corporation
- ~~AES~~ Agricultural Extension Services
- ~~AFO~~ Agricultural Field Office
- APC Agricultural Production Credit
- ~~ARS~~ Agricultural Research Systems
- ABDB Antigua Barbuda Development Bank
- ACMC Antigua Central Marketing Corporation
- BMC Barbados Marketing Corporation
- BMB Belize Marketing Board
- BDD British Development Division
- CARDI Caribbean Agricultural Research Development Institute
- CCC Caribbean Council of Churches
- CDB Caribbean Development Bank
- CDF Caribbean Development Facility
- CARDATS Caribbean Rural Development Advisory and Training Services
- DFC Development Finance Corporation
- EC Eastern Caribbean (*Abbreviatedly used here*)
- FIC Farm Improvement Credit
- FIO Farm Improvement Officer
- ~~FO~~ Field Officer
- ~~GMP~~ Green Market Price
- GAIDC Grenada Agricultural Industrial Development Corporation
- IFDC *International Fertiliser Development Corporation*
- LDCs Less Developed Countries
- MDCs More Developed Countries
- PCP Production Credit Programmes
- SPO Senior Project Officer
- SFSC Small Farmers Service Centers
- SLBCA St. Lucia Banana Growers Association
- SVMC St. Vincent Marketing Corporation
- U.S. United States of America
- USAID United States Agency for International Development
- WINBAN Windward Islands Banana Growers Association

*\$ 2.00 Belize = U.S. \$ 1.00
\$ 2.70 EC (Eastern Caribbean) = U.S. \$ 1.00*

RW = Recs. to

Summary of Findings and Recommendations

After more than three years since the Loan Agreement was signed little progress toward effective implementation has been achieved. That which has been achieved has been uneven among the project components. Only \$412,000 has been disbursed by AID from the \$10,000,000 loan - all for the Agricultural Credit component. The rate of disbursement is not expected to increase substantially in the approximately one year remaining before the loan terminal disbursement date, October 30, 1980. Summary findings and recommendation with respect to the four specific components of the project follow.

RW

A. Agricultural Production Credit

Appropriate? on message?

1. Disbursements by DFCs under the APC scheme amount to only about 13% of the totals committed by the CDB for each country. The exception is St. Lucia where 85.7% has been disbursed and where a FIO has been appointed under the APC programme.

Form Support Office (F20)

of what

Spell out when to use

- It is recommended that the CDB appoint a FIO in all countries with which it has APC loan agreements, specially in those like Antigua where the total agricultural loan programme of the DFC is being handled by one person or a very small staff.

RW

2. Divulgate of the APC scheme, and training of farmers on the use of credit has been nil or at least minimal.

Refers to secrets

Suggest public-private program helping to...

? implement?

- It is recommended that the CDB undertakes the task of reviewing its Publicity and Communications Programme to cover the areas which need to be addressed or strengthen.

3. Certain guidelines and policies, both of AID and the CDB, are hindering

2. implement?

a swifter implementation of the APC scheme (maximum and minimum loan limits, definition of small farmer in Belize, limit of medium-term loans to 20% of total, etc.) *what are the etc*

- It is recommended that both institutions review *SP* such policies, guidelines and regulations to facilitate the granting of APC loans to an increased number of small farmers.

4. The procedures and forms being utilized by most DFCs to receive, appraise, approve, disburse and collect APC loans are cumbersome and repetitious, thus delaying and complicating the process.

- It is recommended that the CDB provide the DFCs with technical assistance to enable them to improve their loan granting procedures as well as to simplify the forms used for such purpose.

5. DFCs structures and resources are not geared to performing planning activities nor collecting and tabulating basic statistics of their operations on which to base growth projections, plan future needs, or even evaluate its own performance.

- It is recommended that the CDB provide the DFCs assistance to start focusing on this areas.

B. Agricultural Input Supply Distribution

The input situations have been surveyed in five LDCs of the CDB region with the result that no projects have been appraised nor agreed to for commitment of the US\$1.0 million allocated in the -006 loan. An awareness for need of agricultural inputs was obvious in discussions with officials, at CDB, DFCS, Governments, farmers and personal observation. It is a truism, however, that no activity preparatory for satisfying needs has been planned for implementing, under this aspect of the project by the Terminal Disbursement Date of October 31, 1980.

R.W

What does this have to do with this

Inputs: why!

1. Recommended that CDB and its affiliates develop loan promotional programs in concert with Governments. Programs should focus on small farmers and leaders at all levels.

For sub-Regional Distribution of fertilizers and pesticides, etc, WINBAN seems to be the agency with demonstrated expertise for providing this type of service. With CDB support and technical advise from scientists at the International Fertilizer Development Corporation (IFDC), WINBAN could expand facilities enabling it to formulate fertilizers for traditional export and domestic food crops.

R.W

Is issue supply on school level mostly type 1 fertilizer/compost
What wrong with CDB?

2. Recommend WINBAN be considered as the potential input distribution center for fertilizers and pesticides. IFDC scientists should be consulted in the requisites for formulation of chemical fertilizers.

The availability of agricultural inputs continues to be a constraint of a complex nature for small farmers. They need to be assured that their essential inputs are available at prices they can afford to pay. Marketing Boards have the statutory authority to provide inputs for growers, from both imported and domestic sources. With this authority, Boards are the logical organs of Government for provision of farmers input requirements.

Is there any other...

Not consistent w/ #2

3. Recommend CDB and national governments initiate plans to establish an agricultural input distribution centers within the present Marketing Board Structure with a capability for responding to micro level needs;

Farmers are aware of the new technologies in regard to new seed varieties and planting materials. They understand response of these varieties to fertilizer and cultural practices, but seeds are not available for vegetable growers.

4. Recommend that CDB, CARDI, CARDATS and Government Research/ Extension Service develop an adaptive and applied research program with priority for developing a seed multiplication capability applicable for the various ecological zones in the region. International Agricultural Research Institutions and US Universities are resources to draw upon for adaptive research and seed multiplication.

C. Marketing

Search of trained personnel capable of managing viable market institutions is a critical delimiting factor and should be resolved as soon as possible. Training is desirable and required for all individuals who become involved in the marketing processes; namely, Managers, AES, Retailers (Hucksters) and DFCs, FIOs and FOs, and farmers. To be affective, training should include all aspects of production and marketing. Quality control can be planned with commencement of the growing seasons.

1. Recommend that remaining amount in the grant allocation be programmed for training in agricultural marketing;

The Barbados Marketing Corporation request for loan funds seems to subscribe to the marketing criteria and strategy. Compliance in servicing the 26,000 small farmers in Barbados made her eligible as a potential borrower of -006 loan funds and was included as an eligible participant in the integrated agricultural development project 538-T-006.

2. Based upon preliminary considerations and approvals by CDB and USAID, recommend that the marketing allocation of \$2.0 million be programmed for BMC, provided all covern~~ments~~ and conditions precedent are satisfied;

Please analyze to quality of economy's sale before making the investment. Remember you are making a big message to farmers.

How about "limited"?

RW

The style is very copywriting

Pricing is a source of frustration and discontent among many producers of food crops in Belize, Antigua, St. Vincent and Grenada, while St. Lucia farmgate pricing practices appear to be well conceived and satisfactory to farmers.

- 3. Recommend that CDB and the DFCs make an analysis of the St. Lucia model to determine if the concept can be extrapolated in the other LDCs.

Among the formidable constraints to marketing is the lack of coordination between CDB intermediaries and Government agencies.

Is CDB's job to coordinate marketing? I thought they were a bank

- 4. Recommend that CDB provide leadership for assuring linkages among all agencies involved in implementation of the -006 loan.

What does this mean?

Vegetable growers in St. Vincent sell carrots on the market in St. Lucia and Trinidad. The latter market is very competitive with the St. Vincent market, because of the high demand for carrots with little attention given to standardization. If the St. Vincent Producers are to remain competitive on the Trinidad market, they must meet quality control standards.

- 5. Recommend that the responsibility for meeting terms of Agricultural Marketing Protocol be a joint undertaking by all agencies delivering services to farmers.

How? Technical issues on political?

Successful APC clients in St. Lucia (boxing plant and banana production), the FIC client in St. Vincent, and the vegetable growers in the Grenada Mardi Gra village are examples showing profitability of credit when supported by inputs, markets and transportation networks.

- 6. CDB should focus on these clients with indepth analyses and develop succes stories for circulation among Governments, Efforts should be made to determine to what degree these businesses have influenced incomes, standards of living, employment generation, and income distribution.

Is it CDB's job to develop marketing? Ag. v

D. Feeder Roads-

1. Loan funds for feeder road sub-projects have recently been committed in St. Vincent (\$1,636,000) and Antigua (\$689,000). No substantial implementation steps have been taken on either project - none in Antigua.

- It is recommended that CDB and AID carefully monitor progress in the next few months toward a signed construction contract on the Antigua and St. Vincent sub-projects as the basis for an AID decision prior to October 30, 1980, on whether the likelihood of timely completion of construction justifies extension of the TDD by approximately two years.

2. Two feeder road sub-projects (in Grenada, \$1,500,000 approximately; in St. Lucia, \$2,000,000 approximately) are in the active CDB appraisal stage. Both are expected to be approved by early 1980. Based on the implementation experience gained in the two countries on feeder road projects recently completed, it is expected that the projects can move into the construction stage promptly.

- It is recommended that AID closely monitor development of the Grenada and St. Lucia sub-projects with the view of funding under Loan -006 and extending the TDD by approximately two years if it appears realistic that the work will be under construction contract by the present TDD, October 30, 1980.

3. Substantial start on the two sub-projects in Antigua and St. Vincent has been delayed for many months over a basic implementation issue.

- It is recommended that CDB place more emphasis in the project development appraisal stage on reaching firm understanding with the proposed loan recipient on how project management, engineering and construction will be carried out.

- It is recommended that AID and CDB project monitoring and management procedures be reinforced to identify and deal promptly with implementation difficulties that surface after loan approval.

Did you see Dwight Johnson
memo -
It would make a good
recommendation for rapid implementation

11

I. Purpose and Objectives

A. Project

The Project goal as stated in the Project Paper (AID-DLC/P-2147) is to increase income and standard of living of the small farm sub-sector by stimulating small farmer production and productivity.

The purpose of the project is to increase the productive resources and services available to small farmers through national and regional institutions. In particular, four major areas of development were identified for financing under the project:

- (1) Agricultural production credit
- (2) Agricultural input distribution
- (3) Marketing
- (4) Feeder roads

B. Evaluation

The objective of this Evaluation Report is to evaluate the effectiveness to date of the Integrated Agricultural Development Project, AID Loan 538-T-006, \$10 million, in achieving increases in small farmer income by examining:

- (1) The role of production credit and conditions necessary for its use as a method for increasing income of the region's small farmers;
- (2) the appropriateness of AID lending criteria outlined in the loan as it relates to the current needs of financial institutions and the ultimate borrower;
- (3) the institutional structure of the participating credit institutions to efficiently deliver the desired credit scheme; and
- (4) the constraints facing unit governments and the CDB related to the development, design and implementation of sub-projects in the areas of feeder road construction, marketing and input supply.

Such examination and evaluation is intended to lead to (1) improved effectiveness of the Project, and (2) total disbursement of the loan by the Terminal Disbursement Date.

II. Current Status of Project

A. Loan 538-T-006

As of August 1, 1979, sub-loans totalling U.S.\$2,163,000 have been signed between the Caribbean Development Bank (CDB) and Development Finance Corporations (DFCs) for agricultural production credit in Antigua, Belize, Dominica, St. Lucia and Grenada. As of August 30, 1979 sub-loans totalling \$2,325,000 have been signed for feeder roads in Antigua and St. Vincent. No sub-loans have been developed for agricultural inputs supplies or marketing systems improvement, although \$1,077,500 has been tentatively allocated for the Barbados Marketing Corporation.

Total CDB commitments amount to \$4,488,000 yet AID disbursements amount to only \$412,000, all for agricultural production credit. Disbursements in the field by the DFCs have reached only \$626,000. This is disturbing viewed against the backdrop of the Terminal Disbursement Date of October 30, 1980 for the \$10 million AID loan.

Table I.A. following, presents the funds allocated, committed and disbursed by sub-project. Table I.B. following presents funds committed and disbursed under the APC sub-projects.

TABLE I

AMOUNTS ALLOCATED, COMMITED AND DISBURSED
UNDER AID LOAN 538-T-006
 (US \$'000)

A. CLASSIFIED BY SUB-PROJECTS

	Preliminary Allocation			Committed by CDB	Disbursed by DFCs	Balance to be Disbursed	
	AID	CDB	TOTAL			Against Allocations	Against Commitments
	Credit	4,000	-			4,000	2,163
Inputs	1,000	1,500	2,500	-	-	2,500	-
Marketing	2,000	-	2,000	- 1)	-	2,000	-
Feeder Roads	3,000	-	3,000	2,325 2)	-	3,000	2,325
TOTAL	10,000	1,500	11,500	4,488	626,000	10,874	3,862

B. APC SUB-PROJECT CLASSIFIED BY COUNTRIES

	Committed by CDB (Aug. 1, '79)	Disbursed		Balance to be Disbursed by DFCs Against Commitments	
		by CDB/AID (Aug. 1, '79)	by DFCs (Sep. 1, '79)	Amount	%
		Antigua	192	13	27
Belize	1,245	134	167	1,078	86.6
Dominica	181	74	74 3)	107	59.0
Grenada	148	-	18	130	87.8
St. Lucia	397	191	340	57	14.3
TOTAL	2,163	412	626 1	1,537	70.6

- 1) US\$1,077,500 has been tentatively allocated for the Barbados Marketing Corporation.
- 2) Committed for Antigua US\$689,000, and for St. Vincent US\$1,636,000.
- 3) The DFC in Dominica may have disbursed by September 1, 1979 a greater amount than the US\$74,000 shown as disbursed by the CDB as of August 1, 1979.

AID Loan 538-T-006 provides for a companion grant of up to U.S.\$400,000 of the total loan amount to be used for technical assistance as defined in the Project Paper. The Project Paper also includes a Technical Assistance Plan and illustrative Budget (Annex B, exhibit 5) proposing the use of the grant along the following lines:

1.	Marketing Advisor (18 months)	\$ 75,000
2.	Credit Advisor (18 months)	75,000
3.	Short-term Advisors in public administration, land reform, systems, analysis, etc.,	100,000
4.	Training programmes	50,000
5.	Data-gathering, processing and analysis for sub-project appraisal and Project Evaluation	<u>100,000</u>
	TOTAL	<u><u>\$400,000</u></u>

As of the date of the present evaluation grant funds had been approved and disbursed by AID in the amount of \$330,585 as follows:

<u>PURPOSE</u>	<u>PARTIAL AMOUNTS</u>	<u>TOTAL AMOUNTS</u>
1. <u>Record & Accounting System</u>		
Approved 11-8-77		\$20,000
2. <u>Trickle Irrigation Study</u>		
Approved 11-8-77	75,000	
Approved 5-2-78	<u>13,254</u>	88,259
3. <u>Communications & Publicity Programme</u>		
Approved 6 -6-77	36,000	
Approved 5-24-78	93,396	
Approved 5-31-79	<u>7,000</u>	136,396
4. <u>Aerial Cableway Study</u>		
Approved 4-11-78		60,630
5. <u>Update Small Farmer Study</u>		
Approved 7-11-79		<u>25,300</u>
	TOTAL APPROVED	\$330,585
	TOTAL GRANT	(400,000)
	BALANCE	<u><u>\$69,415</u></u>

A brief report and commentaries on these duties or programmes follows:

1. Record & Accounting System

This project was being carried out by CARDI in cooperation with the Ministries of Agriculture and DFCs in St. Lucia, Dominica, Antigua and Belize. It consisted of a duplicate note book/diary to be kept by the farmer with the duplicate sheets going to a central office. It is now considered to be imoperable because it was based on the assumptions that the institutions involved would be able to commit their scarce staff resources to the project over a prolonged period, as well as count with the active participation of the farmers. It is not clear what was the specific objective of this project. There is the implication that it may have been to provide to the institutions involved better information on the operations of small farmers viz., their production costs and returns. If this is the case, there are other simpler and much less costly ways to obtain such information (such as sample surveys and even the questionnaire which is being completed for every 5th APC loan applicant).

However, generally the objective of records and accounting systems for small farmers is to enable them to "understand" their farming enterprises better and to start using basic planning and management techniques. This has proven to be a slow and difficult process. The system has to be very simple at the onset and progress gradually as the farmers assimilate the techniques and realize their value and advantages. Usually such projects are started with a very few farmers and as they learn the system it is extended to others by using the first participants as instructors on a multiplying factor basis.

2. Trickle Irrigation Study

This study is being carried out by CARDI in cooperation with WINBAN in St. Lucia. Three low cost small capacity trickle irrigation systems have been designed and are being tested on small farmers' holdings. Water used is obtained by gravity feed which eliminates the need for pumping.

Results obtained this far are encouraging. The system has contributed to the production of increased yields even during periods of good rainfall. Costs range from U.S.\$550 to U.S.\$1,000 for one acre (freight water supply development and installation not included). Such costs will decrease as acreage increases as some of the systems' components (like filters and pressure gauges) can be used for areas of up to 7 acres.

3. Communications & Publicity Programme

As of this date U.S.\$136,396 has been authorized for this activity. An Agricultural Distribution Officer (AIO) was hired by the CDB on July of 1977 for the express purpose of "mounting a communications/publicity cum training programme designed to assure widespread knowledge among officials and farmers of the existence of the APC scheme, and the conditions of eligibility, and to teach small farmers the proper utilization of credit".

On a communication to AID submitted around May of 1978, the CDB reports having conducted services and training sessions in St. Lucia (20 days) and Antigua (9 days) for officers of the DFCs, Ministries of Agriculture and those of the relevant commodity associations.

Throughout this Report mention is used repeatedly to the lack of any promotional campaigns or adequate publicity in any of the participating LDCs concerning the APC scheme. With the exception of one leaflet entitled "What is APC" and a small poster on the same subject, nothing else was evident during the Evaluation Team's visits in the field. When

questioned about the realization of any APC promotional activities, the DFCs" answer was always the same: "none, we serve them (the farmers) on as as-they-come basis". Strangely enough, the services and training sessions mentioned above were not even mentioned. Only one DFC referred to then by commenting that the recommendations were "geared to high class people and not really of any use to us".

It is obvious that whatever the methods and material being used to implement the Communications and Publicity Programme, it is not achieving any appreciable results.

The Evaluation Team members met Mr. Carroll Record informally just for a few minutes the day before they left for the field. Upon their return to Barbados and up to this date Mr. Record has been away from his office and thus unavailable to discuss his work with them.

However, an interview was arranged with Mr. Errol Brewster, the Audio-Visual and Graphics Arts Specialist recently appointed to assist Mr. Record as of June of 1979 in the preparation of APC material. It was indicated that thus far five pamphlets, four video-tape programmes (for closed circuit TV) and at least one slide presentation on how to grow green-house tomatoes has been produced. Mr. Brewster indicated that he was responsible only for the design and production of such material, not for its contents.

Upon examination of some of the pamphlets it was noticed that both design and content was generally good, but for a different audience, perhaps a more sophisticated one. Although small farmers in the region are literate it is felt that their degree of education may require a simpler format, one with less text and more pictures which will have a greater appeal to them.

Do not use individual names or personal references

this is TRP report material

reference 7

Also, the main thrust of the publications programme seems to be in agronomic and animal husbandry techniques; nothing is being produced to train farmers in the use of agricultural credit farm planning and management, etc.

4. Aerial Cableway Study

This project is also being carried out by CARDI in cooperation with WINBAN. Dominica was chosen as the first country in which the system was to be constructed. Materials for the initial project, as well as for the construction of systems in all four of the Windward Islands, was received from overseas some two or three months back. Unfortunately, recent political events as well as the effects of Hurricane David in Dominica have led for suspension of operations in that country. However, construction of a system will be soon completed in Grenada and will start in St. Vincent before the end of 1979. The cableway project ^{may} will enable transport inputs and production (bananas) in and out of the farmers' plots much faster and efficeintly than by "heading".

5. Update Small Farmer Study

This activity is about to start and will enable the CDB to have the latest information on small farmer operations in the region.

Impossible to use the outcome

It is felt that unlike some of the studies or programmes financed this far with grant funds may have had, or might have in the future a certain impact on the achievement of Project goals and objectives, the utilization of such funds as proposed orginally would have been much more effective. The major constraints identified by this report exist to a large extent because technical assistance in the areas of marketing, promotion of the APC scheme, training of farmers in agricultural credit, data gathering, processing and evaluation, etc.

was not addressed at all.

C. Project Evaluation Summary Logical Framework

The Logical Framework matrix presented in the Project Paper has been
^{up}~~re~~dated for current status of project and follows herewith:

Project Evaluation Summary Logical Framework

Narrative Summary	Objectively Verifiable Indicators		Means of Verification		Important Assumptions	
	Measure Of Goal Achievement	Evaluation Comment	Source	Evaluation Comment	Assumptions For Achieving Goal Targets	Evaluation Comment
Increase income and standard of living of the small farm sub sector in the LDCs of the English speaking Caribbean.	1. Reduction in rate of agricultural imports.	No records	CARICOM Trade reports		Significant progress will be made towards eliminating or minimizing policy and institutional constraints which limit small farmer agricultural development. - Other donors will continue to provide financial and technical help to the agricultural sector. - Intra-regional barriers to agricultural trade significantly reduced.	Too soon to validate
	2. Increase food production for internal consumption.	Difficult to determine	National production statistics.	Good when available		
	3. Decrease in traditional export crops as total as percentage of total small farmer production.	No effect	End of project, small farmer survey.	Not up to date		

No evidence

Project Evaluation Summary Logical Framework

Narrative Summary	Objectively Verifiable Indicators		Means of Verification		Important Assumptions	
Project Purpose	Measure Of Goal Achievement	Evaluation Comment	Source	Evaluation Comment	Assumptions for Achieving Goal Targets	Evaluation Comment
<p>Increase productive resources and services available to small farmers.</p>	<p>Small farmer development projects designed and implemented in eight LDCs by 1980 as follows:</p>	<p>No evidence</p>	<p>- Comparison of actual performance to baseline data contained in CDB sub-project appraisal reports.</p>	<p>No roads yet built</p>	<p>- Adequate interest rates on agricultural production credit will be adopted by credit institutions.</p>	<p>Suggested interest rate of 8% plus 4% risk premium adopted by all DFCs. CDB has failed to appoint FIOs except for one country. Other allocations of staff and financial resources seem fairly adequate.</p>
	<p>(a) Agricultural credited - estimated at \$4.0 million - utilized in accordance with criteria established in Section III, C.2.a.</p>	<p>Agreements signed for five sub-loans for \$2,163 million. \$626,000 disbursed so far by DFCs.</p>	<p>- CDB quarterly project reports to AID.</p> <p>- Annual AID project evaluation.</p>	<p>No effective way to measure progress. Questionnaires not compiled. No quarterly reports or annual evaluations made. DFCs records and statistics scant or non-existent.</p>	<p>- CDB and national institutions allocate sufficient staff and financial resources.</p>	<p>NA</p>
	<p>(b) Agricultural inputs - estimated at \$2.5 million: - subprojects designed to satisfy input demands for non-traditional crops, e.g., root crops, vegetables, fruit crops, (for full list see Section III C.2.b (2))</p>	<p>NIL</p> <p>NIL</p>	<p>- Credit questionnaire</p> <p>- Review of implementing institutions</p> <p>- AID review of CDB sub-project appraisals.</p>	<p>NA</p> <p>NA</p>	<p>- Necessary national institutional reform will be undertaken.</p>	<p>NA</p>

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Narrative Summary	Objectively Verifiable Indicators		Means of Verification		Important Assumptions	
	Measure Of Goal Achievement	Evaluation Comment	Source	Evaluation Comment	Assumptions for Achieving Goal Targets	Evaluation Comment
	<u>Continued</u>					
	- substantial portion of input sales to target farmers.	NIL	CDB Records	NA	AID criteria is valid for sub-project.	
	(c) Marketing - estimated at \$3.0 million - designed and implemented in accordance with criteria and methodology established in Section III, C.2.c.	- One subproject in Barbados has been approved with an initial request for \$1,077,500	CDB and USAID Records	Review of AID documents	Government will support BMC with equity for small farmers in Barbados.	CIP review
	(d) Feeder Roads - estimated at \$3.0 million - designed and implemented in accordance with criteria and methodology established in Section III, C.2.d.	Two projects designed, two sub-loans - \$2,325,000 No construction started.	CDB and field visits with Min Works Antigua and St. Vincent.	Long delay between sub-project approval and initiation of construction. Unit Government resistance to contracting rather than construction by force account.	That unit governments and CDB will resolve construction procedure issue so that roads will be built promptly.	In St. Vincent Min Works has taken initial steps toward construction; In Antigua, no steps have been taken.

Narrative Summary	Objectively Verifiable Indicators		Means of Verification		Important Assumptions	
	Measure Of Goal Achievement	Evaluation Comment	Source	Evaluation Comment	Assumptions for Achieving Goal Targets	Evaluation Comment
Develop the capacity of the CDB and LDC member country institutions to design and finance small farmer development sub-projects.	<ul style="list-style-type: none"> - LDC small Farmer Development programs established within CDB. - Establishment of criteria, regulations and policies governing program. - Country Investment Program for each LDC. - Production Credit sub-project Criteria. - Input sub-project Criteria - Feeder Road sub-project Criteria. - Marketing sub-project Criteria 	<p>Country Investment Programs need to be reviewed and updated.</p> <p>Except as noted criteria for APC generally adequate and being adhered to in accordance with Project Paper.</p> <p>CDB producing Appraisal Reports following PP guidelines.</p>	<p>- AID review of CDB sub-project appraisals.</p> <p>Review of CDB Appraisal Reports for Antigua and St. Vincent.</p>	<p>CDB economic analysis on road selections sound.</p>	<p>- CDB and national institutions allocate sufficient staff and financial resources.</p> <p>CDB maintains sufficient appraisal staff.</p>	<p>With the exception of the non-appointment of FIOs under the APC scheme, the national governments seem to be complying with the allocations as stipulated.</p> <p>CDB has competent staff; little input from unit governments in appraisal except basic field data.</p>

Project Evaluation Summary Logical Framework

Narrative Summary	Objectively Verifiable Indicators		Means of Verification		Important Assumptions	
	Measure Of Goal Achievement	Evaluation Comment	Source	Evaluation Comment	Assumptions for Achieving Goal Targets	Evaluation Comment
<u>AID</u>						
1. Loan Funds	\$10.0 million		AID and CDB and LDC Budgets.			
2. Grant Funds	\$400,000					
<u>CDB</u>						
1. Administrative staff.						
2. Technical Assistance Staff.						
3. Funds for input marketing systems.	\$1.5 million					
<u>LDC Governments</u>						
1. Counterpart Funds.	\$1.0 million		Field visits	Effective	Valid	

III FIELD TRIP - SUMMARY OF OBSERVATIONS AND FINDINGS

INTRODUTION

During the period September 3 - 23, 1979, the Evaluation Team visited the countries of Belize, Antigua, St. Lucia, St. Vincent and Grenada for on-the-spot observation of activities, and to talk to the parties directly involved in on-going or proposed activities relevant to the implementation of AID Loan 538-T-006, Caribbean Regional - Integrated Agricultural Development.

Dominica was originally on the schedule but was dropped after it was devastated by Hurricane^e David and all effort in the country was directed towards disaster relief.

During the course of the field trip, some interviews and inspections were conducted as a Team, some were done on an individual basis as the subject matter indicated. In all, 137 people were interviewed in the five countries.

Attached to this Report as Annex I is a detailed Trip Report covering the activities and observations of each of the three evaluation team members.

Set forth below is a summary of observations and findings from the field trip.

A. Agricultural Production Credit

Agricultural Production Credit sub-loan agreements have been signed between the CDB and the DFCs in Antigua, Belize, Dominica, Grenada, and St. Lucia for a total of US\$2,163,000. A sub-loan with the Cayman Islands for US\$188,000 has been developed, but as of this date no agreement has been signed. St. Vincent has signed a sub-loan for feeder roads, but has declined the APC program for the reasons explained under the appropriate heading in Annex I.

It took most the DFCs at least one year after the sub-loan agreements had^d been signed to start implementing the APC program. Even though all of them had had some experience with small farm credit, they still had to review and refine their general procedures and practices to conform with certain minimum preconditions required by the AID loan agreement and CDB policies.

However, with the exception of St. Lucia, implementation has been extremely slow. APC loans have been granted to a ~~minimum~~^{small} number of farmers (between . . . 40 and 100 in each country) and disbursements are at about only 13% of the amounts committed^t by the CDB for this purpose.

The reasons for this slow performance are explained in detail in several parts of this report. Some of the constraints are more evident in some countries than in others, and not always affecting their operations in the same way. However, the following observations are general and ^{fairly} describe the situation in the region.

1. Characteristics of APC Loans

A large proportion of the loans (70 to 80 percent) are for the production of export commodity crops. Very few are for food crops especially for vegetables. The reason for this could be one or more of the following:

- (i) the only sure markets that exist and for which proper crop lien agreements can be arranged for commodity crops,
- (ii) the prevalent and perhaps only technology possessed by the farmer in the target group in the field of traditional commodity crops;
- (iii) inputs (especially seeds and appropriate fertilizers) for crops other than the ones mentioned are extremely expensive or non-existent.

It was noted^d that to some extent the expressed purpose of a loan did not mean much. Loans approved expressly for say sugar cane or bananas were being used in some cases for cabbage or sweet potatoes as well, specially where inter-cropping was involved. This situation is possible because monitoring of APC loans is poor or non-existent in DFCs. However, the practice is not at all questionable from a practical point of view because the farmer is

using the loan to his maximum advantage. Later on, when and if statistics are compiled, the practice may cause distortions in the data gathered.

The procedures and especially the paper work for appraising and approving APC loans are cumbersome and in many instances repetitious. More than one DFC visited used several different forms, some of them requesting basically the same information.

2. DFC Organization and Performance

Considering the circumstances and limitations present in each country, the organization and performance of the DFCs could be generally rated as fairly adequate. However, as far as the APC scheme is concerned, there are a number of improvements that need to be made which are discussed elsewhere in this report.

The majority of the DFCs have no planning units nor statistics compiling systems to assist them in the elaboration of projections, determining future credit needs, analysing the types of loans granted, etc. Their filing and record keeping methods could be upgraded.

With the exception of St. Lucia where disbursements of APC loans amount to 87.8% of the amount committed by the CDB and possibly Belize where other types of limitations exists, the rest of the DFCs are critically under-staffed with regard to their agricultural loans programmes in general and to the APC scheme in particular. All agricultural loans in most of these DFCs are handled by the FIO assigned for the FIC scheme, and the number of field officers available to assist him is most inadequate. In Antigua there is only one officer handling the entire agricultural loan portfolio of that DFC. It has been indicated repeatedly that one of the main reasons for the slow progress of the APC scheme has been the absence in the DFCs of a person specifically responsible of its development.

In addition, allocation of human resources in some instances is considered to be wasteful. Trained agronomists were observed spending as much as a full day just filling forms which could have been completed by clerks making perhaps one third of the agronomists' salaries. While the agronomists were so occupied, irked farmers were left waiting for somebody to come and appraise an application, authorize a disbursement or show the correct way of applying fertilizer to a tomato patch.

is this the responsibility of the DFC?

3. Agricultural Extension Service

With the exception of Belize, coordination of APC activities between DFCs and AESs is excellent. In most cases the only promotion of the APC scheme is carried out exclusively by the AESs' field personnel.

While some of the AESs' officers are university trained agronomists, the majority - specially those in the field - are only middle-college diploma holders or practical technicians.

The major constraint to their work is lack of adequate transportation. Only about half of the AESs' field staff own cars, the rest have to use public transportation or ~~hoping~~ for rides to make their rounds.

4. Constraints and Opportunities

As indicated above, perhaps the major constraint the APC scheme faces is the lack of any concerted and planned effort to promote it among the target group in the participating LDCs.

Scarcity and high price of appropriate agricultural inputs, as well as marketing arrangement - specially for non-commodity crops - are also very important constraints which are being discussed in full under the appropriate headings.

what is this?

On the positive side, there are a number of projects being developed by Government and other development agencies in most of the LDCs for land distribution, irrigation, crop diversification, etc, which will facilitate the expansion of the APC scheme.

B. Agricultural Input Distribution

Summary of Scope of Work Issues

During field observations and discussions, some evidence was seen regarding the use of new technology in traditional export crops and food crops, especially vegetable varieties. Small farmers were using the improved varieties when available, but the influence on income is fragmentary. Production increases have not decreased import volumes to a noticeable degree.

Small farmers are those with a farming size of 0 - 25 acres, and who produces both cash and food crops. Their number has diminished over the past few years but efficiency has improved inspite of their low level of formal education. They produce the major share of both traditional export and food crops. In some areas of Belize, they are shifting cultivators and efficient in production of rice and vegetables.

Extensive source
The AES, though weak in most LDCs, services farmers with their land preparation, credit applications and information for crop protection and distribution of planting materials, when available; farm operators include men and women managers. In 1978 it was reported that ^{OP} on the 30,000 small farmers in the region 31% were women. Female operators were met in St. Lucia and St. Vincent. Women constitute the health and nutrition services which is paralell to conventional Home Demonstration programmes in MDC; elsewhere females were observed in high echelons of Government viz., EMB in Belize, Ministry of Planning in St. Lucia and Supervisors of marketing Boards supermarkets in Antigua, and St. Vincent. Antigua has 500 "Hucksters" and most of them are women who deal with hotels during the tourist seasons.

Marketing of farmers produce is under auspices of commodity Boards for export crops with guaranteed prices. Food crop prices are regulated by Marketing Boards whose functions include buying and selling and pricing. Marketing continues to be a formidable constraint for small farmers of food crops. Training in marketing and marketing analyses is a vital necessity. Capability for training in marketing or agricultural economics is not provided at the UWI in Barbados. A branch of the Agro-Economic Society is in Barbados and appears to be capable of performing economic analyses.

Aside from the bureaucratic constraints^x entant in the CDB and DFCs, those experienced by the small farmers are inadequate supply of agricultural inputs and markets; available land did not surface as a major constraint in any of the five LDCs visited. Amplification of the agricultural input distribution and marketing constraints has been given under those topical discussion³.

Another obvious constraint is lack of coordination between and among Government agencies which lessens the effectiveness in providing services to the small farmers. Many of the farmers needs could be better served if regular communication channels between AES and Research prevailed. Adaptive research could assist in the affective application of the new technologies, especially on food crops in all of the LDCs. A focus on cropping systems, with emphases on planning and monitoring, was not a priority consideration by MinAg subordinate institutions. Marketing effectiveness would increase where AES and Boards are in agreement with regard to supply and demand for different food crops. Unilateral action by these explains the reason for glut and deficiencies in meeting Agricultural Marketing Protocol (AMP). For instance, the experience in St. Vincent is a typical example^{where} (of) unilateral programming failed to meet its AMP with Trinidad.

C. 1-2 Integration of the sub-components of the loan is vital for increasing the living standards and incomes of the small farmer in the Caribbean. Credit institutions are needed so farmers can borrow funds for procurement of his input requisites such as fertilizers, seeds, seedlings, pesticides, and sometimes labor for land preparation, weeding and harvesting. Within the -006 project area, small farmers are using APC productively: In Belize, APC clients use credit to purchase tractors and wagons, labor, seeds and fertilizers. Without APC, these inputs could not have been procured, according to the farmers in Orange Walk District; in Antigua, a major percentage of the APC was use^d for input procurement of vegetable seeds, labor, land preparation and fertilizers; APC clients in St. Lucia, purchased pigs, baby chicks, cleared land, and constructed pig stys, poultry houses and banana boxing plants; the APC programme in St. Vincent has not been activated, but the FIC has been activiated and is illustrative of the complementary relationship credit to inputs; small farmers in Grenada produce traditional cash crops and food crops, and APC borrowers use loan funds to purchase their inputs, viz., fertilizers, seeds(when available) and equipment.

The Feeder road component of the -006 loan facilitates delivery of inputs to the farmers and marketing depots, and in the transportation of the crops to markets. Moreover, feeder roads will open access to new acreages of arable land in most of the LDCs; in St. Vincent, for example, an additional 2,600 acres of land will be brought into cultivation with construction of 24 miles of roads with -006 funds.

D.1 All of the Marketing Boards surveyed need funds to strengthen their capacities to handle input distribution and marketing of crops. Personnel and facilities need to be improved in order to be in a position to respond to needs of farmers in the production and marketing of crops. An input supply/distribution facility could be a useful candidate for use of input allocations. The Barbados Marketing Corporation (BMC) has approval to borrow 54% of the \$2.0 million allocated for the marketing component. If all conditions precedent are met ^{by} ~~the~~ BMC, it will, probably, consume the allocation.

Agricultural inputs for all export crops are provided by the Associations for the special crops, namely, bananas, sugar cane, cocoa, coconuts, nutmeg, ginger, etc. Inputs for food crops are not provided in an organized manner, and producers of these crops are compelled to use fertilizers formulated for the special crops, which for the most of the food crops, are too costly and wasteful.

Seeds for food crops are not stocked in Government stores nor by private firms. Where Governments have plans for supplying seeds, they have difficulty with timely deliveries from overseas suppliers. The latter could be overcome through programmes of adaptive research, but adaptive research programmes were not seen nor discussed during the Team's visit to the five LDCs. The market for the improved seed varieties was evidenced through discussions with farmers, many of whom identified varieties preferred, together with formulated fertilizers necessary for the high yielding varieties. Marketing Boards have statutory powers to provide agricultural inputs, and some are attempting to do so. However, input supply is not planned nor financed in such a manner to meet the needs of food crop producers.

C. Marketing

Marketing Boards have been authorized by Government with provisions for a wide range of functions, powers and regulatory responsibilities. Manpower to manage the Boards has been appointed, but most of the personnel need training, especially in marketing aspects of Boards' responsibilities. The need for this was magnified in varying degrees in LDCs visited. Since marketing is one of the most critical constraints exacerbating producers input and output, training of marketing professionals should be a high priority of CDB, Governments and USAID.

Training and some re-alignment of personnel assignments will quicken attainment of objectives of the Boards and the objective/goal of the -006 loan funds. Three Boards (Belize, St. Vincent, St. Lucia) are structured to service farmers marketing needs with depots in strategic district locations, but they need to amplify effectiveness with satellite ^{re} presentations at informal market centers.

An important function of the Boards is to establish equitable prices with assurance for profit margins. In carrying out this responsibility, Boards establish guidelines that are announced prior to commencement of the growing season with loose contractual arrangement with producers. With some knowledge of the supply/demand elasticities, special campaigns, and an efficient divulgation/intelligence network, pre-season pricing can be an incentive for production. Otherwise seasonality of production and a diversified cropping system may require a more flexible approach for day to day pricing. Where Boards are constrained by social stresses, price subsidies may be enforced during periods of glut.

Despite the inordinate provisions for agricultural input distribution, and the imperfections in marketing systems, small farmers in the CDB region are the major producers of export and domestic crops. They are innovative and comprise a mixture of male and female operators. In addition to farming, women occupy positions of influence on Marketing Boards, Ministries, and secondary and tertiary industries. Whereas their presence in Extension Services was not visible, they do constitute personnel for health and nutrition, a reasonable facsimile of Home Demonstration Services.

In the absence of supporting empirical data, it is impossible to insert factual results of the -006 loan on employment generation and income distribution, but the loan usage has had some positive effect. Some -006 monies expended for credit have generated employment and as clients enterprises - boxing plants, banana and cane field, pig stys, and poultry flock develop - employment and incomes will be affected with greater tangible evidence.

D. Feeder Roads

1. Activity under AID Loan 538-T-006

There have been disbursements for feeder roads from AID Loan 538-T-006 signed June 30, 1976. Projects were appraised by CDB and approved for two countries, Antigua and St. Vincent, in June 1978 and December 1978, and sub-loans to the countries were respectively approved by AID in the amounts of US\$688,704 (August 3, 1978) and US\$1,636,272 (February 27, 1979).

The sub-loan was not signed by Antigua until August 30, 1979, more than a year after project approval, as there was strong objection to implementation procedures required under the terms of the sub-loans; in particular, construction to be done by contract rather than Public Works force account. Although the sub-loan is now signed, Antigua has still taken no implementation step. It clearly has not given up on undertaking the construction by force account using Ministry of Works personnel and equipment. Having been "burned" repeatedly with force account type construction that was unproductive and high in cost, it is doubtful that CDB will (or should) deviate from its present policy which requires that work be undertaken by competitively-bid construction contract. It is considered a better than even chance that the Antigua project will not move over the construction contract/force account issue and will have to be cancelled.

St. Vincent also objected to the requirement for construction by contract but signed the sub-loan May 30, 1979. Ministry of Works has decided to proceed under the terms of the sub-loan and has taken the initial implementation step -- advertising for consulting engineering services (pre-qualification). No funds are expected to be disbursed until 1980, and then only a small amount mostly for engineering services. A signed and mobilized construction contractor is not probable before the latter half of 1980.

In summary, it is clear: the contribution of Loan -006 to feeder roads will be virtually nil unless the terminal disbursing date, October 30, 1980 is extended substantially.

2. Appropriateness of AID Loan -006 Lending Criteria and Guidelines

The lending criteria and the guidelines set forth in the Project Paper for evaluating feeder road sub-projects were carefully examined. They were found sound in principle and CDB project appraisals were made substantially in compliance with the guidelines.

The requirement that the Unit Government ensure "that proper maintenance capability is installed for specific application to rural feeder roads" is desirable but not realistic. See detailed discussion following under ~~the~~ Section IV, Examination of Certain Premises and Assumptions in Project Paper.

3. Constraints to Sub-Project Development and Implementation, AID Loan-006

a. Sub-Project Appraisal

CDB project appraisals for feeder roads in both Antigua and St. Vincent were found to be well-presented, detailed and the economic analysis for road selection ^{is} substantial compliance with the Loan guidelines. The time-price that had to be paid to complete such an exercise was objected to by the Unit Governments and CDB. However, the validity of the approach is unquestioned and should be continued to assure economically sound projects. The time required for project appraisal and approval must be taken into account, ⁱⁿ overall Project scheduling.

From initiation of project identification, through detailed appraisal, to a CDB Board and AID approved sub-project can well require 10-12 months, with Unit Governments review and execution of the sub-loan document still to follow. To appraise projects in a number of countries invites a scheduling problem of available CDB staff as well. The setting of the loan terminal disbursement date, particularly where a multiplicity of sub-projects will be involved, should recognize the reality of the substantial period required in the early portion of the overall loan "time-line" for sub-project preparation and review/ approval in turn by three separate entities -- CDB, AID and the Unit Governments.

b. Sub-Project Implementation

The perception of project management/engineering/construction problems and agreement in the project development stage on effective implementation procedures ranks in importance with sound economic analysis. It rarely receives comparable attention. The two loan -006 sub-projects have been delayed for months over a basic implementation matter.

For the two sub-projects approved in Antigua and in St. Vincent, for example, there was apparently no true meeting of minds between CDB and the proposed loan recipient on the construction contract/Public Works force account issue. This is no criticism of CDB's basic position which is born of experience and deemed sound; rather, the issue should have been identified, attacked and resolved before CDB/AID project approval. Given that it was not resolved in the project development stage, it is difficult to understand why the issue was allowed to lie (or move fitfully) without resolution for so many months after commitment of loan funds. And in Antigua it is still without resolution. It would appear that the matter cried out for direct and expeditious action by CDB and AID. For example, with the Unit Governments having been given ample advance notice to prepare, one suspects that the issue could have been disposed of by the visit of a properly constituted CDB/AID team who made it clear that it was not leaving till the matter was settled (such settlement conceivable being a mutual decision to cancel the sub-loan).

c. Unit Governments (Antigua and St. Vincent) Management and Implementation of Feeder Road Sub-Projects, AID Loan -006

(1) There is no organizational structure in place for implementation of the feeder road sub-projects in their current embryonic stage. For the minimal activity to date, the Chief Technical Officer (Director of Public Works in Antigua; Chief Engineer, Ministry of Works in St. Vincent) has served as de facto Project Manager. Assuming the pace of implementation quickens, the engineering staff at the Ministry of Works in both Antigua and St. Vincent (described in the Annex I - Field Report) is too thin to staff out a "feeder road unit". A satisfactory Project Manager to handle the Ministry's interest with consulting engineer and construction contractor, as well as with CDB, will almost assuredly have to be secured from outside.

As to monitoring and evaluation efforts by CDB and AID Project Managers, there has hardly been scope for this activity to date other than with respect to dealing with the construction contract/force account issue which has delayed the beginning of implementation of the sub-projects. The performance in this regard, or lack of it, was discussed in b. above.

(2) In the places where it has been given a fair trial -- Belize and Grenada -- it has been demonstrated that construction contractors are available for feeder road construction. Certainly pre-qualification should be carried out to assure that contractors who bid have the financial, management and equipment resources to carry out the works. CDB is confident that contractors are available to carry out feeder road works of the volume anticipated for financing in the Region. Significantly, the Unit Governments did not raise the lack of construction contractors as a factor in making the force account argument.

4. Relationship Between Feeder Road and Agricultural Production Credit Component of AID Loan -006

There was no specific linkage between the planning of feeder road sub-projects and credit sub-projects in Antigua or St. Vincent (or elsewhere for that matter). However there is no doubt that whenever feeder roads have been completed (as observed in four different countries) the effect on farming activity is startling both in intensity of cultivation and development of new lands. It is clear that all-weather vehicular access for labor, supply of fertilizer and other inputs, and for timely transport of undamaged harvest to markets give a powerful boost to agricultural production despite constraints which may exist in credit, input availability and markets. It is clear that feeder road completion catalyses the demand for other essential inputs.

5. CDB-Funded Feeder Roads, General

In the absence of construction activity or completion of any AID Loan -006 feeder roads, such roads completed or being constructed under earlier CDB funding were examined in the countries visited. Findings are summarized below:

a. Implementation Procedures

Although there were initial difficulties, project implementation and construction procedures have evolved in Belize, St. Lucia and Grenada (somewhat different in each country) that have enabled effective prosecution of projects. In Belize, up to six contractors were used plus a Ministry of Works Sugar Roads Construction Unit (of about twenty men and US\$250,000 worth of equipment purchased from the CDB loan in 1977) which supplemented the contractors' work. In St. Lucia there has been success with a Crown Agent construction management contract that handles all aspects of the work. In Grenada, work is now being done by construction contract after an abortive effort with force account. Many roads have been completed in Belize and St. Lucia; Grenada has virtually completed a ten-mile construction contract.

b. Unit Government Organizational and Management Strength

Without exception, ^{mana} managerial/technical personnel available within the Ministry of Works for undertaking feeder roads projects are thin, to almost nil. See Annex I- Field Trip Report for details in each country. Thus the soundness of the emphasis by CDB on implementation procedures utilizing consulting engineers and construction contractors; both are available in the Caribbean region and some (as in Grenada) have been attracted from beyond (Canada). Utilizing such outside assistance of course requires an in-house Project Manager to represent the Ministry of Works. CDB rightly insists upon the appointment or employment of such a Manager; usually he must come from the outside.

c. Organizational Linkage Between CDB and Unit Governments

The formal link is between the CDB and the Ministry of Finance. The operational link for feeder road sub-projects is between CDB and the Ministry of Works, specifically through a Project Supervisor from CDB staff and a Project Manager representing the Ministry.

Through recurring reports (should be monthly, but not always so) from Project Managers and consultants, and periodic field visits, the CDB Project Supervisor was reported to monitor project operations and progress. There was no firm pattern ascertainable as to the identity ^{of personnel} and frequency of field visits by CDB staff. Given the composition of the Infrastructure Division technical staff at CDB, doubtless field visits are not as frequent as might

be desired to identify problems and assure smooth implementation.

In summary, adequate personnel for management of projects is a constraint -- certainly on the Unit Government side, to a lesser degree with CDB, and will likely continue to be. On the other hand, CDB recognizes it and structures project implementation in an effort to cope with it.

d. Capacity to Construct Feeder Road Sub-Projects by Force Account

In no country visited does the Ministry of Works have the managerial resources, sufficient equipment or the maintenance/repair echelon necessary to undertake feeder road project construction effectively. (St. Lucia comes closest with respect to equipment having had success with Crown Agent-managed projects using a combination of government-owned equipment and local leasing, unique to St. Lucia). In fact, the countries are hard-pressed to maintain the existing road system with the resources at hand.

e. Absorption Capacity for Feeder Road Sub-Projects

There is definitely a limit to the volume of feeder road construction that the countries can adequately manage; not more than ten to twelve miles per year through ^{one} consulting engineer and one construction contractor generally. Belize is something of a special case; road construction is simpler and there is more acceptance and experience with construction contracting.

f. Common Defect Noted in Feeder Road Design and Construction

Finally, a technical comment on road design and construction. On many feeder road segments constructed in the Islands, side drains (ditches) were found to be inadequate. In the interest of building within a restricted right-of-way or minimizing excavation (or both), drains of too small a section (width-depth) were constructed. Further, backslopes were left ³⁰ steep that sloughing and blocking of drains during heavy rain periods was almost assured. The detailed design used for future projects should take this into account; it is vital to maintain the integrity of the road formation and surface (impossible without adequate drainage), particularly in a situation where maintenance is infrequent. It is doubtful that the added increment of capital cost would be the break-factor in a cost-benefit analysis in any but an otherwise border-line road.

Except in Belize, the roads are paved with single or double surface bitumen treatment. This is economical and generally satisfactory. However, such paving is quite susceptible to being broken through and destroyed by spinning truck wheels on steep grades -- grades of 18-25% were observed for short stretches in the more mountainous areas. To counter such potential damage, consideration should be given to paving especially identified stretches with hot-mixed asphaltic concrete. The additional first cost would be off-set by reduc^{ed}ing maintenance and improved road utility.

IV. Achievement of Project Objectives

The project goal is stated in ~~indefinite~~^{finite} terms in the Project Paper: "... to increase the income and standard of living of ~~the~~^{the} small farmer sub-sector by stimulating small farmer (less than 25 acres) ~~production and productivity~~^{production and productivity}."

Likewise, the manner of achieving the goal is stated ~~imprecisely~~^{imprecisely}: "The means of achieving this goal is to increase, in quantity and quality, the productive resources and services available to small farmers through national and regional institutions."

As neither the goal nor manner of achieving it was explicit in terms of qualitative and quantitative targets objectively verifiable in magnitude and against time, and since no baseline date was established at the onset of the project, there is no precise way of measuring increases in most of the outputs. Therefore, the evaluation of the Project herein is based largely on personal observations appraising the limited results obtained thus far against a level of performance which, in the judgement of the Evaluation Team, would be reasonable and plausible under the conditions present in each of the countries visited.

To date the achievement of project objectives has been minimal. The progress achieved has been wholly in the area of agricultural production credit. No sub-projects have advanced to the point of disbursement in feeder roads, nor even to the point of commitment in marketing and agricultural input distribution.

With respect to Agricultural Production Credit, the meager progress observed has been achieved haphazardly. No concerted planning nor appropriate promotion of the program is ~~per~~^{per}sued by the DFC's. Most of the ~~Pre~~^{Pre}-conditions to APC sub-loans to the DFC's have been ignored and their non-compliance constitutes the major constraint for not attaining a better performance. Some of the most important of these constraints are:

- poor or non-existent marketing arrangements, specially for intended diversified crops (this includes discriminatory price control policies and other disincentives to agriculture);
- scarcity and high cost of inputs (mainly appropriate fertilizers for vegetable production and animal feeds);
- non-assignment by the CDB of an additional FIO to the participating DFC's (except in one case) to supervise and monitor progress of the APC program.

With respect to Feeder Roads, projects (2) were not appraised and approved until 2-2½ years after Loan -006 was signed. Then the loan recipients balked at some of the implementation terms of the sub-loan to the effect that sub-loan signing and initiation of implementation steps have been substantially delayed. Result: more than three years after the -006 Loan Agreement was signed, the first actual construction is at least a year away in St. Vincent, and even more in Antigua, if at all.

Regarding Agricultural Input Distribution, the funding of two types of activities was envisaged, i.e. AID-funded sub-projects with public institutions and private entities, and sub-projects with a mixture of AID and other source funds with Governments, CDB and private enterprise. There is no evidence that use of any of the \$1,000,000 allocated in the Project Paper for such sub-projects is planned in spite of the potential for utilization and both Government organisations and private enterprise are pressed to provide inputs for small farmers.

The only activity on the Marketing front has been a request by a non-LDC government, Barbados, for an allocation of US \$1,077,500 for use by the Barbados Marketing Corporation. This allocation was approved in principle and the Loan Agreement amended accordingly; to date, no sub-loan has been approved to commit the funds. The amount involved is 54% of the total sum shown in the Project Paper

V. Examination of Certain Premises and ^A Assumptions in the Project Paper

A. Integrated Planning

Inherent in the project as developed in the Project Paper was the concept that the various components necessary for integrated agricultural development -- credit, inputs, marketing and feeder roads -- would be established in an area more or less simultaneously. For example, the criteria for feeder road selection included "... evidence that, once the road construction or improvement is completed in a given region, no other major bottleneck or input constraint exists which would permit the benefit stream projects.... from being realized".

Such precision in developing and implementing complementary projects, or fitting them to an area where some of the components are already in place, infers a planning capability and flexibility in project development in the various LDC countries that simply do not exist. On the other hand, the observations of the Evaluation Team in the various countries confirm that when any one of the components is put in place there is a salutary effect on increased agricultural production. This was particularly evident where feeder roads has been pushed into areas formerly difficult of access.

B. Agricultural Production Credit

The most important premises in the Project Paper, regarding the production credit element refer to the guidelines, criteria and policies governing the scheme, specially with respect to: (1) target group, (2) size of loans, (3) loan terms, (4) guarantees, (5) crops and purposes of loans, (6) loans to small farmer organizations, and (7) other premises. An analysis of these follow:

(1) Target Group

The Project's definition of the target group: small farmers with less than 25 acres, is quite appropriate, except in the case of Belize where a

special situation exists. While in the rest of the LDCs the average small farmer holding rarely is larger than 5 acres, in Belize small farmers increasingly are having access to holdings of around 100 acres without changing their status of "small".

Belize is a large country (relative to her Caribbean sisters) with a very low population density where only 15% of the land suitable for agriculture is currently utilized. Government owns about 51% of all potential agricultural land and has an excellent system for land distribution. Practically any farmer can lease land from the Government at very nominal prices through a system called "Lease-Fiat" by which he can ultimately acquire full ownership. Land thus leased is distributed in blocks of 30 acres each, and it is not uncommon for farmers to apply for and be granted 3 or 4 blocks at one time.

Such holdings then are cultivated on a shifting basis (termed "milpa" farming) whereby part of land is cleared and cropped for two or three years and then the farmer moves to another plot for another two or three years and so on until some 10 years later he returns to the original plot. This system allows the farmer to crop without the use of fertilizers or herbicides because when the land has about exhausted its natural nutrients and the weeds are starting to get too thick, he moves on and lets the forest and bush take over; when he returns a few years later, the soil has recovered its fertility and the natural growth has killed the weeds underneath.

These "milpero" farmers, who seldom cultivate more than 30 acres at any given time, are definitely small by most definitions, and yet they are excluded from the APC scheme because of the 25 acre limitation.

The DFC in Belize believes that if it was authorized to increase the limit to 30 acres and to interpret the limitation not as owning more than

that many acres, but as cultivating them, it would be able to extend the APC programme to some 3,000 to 4,000 small farmers.

(2) Size of Loans

Even though the Project Paper establishes only a maximum loan size of U.S.\$2,500, the CDB agreements with the DFCs introduces a minimum loan size of U.S.\$200, presumably to save them from the expensive handling of too many small loans. While some of the DFCs expressed that they were quite happy with both limits, others stated they would like to see the minimum limit dropped completely and the maximum increased to at least U.S.\$4,000.

With regard to the minimum limit, they indicated that it prevented them from granting loans for back-yard farming, for which there is a great potential in some areas, as well as from assisting farmers who are financing their projects with their own resources, but who once in a while need a small loan to meet an emergency in their farms.

The arguments to increase the maximum limit were based on the fact that inflation has raised the cost of inputs and labour. An indication of how inflation has affected production costs may be found on the fact that while the Project Paper estimated the size of the average loan at \$600 three and a half years ago, the size of the average APC loan today is close to \$1,000.

(3) Loan Terms

The maximum amortization period of 18 months for short-term loans and 5 years for medium-term loans does not seem to pose any problems for the APC loans. What does constitute a constraint is the limitation of medium-term loans to 20% of the total value of the APC loan portfolio.

One DFC (St. Lucia) tried to obtain a ruling from CDB authorizing it to increase the proportion, but reportedly the CDB turn it down. Regardless, their

APC medium-term loans are running around 58% of the total loan value. In Grenada, where the scheme just started to be implemented a few months back, their medium-term loans constitute 36% of their APC loan portfolio, a fact which they had not realized until it was pointed out to them during the Evaluation Team's visit to that country.

No rationale is given in the Project Paper for the establishment of a 20% limit on medium-term loans. Generally, the Evaluation Team's experience regarding this matter has been an even distribution between short and medium term loans. The DFCs that expressed their discomformity with this measure indicated that an increase of the limit to at least 40% would enable them to implement the APC programme in a better fashion. They indicate there is a large potential in lending for the establishment of livestock projects, and that many small farmers not eligible under the FIC scheme need credit for fencing and other improvements in their farms which can not be financed with short-term loans.

(4) Guarantees

The policy that under the APC scheme freehold ownership of land could be replace by other types of collateral, including crop liens, clearly indicates a liberalization of conditions to enable the participation of many small farmers who do not have titles to the lands they occupy. However, with regard to crop liens, the "Rules and Regulations" adopted by the CDB for the APC scheme stipulate that they may only be accepted when secured market arrangements acceptable to the CDB can be established, normally through a marketing or purchasing agency.

In practice this stipulation, is somewhat self-defeating. Secured market arrangements in the LDCs (for which the APC programme was designed) exist only for export commodity crops and for certain cash crops like sugar cane in Belize. The Project Paper implies that diversification to food crops, specially

vegetables, is objective of the APC scheme. However, no viable or satisfactory market arrangements for these kind of crops have been possible to be worked out between the small farmers and the marketing agencies in these LDCs.

Only one DFC (Belize) has adhered strictly to this regulation; most of the rest go through the formality of requiring crop assignments and other agreements worded in vague terms which do not really obligate either the marketing agencies to buy the crops or the farmers to sell their production to them. It has already been indicated that in at least two of the countries visited vegetables and other food crops grown with APC loans are being sold to the hucksters or directly by the farmers at the market place.

Perhaps surprisingly to some, recovery of these loans have been reported as quite satisfactory. It is the opinion of the Evaluation Team that if the DFCs are willing to assume certain risks as their experience increases, they should be given more latitude to do so.

(5) Crops and Purposes of Loans

As indicated previously, the purposes of APC loans have not been specifically stated in the Project Paper, but only implies as being to diversify production to food crops. Because of the inputs and marketing constraints existing for this type of production, it is felt that the APC scheme cannot press small farmers into producing crops where there is a high risk element (high production costs and no assured market). Therefore, it is suggested that until such time as these issues are resolved, APC loans be granted for those crops that have the best chance of providing the farmers with the safest and highest possible returns.

Also, the Project Paper expressly precludes APC loans from financing the purchase of land. It is assumed that the purchase of land has been excluded (1) because it is merely a transfer of wealth and does not really contribute to production of any kind, and (2) because loans to purchase land generally have

to be granted for more or less long terms. However, it was pointed out that a situation exists in quite a few cases where farmers are cropping land leased from people who have emigrated and will probably never come back, which could be purchased if credit sources for this type of transactions were available. Usually farmers will not make any improvements or permanent investments on land that does not belong to them. The land referred to in this context consists of small plots. (usually less than one acre) whose purchase could be financed in most cases with medium-term loans. If APC loans cannot be addressed to this purpose, efforts should be made to find other sources of financing for the DFCs to fulfill this need.

(6) Loans to Small Farmer Organizations

In the Caribbean Region, as in most places with dense population in the rural areas, there is no effective way in which a substantial number of small farmers can be reached and assisted on an individual basis. To attempt to do so would require the expansion of banking and extension services beyond any practical limits. Because of this circumstance there is an increasing tendency on the part of international financing and development agencies to introduce group farmers' lending practices.

These are limited but most encouraging experiences in LDCs in other areas of the urban credit for small farmers has been channeled successfully through cooperatives, credit unions and other farmer organizations.

Even though the Project Paper states very succinctly - that small farmer organizations will be given preferences for the financing of capital investments and credit programmes, no such loans have been implemented thus far under the APC scheme.

Perhaps this has been the case because such small farmer groupings are

generally poorly organized and in no position to effectively channel any financing at this point. However, there is evidence of increased technical assistance programmes to cooperatives and credit unions by several international institutions in the LDCs visited.

This would signify that an opportunity will exist in the near future to reach larger numbers of farmers with credit and technical assistance through these groupings and it is suggested that both the CDB and the DFCs be alert for this possibility.

(7) Other Premises

One premise in the Project Paper is that the CDB would assign an additional FIO to each of the participating DFCs in order to provide for in-country supervision of the scheme and related technical assistance. To date only one DFC (St. Lucia) has been provided with an additional FIO.^{1/} It is felt that the non-assignment of a FIO with specific responsibilities over the APC scheme in the difference DFCs has been a constraint to project accomplishment. The CDB has indicated that the reason it has not complied with this requirement is because the volume of APC loans in the DFCs, except in St. Lucia, is so small, it does not warrant appointing an officer for such purposes. Clearly this issue constitutes a vicious circle: the volume of APC loans in the DFCs has been small and will remain so until an FIO is assigned on a full-time basis to carry out all the functions necessary for the timely implementation of the APC scheme.

C. Agricultural Input Distribution

Agricultural Inputs Distribution and Marketing requisites are essential in developing agricultural economies of scale and the efficiency of small farmers as characterized in the LDC -006 Project areas.

^{1/} However, he has resigned his post since June of 1979 and no replacement has been viewed yet.

It appears that premises and strategies employed at including Agricultural Input Distribution and Marketing as major constraints limiting Production and Productivity are valid. As germane as these premises and assumptions were in 1976, the constraints are major problems of governments three years hence, in 1979.

While efforts to increase Production and Productivity are essentials of any well designed strategy in agriculture, it must be a companion of resource allocations if the factors of Production are to be consistent with development of supply institutions and systems. Moreover the essentials of inputs requisites are quite essential in moving agriculture in the Caribbean LDC region, especially the designated small farmer. Strategy for the mixed funded input project is basically sound and desirable by LDC governments, but CDB and the DFCs have not undertaken steps to make the Windward Islands Agricultural Input concept a reality and with covenants that the national and the regional facilities will accede to the needs of small farmers who over time will assume ownership.

D. Marketing

Among the types of Marketing sub-projects activities anticipated for financing was "Market Intelligence and Divulcation System". This is a desirable Project that could be put on track within the present framework of the LDC Marketing Boards. Information pertaining to Markets is not channeled to producers systematically; market intelligence seldom reaches the micro level, especially where spatial disparities exist. In many nations the pricing of produce usually favors urban markets and consumers who are in possession of market situation and status. Frequently, retailers use this advanced information to exploit producers in rural markets which could be circumvented with a regular flow of information on supply, demand and prices of food commodities produced.

Market intelligence and dissemination can influence cropping systems by divulging what profit margins are for various crops ^{or} that can be economically grown in the system. With a broader knowledge of income possibilities through crop substitution market intelligence would have a positive result on small farmers in the region. Given the current status of Marketing Boards structure, this type of sub-project is one that could be activated with least additional capital outlay.

Social systems (schools, cooperatives, farmers, associations, churches, etc.) of Government are networks which could hasten divulgence of intelligence information to farmers, and will provide a feedback mechanism which is so vital to increasing prosperity and incomes of farmers.

As previously mentioned, the stage of development of Marketing Boards in most of the five LDCs visited, several can accommodate sub-project activities in "Marketing Intelligence and Divulgence". Belize, St. Lucia and St. Vincent could be immediate beneficiaries with a sub-project of this type.

E. Feeder Roads

1. Maintenance

One of the eligibility criteria for selecting feeder roads, as stated in the Project Paper, was assurance "that proper maintenance capability is installed for specific application to rural feeder roads". This is ^a desirable but highly unrealistic requirement. In no country visited was there a specific "feeder road" maintenance programme nor prospect of such. Maintenance is organized system-wide by districts and assignment of the limited resources to a particular class of roads is not practical. Clearly maintenance is done on "a greatest need" basis and it is unlikely that the situation will change in the foreseeable future.

With respect to upgrading maintenance resources and capabilities, the proposed CDB project described in the -006 Project Paper for a five-year, U.S.\$4,643,500 programme in the LDCs never got off the ground. It was reported that the LDCs found themselves unable to make the budgetary commitments for annual maintenance that the CDB deemed essential to the success of the project.

The conclusion is that road maintenance in the LDCs will always be a problem and never satisfactory. However, from observation of road conditions and maintenance operations as now practiced, it is expected that the feeder roads will be maintained in condition sufficient to pass the traffic envisaged to fulfill their economic function in agricultural production.

2. Method of Construction

The Project Paper (Annex B, Exhibit 2) implied that the CDB was moving away from an earlier position that unit governments must utilize private contractors, and allowing feeder roads construction to be carried out by direct labor (force account) under the management and supervision of the Public Works Department. Further with respect to availability of equipment, the Technical Analysis stated "In general the Governments of the LDCs where feeder road construction is contemplated have sufficient equipment to undertake the work envisaged".

In fact, repeated unproductive experience with force account has moved CDB to a strong current position ~~that~~ ^{that} construction work must be undertaken by contract.

Though not to denigrate the good performance of the small Construction Unit in Belize, nor the Crown Agent arrangement in St. Lucia, in no country visited was the Public Works Department found to have the management resources nor sufficient equipment and maintenance/repair echelon to undertake effectively construction of a feeder roads project by force account.

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VI. Prospects for Achievement of Projectives

A. Agricultural Production Credit

This is the only component of the project for Integrated Agricultural Development in the Caribbean Region under AID Loan -006 which has had any measure of achievement. The Project Paper tentatively allocated \$4,000,000 for APC. As of August of 1979 the CDB had committed \$2,163,000 and the DFCs had disbursed only \$626,000. This represents scarcely 15.6% of the amount allocated *in the Project Paper* by AID and 29% of CDB commitment.

A number of constraints have been identified earlier in this report which explain the reasons for such slow progress. It is not believed that they may be effectively dealt with by the total disbursement date of the loan. Consequently, even if some of the constraints were removed immediately, only some limited additional progress might be achieved. This progress would not necessarily mean that any of the project objectives will be met. To achieve such objectives it will be necessary to resolve the marketing and ⁿinputs issues to some extent, and this will undoubtedly take at least a year or two.

However, it is also felt that the APC scheme, however slow and defective, has some merits. To a degree it is assisting small farmers and, most important, it is giving the DFCs the opportunity to ^yaccrue more experience in the field of small farm credit.

B. Agricultural Inputs

This is an integrated project with four components that have a high degree of complementarity, which from inference, it is an implicit assumption that success of 006 impinges on achievement of each component. Therefore, prospect for achievement of objectives is dependent on the degree of success of the activated sub-project - Agricultural Production Credit (APC) and Feeder Roads.

While APC funds have been invested in inputs, none of the provisions came from established inputs distributive sources identified in the Project Paper. Yet of the \$4,000,000 allocated for the APC sub-project, CDB has obligated only 54%. The amount disbursed by DFCs is \$626,000 which is 29% of obligations, and only 15.6% of this allocation reached small farmers as of August 31, 1979.

With present structures of LDC Marketing Systems, it is feasible to append an input distribution unit to existing facilities but this cannot be accomplished, it seems, by the TDD in 1980.

C. Marketing

The prospects for achieving objective of the Marketing component is dim. The only activity for which funds have been suggested by CDB was for \$1,077,500 for relocating the Barbados Marketing Corporation and expanding its facilities in Edghill.

All of the BMC requested funds are specified for:

- a. Construction of cold storage unit;
- b. Warehousing and crop drying facility;
- c. Related machinery and equipment.

Although allocation of funds from the loan for the above activity has been approved, sub-project commitment of funds has not yet been made; disbursement by the current loan TDD is questionable.

A remaining balance of \$922,500 remains to be allocated; disbursement of this uncommitted amount by the TDD is ^{Problematical.} [not expected].

Therefore achievement of objectives, as originally perceived, is highly unlikely.

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D. Feeder Roads

There is no chance of completion of construction (and realization of benefits) of any feeder roads by the current Loan Terminal Disbursement Date. Not even detailed engineering has begun for either of the two sub-projects to which funds have been committed. Observation of the effect of similar roads built under earlier financing in LDC countries leaves no doubt that satisfactory feeder roads can be built and that they contribute significantly to increased agricultural production and farm income. Therefore, feeder road contribution to Loan -006 project objectives is a matter of the time required for sub-project implementation, not whether it is a valid program component. With extension of the Loan TDD by approximately two years, there is reasonable expectation that sub-projects on which there is now purposeful action can be completed in three countries. Details which include "go-~~no~~^{no} go" decision points for the sub-projects in question are set forth ~~below~~ in Section VII, Recommendations.

E. Summary

There is little chance for substantial achievement of project objectives within the present Terminal Disbursement Date of the loan which is hardly a year away (October 30, 1980). More than three years has elapsed since the signing of the Loan Agreement (June 30, 1976) yet loan fund disbursements are no more than some 6% - - all in the agricultural credit component; none in the feeder roads components, and not even commitments in the agricultural inputs and marketing components.

It is not that need does not exist, nor that the concept of the project was not sound. Clearly it is that the development and implementation of a multiplicity of ^{sub-} projects in some ten or eleven participating LDC countries is beyond the capability of the existing institutions within the normal time frame of an AID loan, or perhaps even to the ^{permitted} limits of loan extension. Assuming that all the funds now committed to agricultural production credit were disbursed by October 30, 1980,

loan disbursement would amount to only 21.63% of the total loan amount. As stated earlier, virtually none of the funds committed to the two feeder roads projects will be disbursed by October 1980.

Given sufficient time, limited achievement of project objectives may be attained. It is clear that management decisions need to be taken soon by AID and CDB affecting the future of Loan -006. The recommendations of the Evaluation Team are set forth in Section VII immediately following.

VII Recommendations

Case I.

In the event current AID policy will not permit substantial extension (years, not months) of the Loan Terminal Disbursement Date, it is clearly a matter of cutting one's losses. No further commitment of loan funds should be made for sub-projects and the loan would terminate as scheduled October 30, 1980.

Case II.

In the event substantial extension of the Loan Terminal Disbursement Date is not foreclosed, and limited progress toward meeting project objectives can be accepted, recommendations with respect to specific sub-projects are as follows:

A. Agricultural Production Credit

1. The CDB should proceed to point FIOs for the APC scheme in each participating DFC. If necessary it should review their functions and responsibilities to ensure that promotional and coordinating activities - at all levels - are a priority. Such FIOs should receive appropriate training and directives enabling them to undertake all necessary steps to implement the APC scheme effectively.
2. The FIO should be responsible for the divulgation of the existence of the small farmer credit program and its general conditions and eligibility, as well as for seeing that actual and potential APC borrowers are trained about the proper utilization of credit;
3. The FIO should determine the kinds and amounts of inputs which will be required collectively by all APC borrowers during any given period or agricultural campaign, and arrange or coordinate with local suppliers or any other appropriate agencies the bulk procurement and sale of such inputs at reduced prices;
4. The FIO should coordinate with local marketing and purchasing agencies arrangements for the more efficient and effective marketing of crops raised with APC loans (this includes divulgation of market intelligence);

(While 3. and 4. above will not resolve the marketing and inputs issues, it is felt that the activity proposed may help to alliviate the situation somewhat and perhaps open roads for some more permanent solutions).

5. The AID Loan Agreement and/or CDB's Rules and Regulations and other guidelines and policies should be amended and reviewed in the following areas:

- (i) Exclusively for Belize, the definition of small farmer should include those cultivating (not owning) at any given time a maximum of 30 acres.
- (ii) Minimum loan limit (US\$200) should be dropped completely and the maximum should be increased from the present US\$2,500 to US\$4,000.
- (iii) The restriction limiting any one disbursement of 25% of the total loan amount should be waived for small loans (say of around US\$400) thus allowing the DFCs discretionary powers to permit borrowers to withdraw the full amount at one time.
- (iv) The limitation of medium-term loans to 20% of the total loan portfolio should be increased to 50%.
- (v) DFC's should be given more discretionary powers concerning the implementation and enforcement of guarantees in general.
- (vi) Loans for the purchase of land should be authorized provided the profitability of crops (or other projects) raised on such land would be sufficient to amortize the loan within a five year period. 1/ The borrower should contribute with at least 25% of the value of the land he proposes to acquire with the loan.
- (vii) The requirement that every fifth applicant complete a questionnaire should be dropped. It is kind of awkward and impractical to request information of a personal nature at a time when it is not certain yet that the application is going to be approved. However, the facts which the questionnaire proposes to obtain are very important for the establishment of base-line data against which progress and the achievement of certain goals and objectives may be measured. Therefore

1/ Unless there exists at the present time a source of credit for this type of loans or such a project is forthcoming in the near future.

it is recommended to replace the use of the questionnaire with socio-economic survey that would be conducted on a sample basis among APC beneficiaries once every 12 or 18 months.

Also on this subject, the CDB should try to compile and tabulate as soon as possible the information gathered thus far through such questionnaires and publish the results.

6. The CDB should make efforts to provide technical assistance to participating DFCs in the following areas:
- (i) Improvement and standarization of all forms utilized for loan applications, credit inquiries, appraisal reports, personal financial statements, farm investment plans, etc.
 - (ii) Improvement of procedures for receiving, analysing and approving loan applications.
 - (iii) Establishment of a permanent record system (cardex) of all borrowers to minimize subsequent paper work and duplication of labor.
 - (iv) Preparation of credit manuals, rules and regulations, promotional material, television and radio spots, etc. in relation to 2. above.
 - (v) Establishment of systems for the compilation and tabulation of statistical information.

B. Agricultural Input Supply Distribution

It is a truism that there has been no activity planned for implementing this aspect of -006 loan funds. The reason for inaction has neither been divulged to the Team by CDB, its intermediaries nor USAID.

The availability of agricultural inputs and their distribution continues to be a constraint for small farmers, who must procure their inputs at a high cost from undependable outlets. The lack of inputs was a common complaint put forth by the farmers and officers in countries visited.

The farmers need to be assured that their essential inputs are available when needed, and at prices he can afford to pay. In countries visited, fifty-three farmers were met, and their common complaint was the lack of inputs for productions of food crops and livestock.

In analyzing the functions and powers of five marketing institutions, it was revealed that Boards have statutory powers for importation of agricultural inputs and the distribution thereof to producers. It appears, therefore, Boards are the most appropriate institutions in Government, prepared to assume this type of responsibility. The virtue in lodging the responsibility with a Board is, they can monitor usage, and provide linkage between the farmers credit needs and the marketing of their production at price margins suitable to them.

Under St. Lucia's analysis, the writer discussed services performed by WINBAN for banana growers in the Windward Islands. This portfolio could be amended to include agricultural input distribution services in concert with the CDB projection for 1979/80.

Recommendations:

1. National Governments initiate plans to establish an agricultural input distribution center within the present Marketing Board Structure with a capability for responding to micro level needs;
2. CDB organize a promotional campaign for utilization of -006 funds in developing an Agricultural Sub-Regional Supply and Distribution Center for LDCs, with WINBAN as a Sub-Regional Supply and Distribution Center, be explored with Governments and other interested bilateral and multilateral agencies. IFDC should be consulted with regard to fertilizers;
3. CDB, CARDI, CARDATS and Government Research and Extension Service develop an adaptive and applied research program with priority for developing a seed multiplication capability applicable for the various ecological zones in the region. International Agricultural Research Institutions and US Universities are resources to draw upon for adaptive research and seed multiplication.

C. Marketing

Considerable elaboration has been given under the country analyses with some allusions to deficiencies. Marketing continues to be one of the major constraints hobbling agricultural development as far as small farmers are concerned.

One of the delimiting factors of production is the dearth of trained personnel capable of managing a marketing system, inclusive of Boards, retailers (Hucksters), AES, and other systems delivering goods and services to the rural people. Training should include all of the dynamics of domestic marketing system to assure that farmers and fishermen losses are minimal.

Pricing is a source of discontent among farmers who have to rely upon marketing boards pricing procedures. Farmgate price practices in St. Lucia appear to be well conceived, and could be studied as a model for improvement and a guide for other Governments.

Each of the countries included under the Integrated Agricultural Development Project -006 lists marketing as a major constraint. Some of the constraints enumerated are:

"inadequate price policies and marketing agreements";

"lack of adequate marketing infrastructure, including lack of information on market prices";

"lack of efficient marketing";

"lack of refrigeration/storage/marketing infrastructure and marketing mechanisms in food crops";

"poor market procedures result in high losses (30%) due to spoilage".

Resolution of the constraints demands coordinated attention by CDB, DFC's and Governments. Farmers interests have to be safeguarded in domestic and international trade center as well.

With further regard to international trade, LDC Marketing Boards must commence execution of their responsibilities vis-a-vis domestic, regional and intra-regional markets. For example, if carrots growers in St. Vincent are to remain competitive on the Trinidad market, they must subscribe to all standardization requirements.

Recommendations:

1. Remianing amount in the Grant allocation be programmed for training in Marketing.
2. Based upon preliminary considerations and preliminary approval by CDB and USAID, the marketing allocation of US\$2.0 million be programmed for use by BMC, provided all covenants and conditions precedent are satisfied.
3. CDB promote coordiantion among agencies of Governments in evolving a marketing systems geared to meeting the tasks of removing constraints enumerated in PP and verified by farmers.
4. Responsibility for meeting the terms of Agricultural Marketing Protocol be joint undertaking by all agencies delivering services to farmers.
5. Success in the use of APC in St. Lucia's Boxing Plant operation and the banana production business, the highly successful FIC farmer in St. Vincent and the successful Vegetable Growers in the Mardi Gra District of Grenada are examples showing that Credit is a profitable tool with the correct mix of inputs, markets, and transportation networks. Therefore, CDB should focus on all aspects of the -006 Loan Agreement, so as to achieve the purposes and goals as setforth therein.

D. Feeder Roads

1. Specific Project Recommendations

Though quantitative data is not extant, it is clear in the countries visited that the provision of feeder roads to an area is a powerful catalyst for increasing agricultural production. Therefore careful consideration of the following sub-projects against the specific benchmarks suggested is justified.

a. St. Vincent, 2¹/₂ miles, \$1,636,000.

The sub-loan has been signed and the initial implementation step taken (advertising for consulting engineering services). In the event a construction contract is signed before the current loan TDD (October 30, 1980) ~~it~~^{it} is recommended that the TDD be extended two years (or the contract term) to accommodate the construction period.

b. Antigua, 10.5 miles, \$689,000.

The sub-loan has been signed but no implementation steps have been taken and the prognosis is guarded. Failing definite implementation steps in the next three months, the sub-loan should be cancelled. In the event a construction contract is signed before the current loan TDD, it is recommended that the TDD be extended two years to accommodate the construction period.

c. Grenada, 20 miles, \$1,500,000 (est)

The project is under active appraisal by CDB with Board approval expected as early as December 1979, not later than February 1980. With the institutional arrangements in place and the implementation plan proposed, it is reasonable to expect a signed construction contract before expiration of the current Loan TDD. In such event it is recommended that the TDD be extended two years to accommodate the construction period.

d. St. Lucia, 20 miles, \$2,000,000 (est)

The project is under active appraisal by CDB with Board approval expected by February-April 1979. Although time is short, St. Lucia has shown a capability for expeditious project implementation. Therefore there is a strong likelihood that a construction contract (or acceptable Crown Agent arrangement) might be signed before the loan TDD. In such event, it is recommended that the TDD be extended two years to accommodate the construction period.

2. Project Development and Implementation Recommendations

a. Project Appraisal

In the project development and appraisal stage, it is recommended that CDB put special emphasis on reaching firm understanding with the proposed sub-loan recipient on how project management, engineering and construction will be carried out.

b. Project Implementation

It is recommended that both CDB and AID establish a sub-project surveillance procedure that assures the receipt of timely project activity and implementation progress reports. A specific project manager/supervisor should be appointed by CDB and AID respectively with clear responsibility

for (1) identifying and impediments which occur in the implementation stream and (2) taking timely action to overcome the difficulties so identified.

Loan 538-T-006 Evaluation Team

FIELD TRIP REPORT - Belize, Antigua, St. Lucia, St. Vincent and Grenada

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FIELD TRIP REPORT - Belize, Antigua, St. Lucia, St. Vincent and Grenada.

INTRODUCTION

During the period September 3 - 23, 1979, the Evaluation Team visited the countries of Belize, Antigua, St. Lucia, St. Vincent and Grenada for on-the-spot observation of activities, and to talk to the parties directly involved in on-going or proposed activities relevant to the implementation of AID Loan 538-T-006, Caribbean Regional - Integrated Agricultural Development.

Dominica was originally on the schedule but was dropped after it was devastated by Hurricane David and all effort in the country was directed towards disaster relief.

During the course of the field trip, some interviews and inspections were conducted as a Team, some were done on an individual basis as the subject matter indicated. Table I presents in summary form the contacts made by the Team during the course of the field trip.

Following are the individual reports of the Team members on their primary fields of interest, i.e.:

- Agricultural Production Credit (Lopez)
- Agricultural Input Distribution and Marketing (Broadnax)
- Feeder Roads (Stephenson)

TABLE I

TEAM COUNTRY CONTACTS SEPTEMBER 1 - 23, 1979CATEGORIES

COUNTRY	DFC'S (a)	GOVERNMENTS (b)	AGENCIES (c)	BUSINESSES (d)	FARMERS (e) (Clients)	TOTAL
ANTIGUA	4	9	1	0	6	20
BELIZE (f)	8	9		1	22	40
DOMINICA	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
ST. LUCIA	5	12	7	0	11	35
ST. VINCENT	3	10	0	0	4	17
GRENADA	5	8	0	2	10	25
TOTAL	25	48	8	3	53	137

(a) This category includes all of CDB's intermediaries senior and subordinate personnel.

(b) Government contacts were Agricultural extension services, Marketing Boards, Permanent Secretaries of Finance and Public Works, and Public Works technical officers.

(c) Commodity Boards, WINBAN, CARDI.

(d) Retailers in agricultural supplies, including fertilizers, fungicides, herbicides, tools/equipment, respirators, veterinary products, pesticides and insecticides.

(e) Most farmers are APC clients. The exception was in St. Vincent where FIC clients were interviewed.

(f) Dominica was dropped from schedule due to the hurricane disaster.

A. Agricultural Production Credit

1. Belizea. The Development Finance Corporation

The Agricultural Production Credit Scheme in Belize is being implemented through the Development Finance Corporation, a statutory body established in 1961, and reorganized 1967. The APC loan agreement with the CDB was signed on March 3, 1978 for US\$1,245,000 and operation began the same year.

The DFC's loan capital comes mainly from the CDB and the British and Canadian Governments. Initially equity capital was mobilized from the public and the Government, however, at present all shares are owned by the Government.

During 1978 the DFC approved 463 loans for a total of Bel\$6,674,000. Of these, 320 (70%) of the loans and Bel\$3,031,000 (45%) of the value were for agriculture, livestock and fishing. Loans approved under the APC scheme during 1978 amounted to Bel\$443,000 of which Bel\$290,000 were disbursed. This represents about 18% of the funds committed by the CDB.

b. Characteristics of APC Loans

Information on the classification of APC loans in Belize and their characteristics is unfortunately scant. No data was readily available during the Evaluation Team's visit there, so one of the DFC's officials agreed to send it to Barbados within one week after the Team left Belize. However, as of this date nothing was received here and all attempts to contact Belmopan have failed.

It was observed that the APC scheme in Belize is the one that has adhered more strictly than any of the others to the guidelines and regulations given by the CDB.

However, to introduce the program, the DFC made its first promotional efforts among small farmers who already had loans from the private commercial banks. In fact, the DFC used some of its regular funds to re-finance loans which the farmers had with such banks.

It is felt that the intention of the APC scheme was not to compete with commercial banks, and that if some small farmers already had access to them, the DFC should have directed its activities to other small farmers which remained outside the institutional credit system.

The initial thrust of the APC program was in the Northern part of the country where the main crop is sugar cane. Later the program was extended to the other areas to include vegetables production, rice and some livestock projects.

No APC loans are granted without a proper crop lien assigned to one of the agencies or organizations which market or process such crop. For example, in the case of sugar cane in the North, where producers are assigned quotas by the Sugar

Board, the size of the loans are determined by the quota each farmer has been assigned. Also, farmers have to be members of the Sugar Cane Association without whose report no application is considered.

Generally the average loan granted for sugar cane is Bel\$ 2,000 although quite a few loans are for the maximum of Bel\$ 5,000. The DFC indicates that it has noticed that many farmers divert part of their sugar cane loans for other crops, mainly beans and corn which they use principally for the subsistence of the family.

c. Terms and Conditions

As indicated in detail in the main body of this report, the only problem the DFC has with the implementation of the APC scheme is the definition of small farmer. The DFC has indicated that unless the limit of 25 acres per farmer is increased to 30, and interpreted to mean area under cultivation and not area owned by the farmer, it will not be able to lend much more than what it has already approved.

d. DFC Organization and Performance

The DFC has a large organization and staff of over 50. Many of them college graduates specialized abroad. It maintains 6 branch offices with a Field Supervisor in each office.

It was observed that the Field Officers only open the branch offices an average of two days a week, spending the rest of the time visiting farmers. This tends to create a congestion of farmers in the office on those days, requiring some of them to have to wait several hours before their turn comes up to see the Field Officer. Also, often during those office days they will spend their time just completing forms. It is felt that this activity which is a waste of their valuable time, could be adequately carried out by lower-paid clerical staff.

One operation of the DFC which could be improved is the Development, Economy and Statistics Division, specially as far as statistics is concerned. As indicated in the beginning of this section, the reason why no detailed information could be included in this report concerning classification of APC loans and loan recovery experience is because none was available.

All APC loans are approved in Belmopan by any of 5 officers in the Small Farmer Division. Usually it takes from 2 to 3 weeks to approve a loan. The only gripe the farmers have voiced with regard to the implementation of the APC program by the DFC is that many times the marketing or purchasing agents deduct from the crops delivered to them amounts in excess of the debts to the DFC, and it takes the DFC too long to reimburse the farmers such differences.

e. Agricultural Extension Service

Coordination between the DFC and the AES is nil. There are apparently

institutional jealousies between the two institutions. Reportedly, more than once the Ministry of Agriculture has issued orders to the AES to assign extension agents to DFC agricultural programs, but such orders were ignored.

There are 30 extension agents in the country, six in each of the five districts. Technical assistance is mainly in the area of basic agriculture (maize, rice and beans).

2. Antigua

a. The Antigua and Barbuda Development Bank

The Agricultural Production Credit Scheme in Antigua is administered through the Antigua and Barbuda Development Bank (ABDB), created by Act of Government on December 31, 1971. The APC loan agreement was signed on October 25, 1977 for US\$ 192,000, however, no APC loans were granted by the ABDB until March of 1979.

The ABDB has other loans from the CDB for agricultural and small industry development totalling US\$ 464,950 as of December 31, 1978. In addition, it has loans from Government and the Social Security Fund as indicated in the following table:

SOURCES, TYPES AND AMOUNTS OF FUNDS

TO ABDB AS OF DECEMBER 31, 1978

(US Dollars)

<u>SOURCE & TYPE</u>	<u>AMOUNT</u>
i) Government of Antigua	
Student Loan	94,194
Housing Rehabilitation Loan	204,212
Industrial Estates Loan	<u>838,780</u>
	<u>1,137,186</u>
ii) Caribbean Development Bank	
Farm Improvement Loan	204,350
Small Industry Loan	70,612
Agricultural & Industrial Loan	<u>189,988</u>
	<u>464,950</u>
iii) Antigua and Barbuda Social Security Fund (for low income groups to build, renovate, extend and repair their houses)	
	<u>74,074</u>
	<u>1,676,210</u>

b. Volume and Characteristics of APC Loans

As of August 31, 1977, a total of 42 APC loans valued at US\$ 27,171 had been approved, and disbursements totalled US\$ 17,827. The following is a break-down of the loans:

APC LOANS APPROVED AND DISBURSED

AS OF AUGUST 31, 1979

(US Dollars)

<u>PURPOSE</u>	<u>NO. OF LOANS</u>	<u>AMOUNT APPROVED</u>	<u>AMOUNT DISBURSED</u>
Livestock	3	2,037	1,003
Crops	<u>39</u>	<u>25,134</u>	<u>16,824</u>
Total	42	27,171	17,827
	=====	=====	=====

Unfortunately, it was not possible to obtain a more detailed break-down of the loans classified by size and specific crops and livestock projects being developed with APC loans. However, loan sizes appear to range from US\$ 200 (the minimum amount allowed under the AID loan agreement) to around US\$1,200. The average loan is for about US\$ 850.

The purported purpose of the agricultural loans approved was generally stated in the loan applications as "vegetable production" and the specific crops to be raised could be identified only after digging deep into the borrower's file and finding the loan's Appraisal Report, which is a separate document written on the narrative form. A quick review of some of the APC borrower's files and personal observations made in the field appear to indicate that the main crops being grown with APC loans are yams and sweet potatoes, and carrots, cabbages and tomatoes in lesser quantities.

The amount of an APC loan can cover, as a maximum, 75% of the total cost of the project, which includes the cost of seeds and planting material, fertilizer and other chemicals, land preparation, transportation, land rent and both family and hired labour. However, a large proportion of the loan applications seem to be for amounts which constitute only about 50% of such costs, the apparent reason being that all family labour and at least part of the seeds and planting material are not always included. Also, in many cases the land preparation costs are not included in the loan since mechanized plowing is provided on a credit basis by the Agricultural Extension Service.

The steps for applying for an APC loan begin when a farmer visits the ABDB office and meets the Fars Improvement Officer. Even though a great majority of the farmers in Antigua are literate, the application forms (four in total not counting the Appraisal Report) are completed by the FIO himself, which means spending quite a bit of his time just filling out forms. It is believed that all these separate forms could be combined in just one, and that the farmers could perform the task of completing them with a minimum of practice, leaving the FIO

with more free time for other more important functions.^{1/}

After the initial application form is completed a confidential Credit Inquiry is forwarded to the Agricultural Extension Service (usually within two days) to verify on the personal character of the applicant. If an applicant indicates having had any dealings with commercial banks or with any other pertinent institutions, the inquiry is sent to them also, but reportedly over 90% of the APC loans are based on character information supplied by the AES.

Only after the previous step has been completed will the ABDB proceed to "formalize the project". This means preparing an Appraisal Report, generally 4 or 5 pages long and written on the narrative form, for which a fee of EC\$ 10 is charged to the applicant. During the 5th or 6th day after the initial application was made, the ABDB General Manager approves the loan solely on the basis of the Appraisal Report (none of the other forms are submitted to him).

During the 7th or 8th day the approved Appraisal Report is routed to the ABDB Accountant who completes a form-letter advising the applicant that his loan has been approved subject to a list of terms and conditions contained therein. Most of the data in the form-letter duplicates the information already recorded in the initial Application Form. The acceptance of the loan conditions by the borrower is typed by a secretary at the bottom. Such form-letter is then submitted to the Operations Manager for "discussion" of collateral with the borrower and then back to the FIO for the completion of yet an additional form requesting and authorizing the first disbursement under the loan.

Although the ABDB indicates that loans are processed within 7 or 8 working days, most of the farmers interviewed claimed that it took them at least two or three times longer to get their loans approved. Apparently, the discrepancy lies on the fact that most applicants do not have all the necessary information ready at one time and cannot take more than one or two days away from their farm chores, thus requiring them to make several trips to the ABDB office over a period of 3 or 4 weeks to complete their applications.

Disbursements of loans are scheduled in accordance with the farm plans and are made mostly in kind. Borrowers are requested to bring receipts of all inputs purchased and checks are made directly to suppliers of such inputs. Disbursements for hired labour costs are made upon presentation of the corresponding pay-rolls.

c. Evaluation of Loan Terms and Conditions

The ABDB indicates that it has no problems operating within the terms and conditions stipulated under the APC loan agreement. Although commercial banks

^{1/} The FIO could go over the forms after they were completed by the farmer to fill in any gaps and correct any errors.

charge as low as 8% for some agricultural loans, mainly to large farmers, most of the APC borrowers would not qualify and there are no serious complaints about the 12% interest they must pay for APC loans. ^{1/}

With regard to loan guarantees, only 13% of the 42 APC loans were secured with property mortgages. The majority (87%) were granted under the crop lien system using the Central Marketing Corporation as the purchasing and retaining agency. However, most of the crops raised with APC loans bypasses the CMC and is sold in the market place by the farmers themselves or to intermediaries (hucksters) who in turn sell the produce to hotels and restaurants. Reportedly the prices obtained in the market place or from the hucksters are higher than those paid by the CMC. Apparently, this situation is not hindering timely repayment of the loans; even though the APC program is too recent to show any significant experience on loan recovery, monthly installments being received seem to be satisfactory.

About two thirds of the loans were granted for 9 to 12 months and the remaining 1/3 for the maximum of 18 months, during which period farmers grew 3 to 4 crops of vegetables. All loans include a 3 month grace period.

No definite figures could be provided by the ABDB as to the proportion of APC loan applications which had been actually rejected. It is apparent that in many cases prospective borrowers after submitting the initial application, realize that they will not be able to fulfil all the requirements or just feel it is not worth their trouble, and do not pursue the matter any further.

d. ABDB Organization and Performance

The staff of the ABDB numbers 14 altogether. It includes a General Manager, an Operations Manager (also called a Loans Administration Officer), a Housing Loans Officer, a Student/Industrial Loans Officer, an Accountant and a Collections Officer. There are six secretarial, clerical and other supporting staff.

The position of Agricultural Loans Officer has been vacant since July of 1979. The functions of this position were carried out by the FIO appointed by the CDB under the FIC loan agreement. In addition to the responsibilities of promoting and monitoring the FIC and the AIC grants, the Agricultural Loans Officer was given supervision over the APC program as well. He was assisted by the Assistant Agricultural Loans Officer who, since the termination of the titular Agricultural Loan Officer last July, has been bearing the full load of all agricultural loans activity in the ABDB on an acting basis.

As a result of this situation, it is apparent that the different agricultural credit schemes in the ABDB are being implemented rather haphazardly.

It was indicated that no planning or projections existed for the promotion or execution of the APC program, that farmers were attended to on an

^{1/} If the EC\$ 10 fee paid for the Appraisal Report is taken into consideration, the actual rate of interest for an average loan (US\$ 850) would be 12.5%.

"as they come" basis, that the skimpy promotional material available to them (consisting of only one or two pamphlets and posters developed by the CDB) were distributed only to loan applicants after they came to the ABDB office.

Training of small farmers on the APC program is non-existent. The only real promotion of APC activities is made by the Agricultural Extension Service field officers and, to a limited extent, through television ads.

The acting FIO indicates that he has not been successful in reaching the small farmers in groups to promote the APC scheme and convey technical assistance; instead he contacts them on a one-to-one basis. This is an extremely slow process. There are an estimated 2,000 small farmers in Antigua who are within the target group of the APC program and who do not qualify for commercial bank loans.

The acting FIO also indicates that because the present staffing situation in the ABDB, he must divide his time spending mornings in the office and afternoons in the field. Concerning the appraisal reports he must produce for each APC loan application, he is able to actually visit only about 70% of the farmers, the rest of the report being made on the basis of second-hand information received mainly from the AES field officers. He rarely has the opportunity of visiting a farmer more than once during the duration of a loan project.

With regard to the introduction and maintenance of "Farm Records", the project was abandoned almost since the onset because of the "slow response showed by the farmers." Instead they use a very basic system where the farmer keeps record of what he spends for inputs and what he receives from the sale of his crops.

Because of the absence of a titular FIO, who under CDB policies must certify all individual expenditures under the APC sub-loans, serious delays were reported in the reimbursement of funds by the CDB delays which are affecting the liquidity of the ABDB.

e. Agricultural Extension Service

In addition to regular extension activities, the AES is also charged with marketing cotton and, as indicated previously, providing mechanized land preparation services. However, this last activity is limited to quite a small proportion of the assistance required by farmers, mainly because the small quantity and poor condition of the machinery, as well as the meager budget allocated for its maintenance.

For the purpose of agricultural extension activities, the country has been divided in the North, South and East districts. Each district is staffed by 1 Senior Field Officer, 3 Instructors and 1 Ranger. Only the Senior Field Officer is a formally trained agronomist, the rest just have practical experience.

As stated previously, the only diffusion of the APC scheme in Antigua is carried out by the AES. Its officers advise the farmers they contact during their routine visits to apply to the ABDB for agricultural production loans. Such officers are also a very important factor in the supervision and monitoring of APC loans, since, as it was stated previously, the acting FIO really has no time for these activities. However, there is no formal reporting system to the ABDB on the APC activities; verbal reports are made only when a problem arises or when an anomaly has been identified.

The AES receives no directions from either the Ministry of Economic Development (charged with overall economic planning) or the Ministry of Agriculture (of which it is a part) regarding priorities for agricultural production. Reportedly they are "guided" in the kind of assistance and development they will pursue by public speeches made by certain top Government officials on certain special occasions.

The AES conducts its own research activities on vegetable production and indicates that it keeps close contacts with most of the regional research programs in the area.

f. Constraints and Opportunities

There are several major constraints for the development of the APC scheme in Antigua. One of them is the absence of a concerted promotional campaign on the part of the ABDB to reach a significant number of small farmers. This objective will most certainly not happen until a FIO is appointed to work full-time with the APC program.

A second important constraint is the inadequate marketing arrangements in existence specially for vegetables. The Central Marketing Corporation established in 1975 appears to be much more efficient than its forerunner, the Marketing Depot which functioned within the AES. However, there are indications that it does not perform well when it comes to marketing vegetables produced by small farmers. It was indicated that in the last 3 years the CMC "had to pay" below the minimum guaranteed prices about 6 or 7 times for four or five different products. It was stated previously that most of the APC borrowers interviewed were by-passing the CMC and selling their crops elsewhere at higher prices. While this is possible at the present time because of the small number of APC borrowers and the limited volume of their crops, any significant increase of vegetable production will have to count with a well organized and efficient marketing facility which will guarantee the farmers a fair return on their investments.

Lastly, but perhaps most important, is the absence of a well defined Government policy towards agriculture and land tenure. Most of the land resources are not appropriate for major crop production. The average size of land holdings is 1½ acres. The former plantation or estate holdings are now owned by the Government and most of such land has been kept idle.

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On the positive side, there are a number of agricultural projects which have been established recently (or are in the planning stage) to cultivate some of the Government land. Some of the farmers in these projects are APC loan recipients. Also, there are indications that Antigua is going back to the production of sugar under a scheme where one half of the sugar cane will be produced in Government-run farms and the other half will be grown by individual small farmers.

Also on the positive side is the emergence and reorganisation of farmer associations, credit unions and cooperatives, some of them assisted by such international organisations as the UNDP, ILO, FAO, and DANIDA (Danish International Development Agency), with the purpose of promoting agricultural production.

g. Observation and Findings

Although the APC loan agreement with the CDB was signed on October of 1977, disbursements under this scheme were not made until almost 1½ years later, principally because the ABDB had to fulfill "certain conditions." In view of this circumstance ABDB officials feel they will not be able to disburse the full amount stipulated in the agreement and would like to request an extension of the dead-line by at least the same period of time it took them to get the project started.

3. St. Lucia

a. The Agricultural and Industrial Bank

The APC functions in St. Lucia are carried out through the Agricultural and Industrial Bank (AIB), a statutory body established by the Government in 1965. The APC loan agreement with the CDB was signed on July 29, 1977 for the amount of US\$397,000 and the first sub-loans under the scheme were granted on January of 1978.

The AIB has some Colonial Development Welfare loans for agricultural credit dating from 1958 which it must pay in full by 1980. In addition it has several FIC loans from the CDB for about one million US dollars, a fixed 10 year deposit from Geest Industries (W.I.) for the equivalent of US\$92,000 bearing interest at 4% per annum, and the use of other trust funds and capital grants from various institutions, including the Government and the Windward Islands Banana Association.

b. Volume and Characteristics of APC Loans

As of August 31st, 1979 a total of 362 APC loans valued at US\$340,305 had been approved, and disbursements were around US\$250,000. The amount of loans approved by the AIB constitute 85.7% of the total committed by the CDB for 1979, which in a way is remarkable performance of the APC scheme in this country.

The following is a breakdown of the loans:

APC LOANS APPROVED BY THE AIB

AS OF AUGUST 31, 1979

CLASSIFIED BY TYPE OF ACTIVITY

(U.S. DOLLARS)

<u>ACTIVITY</u>	<u>NUMBER</u>	<u>AMOUNT</u>
Bananas	241	249,289
Root Crops	21	9,432
Vegetables	27	20,990
Ginger	7	2,843
Fertilizer	33	8,758
Poultry	14	24,100
Pigs	14	19,034
Bees	1	1,704
Copra	1	295
Boxing Plant	3	3,860
TOTALS	362	340,305

The above classification indicates that 66.6% of the number of loans and 73.2% of the amount approved was for the production of bananas, while only 7.5% of the loans and 6.2% of the total loan volume was to raise vegetables. It is not certain what proportion of the banana loans were used for new plantations and what for the re-establishment of old projects. Nevertheless, it is clear that the major thrust of the APC scheme in St. Lucia is in the area of banana production which is not in accordance with the Project's implied objectives.

Furthermore, as stated previously, the AIB has the use of some funds from Geest Industries (W.I.) and from WINBAN, whose purpose would appear to be to enable the AIB to use them for banana loans.

With regard to this issue, one of the Government officials interviewed indicated that the reason the AIB was concentrating on lending for the production of bananas was because this type of loan was easier to approve, supervise and recover, and very little technical assistance and follow-up was required.

The fact that the APC scheme appears to have been promoted mostly in the North of St. Lucia (which is banana country) rather than in the South

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(which is more suitable for vegetables) seems to corroborate this statement.

The following is the classification of the APC loans granted by the AIB by terms:

<u>TERMS</u>	<u>AMOUNT</u>	<u>PERCENTAGE</u>
Short	US\$142,290	42
Medium	198,015	58
TOTALS	<u>US\$340,305</u>	<u>100</u>

As it can be appreciated, even though the AID loan agreement stipulates that no more than 20% of the value of the loans may have amortization periods which exceed 18 months, the medium-term loans granted by the AIB constitute 58%.

AIB officials indicated that the reason for this was the large demand (and strong pressure) from banana farmers for medium-term loans which could not be obtained from any other source. They also indicated that they had tried to get a ruling from the CDB authorizing them to go over the 20% limit, but that the CDB "would not commit itself".

In general, the majority of the agricultural loans granted by the AIB seem to be prompted by the Agricultural Extension Field Officers. Reportedly, when they make their rounds in the field and see that a farmer needs credit, they instruct him to "go to town to talk with AIB concerning a loan".

There also exist in several rural communities of St. Lucia "loan committees" which are made up by the most prominent and respected farmers and other members of the community for the purpose of informing prospective borrowers of the steps to apply for a loan and to provide "credit intelligence" on applicants.

After the farmer has discussed his needs with AIB's Loan Officer, a determination is made as to whether the project is eligible for a loan under the APC scheme or under any of the other agricultural credit programs which AIB administers, and the appropriate application form is completed.

The FIO responsible for APC loans then receives all the APC applications completed during any one week and distributes them to the different Field Officers in accordance with their areas in which they work. During the following week the Field Officers contact the applicants within their areas for an on-the-spot discussion of the project, following which a preliminary report is written showing the project's total cost and estimated revenue. This preliminary report is reviewed by the FIO and accepted or, if he feels additional information is needed, the FIO might go to the field himself to get it.

At this point, the FIO completes the report and forwards it to the Manager for approval. APC loans do not have to go to the AIB Board since the Manager is empowered to approve loans up to EC\$7,000 and the limit for an APC credit is EC\$6,750.

Disbursements are generally made in kind through the commodity associations.

c. Loan Recovery

Repayment of APC loans is considered acceptable. There is limited delinquency on both principal and interest. As of March of 1979, overdue interests amounted to EC\$4,934 and overdue principal totalled EC\$27,122. Overdue principal represents 4.9% of disbursements of EC\$549,122. The following is a breakdown of the overdue principal classified by time:

<u>PERIOD</u>	<u>AMOUNT</u>
3 to 6 months	EC\$10,720
6 to 9 months	9,721
9 to 12 months	3,871
Over 12 months	<u>2,800</u>
TOTAL	EC\$27,112

A large proportion of the short-term APC loans carry a grace period of only 3 months, which is considered to be inadequate since most crops take more than that to grow. Therefore, delinquency of 3 to 6 months shouldn't be reason for concern. Without this amount principal overdue falls to just 3% which is considered better than average.

d. Evaluation of Loan Terms and Conditions

As indicated previously, the major problem which the AIB faces with regard to loan terms is the 20% limit for medium-term loans. In addition they indicated CDB's guidelines for loans to cooperatives and other farmer associations are inadequate. They stipulate EC\$1,300 (US\$480) as the maximum individual sub-loan a cooperative may grant to one of its members. This amount is considered too small to cover the cost of any of several projects which some cooperatives could help finance.

The majority of the APC loans granted by the AIB were secured by crop liens through marketing arrangements with the appropriate commodity associations. Arrangements with the St. Lucia Marketing Board were considered good for some crops like ginger, but very deficient for others, specifically for food crops.

e. AIB Organization and Performance

The staff of the AIB numbers 19 altogether. It includes a Manager, one Loan Officer, one Accountant, 2 FIOs^{1/}, 6 Agricultural Field Officers, and 8 secretarial, clerical and other supporting staff.

The 6 Field Officers are assigned specific areas and spend all of their time in the field. They come to the AIB once a week to bring in the reports made during the previous week and to collect loan applications from farmers in their areas which they will contact during the next week. The functions of these Field Officers include activities under the FIC scheme and are therefore also responsible to the FIO who coordinates that program.

^{1/} FIO slot for APC vacant since June of 1979.

Only one of the Field Officers has a University-level degree, all others are diploma holders from various middle-level schools and institutes.

The AIB is contemplating opening branch offices and the first one will probably be in Soufriere. This will make loan applications from farmers in that area much easier.

No promotional campaigns or farmer educational training programs are carried out by the AIB, although it contributes to such programs which are organized by other institutions.

f. Agricultural Extension Service

The AES has divided the country in five districts, each of which has four Agricultural Assistants, one of them a senior officer in charge of the district.

In addition to assisting in the production of the traditional crops (bananas, coconuts and cocoa), the AES is actively engaged in the expansion of tree crops such as mangoes and avocados. Since about 50% of the coconut crop is lost every year to rodents, the AES is involved in a program for the eradication of rats.

The AES receives regular guidelines from the National Development Plan with reference to priorities in agricultural production. For example, with regard to bananas, the priority is not to increase the area cultivated, but to increase production by improving the quality of the plants, using appropriate fertilizers, improving land management techniques, etc.

Many of the permanent staff of the AES are seconded to various institutions (such as some of the Field Officers working with the AIB) or abroad studying on scholarships. Because of this, about 1/2 of the technical staff are temporary workers or "trainees" who are not sufficiently qualified.

Lack of transportation is a serious constraint for most field staff. The AES does not operate official vehicles; its policy is to pay a monthly allowance and so much per mile for the use of employee's private cars on official business. However, since many of the staff, specially the temporary ones, do not own automobiles, they must use public transportation or hitch hike to make their rounds.

g. Constraints and Opportunities

As in almost everywhere, distribution of inputs and marketing constitute the major constraints, especially for the production of food crops. Vegetables produced locally are generally more expensive than those imported from the other neighbouring countries.

In spite of the large number of APC loans granted in St. Lucia (relative to the other DFCs) they represent a small proportion of the number of small farmers in the country.

On the positive side, the potential in Antigua is large. As farmers (who until a few years back were plantation laborers used to work under close supervision) gain more experience and continue to have available adequate sources of credit, both their production and productivity are going to increase steadily.

4. St. Vincent

The St. Vincent Agricultural and Cooperative Bank (ACB) indicated that the APC scheme had been declined because it was thought that the interest rate which it would have had to charge for such loans (12% including 4% risk premium) was excessive. However, it also stated that the decision to decline the program had been made by a "higher authority" and that the ACB had never been consulted on the matter. ^{1/}

It was felt that even at 12% there would be quite a few farmers who could benefit from APC loans.

The ACB has two FIC loans from the CDB for US\$465,000. In addition it has an undisclosed amount from the Government, the St. Vincent Marketing Board and the commodity associations in the form of renewable term deposits at about 4%.

ACB's loan portfolio from its general fund amounts to US\$45,170 classified as follows:

<u>PURPOSE</u>	<u>NO. OF LOANS</u>	<u>AMOUNT</u>
Banana Establishment	52	US\$13,620
Vegetables	77	20,688
Fishing	18	7,844
Land Purchase	1	8,150
	<u>48</u>	<u>US\$45,170</u>

The ACB charges 7% per annum on the above loans. However, as it can be appreciated, its capital resource seem to be extremely limited. The administrative expenses of the ACB are met from an annual grant by the Government, which in 1978 amounted to EC\$30,000 (US\$11,200).

Most of the financing for agriculture in St. Vincent comes from the commodity associations which operate in the country. The Arrow Root Association grants loans to its members in kind (in the form of planting material and fertilizer) and in cash to cover labour costs. The St. Vincent Banana Growers Association offers a wide variety of fertilizers and weedicides on credit with a deposit (down payment) of up to 25% of the cost of such chemicals.

Neither of these two associations charges any interest for the credit they grant to their members, even though they reportedly have to borrow from the commercial banks at 12 to 14 percent to finance such loans. While it is obvious that the interest is hidden within the operational costs of both associations, the farmers have the illusion that they are getting the credit free.

^{1/} The ACB learned of the refusal of the APC scheme by way of a carbon copy of a letter to the CDB.

In addition to the associations' own staff of specialized agronomists, technical assistance for commodity crops is provided by the Agricultural Extension Service in a most efficient manner (the British Government funds the salaries of 19 extension officers to work with banana growers).

St. Vincent produces a fair amount of food crops, including vegetables. Reportedly production of the latter is plentyfull from January to May and even though production declines during the rest of the year, the country does not have to import any vegetables, except perhaps potatoes.

ACB officials indicated that there was a great deal of inter-cropping in the banana farms, and that since no significant resources for loan other than for the commodity crops was available, it was a generalized practice among many farmers to use part of the banana loans for other crops.

It is obvious that ACB's present capital resources to finance the production of non-commodity crops is not inadequate and that small farmers in St. Vincent could benefit considerably if more credit was made available to them, even at a higher interest rate than they are accustomed.

5. Grenada

a. The Grenada Agricultural and Industrial Development Corporation

The Agricultural Credit Program in Grenada is administered through the Grenada Agricultural and Industrial Development Corporation (GAIDC), a statutory body established in 1965 and reorganized in '75. The APC loan agreement with the CDB signed on September 27, 1978 and the first sub-loans were not granted until March of 1979.

One of the reasons for this slow start was undoubtedly the crisis which the GAIDC went through until early this year, when major staffing changes took place.

The GAIDC has additional loans from the CDB as well as some Government funds to meet the demand of its borrowers. The following is a description of the loan portfolio classified by source of funds and number of loans granted.

GAIDC LOAN PORTFOLIO AS OF SEPTEMBER 18, 1979
CLASSIFIED BY SOURCE OF FUNDS AND NUMBER OF LOANS

(EC Dollars)

<u>SOURCE AND TYPE</u>	<u>NO. OF ACCOUNTS</u>	<u>AMOUNT</u>
1) Local Funds		
Short-term	115	59,924
Medium-term	245	689,717
Long-term	50	900,326
Classified Debt	94	16,004

<u>SOURCE AND TYPE</u>	<u>NO. OF ACCOUNTS</u>	<u>AMOUNT</u>
11) CDB		
Student loans	45	227,119
FIC (medium-term)	62	347,683
FIC (long-term)	8	118,848
SIC	3	10,341
APC (short-term)	49	27,372
APC (medium-term)	12	15,451
	<u>683</u>	<u>2,412,784</u>

b. Volume and Characteristics of APC Loans

The above table (provided by the GAIDC) shows a total of 61 APC "accounts" valued at EC\$42,823 (US\$16,500) as of September 18, 1979 and an examination of its loan records indicated that as of August 10, 1979 there were 47 APC "loans" for a total of EC\$47,320 (US\$17,530) classified as follows:

APC LOANS CLASSIFIED BY PURPOSE

(EC Dollars)

<u>PURPOSE</u>	<u>NO. OF LOANS</u>	<u>AMOUNT</u>
Commodity Crops		
Sugar Cane	14	9,440
Nutmeg	7	8,570
Cocoa	6	7,120
Bananas	6	6,500
	<u>33</u>	<u>31,630</u>
Other		
Vegetables	9	8,240
Livestock	5	7,450
TOTAL	<u>47</u>	<u>47,320</u>

The discrepancies between the two tables apparently lie on the fact that the first table lists the number of accounts (probably meaning disbursements) and the amounts disbursed, while the second table shows the actual number and total value of loans approved.

An analysis of the figures on each of the tables indicates:

- (i) that medium-term APC loans amount to 36% of the total value (16% in excess of the limit) and
- (ii) that loans for export commodity crops constitute 67% of the total.

c. Evaluation of Loan Terms and Conditions

Out of the 47 APC loans, 34 (71%) were secured by crop liens, and the rest by using land deeds as collateral.

The minimum term is 12 months and the maximum 4 years. The average size of an APC loan is about US\$380. Most of the APC loans take around 30 days to be approved.

The majority of the APC borrowers rent land or are share-croppers who pay 1/3 of the crop after deducting expenses. Some occupy Government land and do not pay any rent.

As in most other countries, the assignment of crop liens works only for commodity crops and vegetables are sold mainly to hucksters. Reportedly the hucksters do not pay in cash for the vegetables, which are sold in Trinidad. Instead they take along shopping lists for the farmers.

The APC scheme has been operating in Grenada for about only six months and so far the GAIDC sees no major problems with its terms and conditions. It is early to appraise at this point loan recovery experience.

d. GAIDC Organizations and Performance

As indicated previously, the GAIDC underwent a major re-organization which is still being implemented. For this reason it is rather difficult to rate its performance.

It is contemplated that the new structure of the GAIDC will count with 16 professionals, clerical and support employees. Three of the top officials (including the Manager and the Accountant) have been hired from the private banking sector and their credentials are very good. The CDB maintains in Grenada a resident advisor who is assisting in the reorganization.

One of the most critical problems which the GAIDC is facing at the present time is lack of liquidity caused by previous mis-management of funds.

e. Agricultural Extension Service

Grenada is divided in 5 agricultural districts and 74 sub-districts for the purpose of providing extension services. Each district is headed by an Agricultural Assistant and there is one agricultural instructor in each sub-district, all of which live in the areas in which they work.

The AES has 2 agronomists seconded to the GAIDC as part of the 10% Government contributions to the APC scheme.

Most of the AES' technical staff are graduates from agricultural schools in Jamaica and Trinidad.

As in other countries in the region, their biggest constraint is lack of appropriate transportation to visit farmers in the field. Only about 50% of the agricultural extension field have their own cars. The rest has to rely on public transportation.

Coordination between the AES staff and the APC program is excellent. Usually AES officers carry with them to their field APC application forms for distribution to the farmers.

f. Constraiants and Opportunities

While the adminstrative crisis suffered by the GAIDC during the past year prevented the APC scheme from being implemented until March of this year, it is believed that the new management and the excellent coordination that exists with the AES will accelerate implementation of the program.

B. Agricultural Input Distribution and Marketing (Broadnax)

The Integrated -006 activities were observed in five LDC's encompassing visits at Macro and Micro levels (Table 1) following with 137 personal contacts of which 39% were small farmers. To some extent the Project has sparked a positive influence for social services, farm planning, roads, extension services, credit, marketing, use of new technologies and agricultural inputs.

This evaluation was conducted with the view that raising consistent sets of questions relative to the effectiveness to date of loan -006, or lack of it would promote valid and reliable conclusions in terms of implementation time frame in pursuit of goal.

1. Belize

Orientation and familiarity concerning agricultural input distribution and marketing culminated from a chronology of contacts arranged by DFC in Belmopan.

Mr. Carlos Santos, Head Agricultural Division, and FIO for FIC, arranged itineraries for the Team five-day visit to the island. The comprehensive project analyses involved contacts as shown in Table 1. Facilitating the daily contacts for Agricultural Input Distribution and Marketing was Mr. Denton Belise, FIO for Small Farmers Division, who joined the Team Leader in discussions in Belmopan, Belize City, Orange Walk, San Jose, San Antonio, Yo Creek and Punta Gorta.

Belize is divided into six districts, Belize, Corozal, Orange Walk, Cayo, Stann Creek, and Toledo, with a land area of 8,600 square miles and a population density of 15 persons per square kilometer. Cash crops are sugarcane, bananas, citrus, mangoes, while corn, rice, red kidney beans constitute the major domestic crops, especially sugarcane.

Farm success varies among different farm groups. The estate farms and those with acreage larger than 25 acres (10 hectares) have assured sources of agricultural inputs and markets. The small farmer range in size between 0 - 25 acres inclusive of cash and domestic crops. The Milpa¹ farmer, who practices shifting cultivation, mainly of rice, corn and beans, is thought to be inefficient when judged with the more successful Mennonites, but visiting with these Milpa farmers gives a different impression. They are efficient in land use, gets higher cash returns on investments, even though output per area is lower due to fewer inputs of fertilizer and pesticides. The Mennonites are efficient farmers whose operation illustrates the virtues of group farming.

APC clients producing sugarcane are knowledgeable about new resistant varieties of cane to smut, and yield responses to fertilizers. In San Jose, APC clients cane acreage range is 9 to 19 acres and most would like to acquire another 10 acres which can be accommodated with existing ad hoc group arrangements among growers on contiguous farms.

They are resided in Orange Walk District which seems to be important from political and economic viewpoints. Being situated 66 miles North of Belize,

¹/Small farm study by Weir Agricultural Consulting Services Limited

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the Orange Walk Town with a population of 5,000 inhabitants is looming more promising as a breadbasket of Belize. With recently established sugar factory and its impetus on expansion of sugar cane, the entire district has grown economically. The improved highway will quicken transportation between the City and Town which will have implications for agricultural input distribution and marketing.

a. Agricultural Input Distribution

The incentives for small farm agriculture in Belize is influenced by government policies relative to technical and financial assistance. The major agricultural inputs for the target group of Belize are fertilizers, insecticides, herbicides, seeds, planting materials, sprays, fungicides. For the commercial export crops such as sugarcane, bananas, citrus, mangoes, the supply of inputs are assured through the respective associations. But under this arrangement, farmers are responsible for delivery of fertilizer to the farm which is some 15 to 20 miles away.

A fertilizer blending Plant formulates fertilizer for the cash crops. Annual production for 1973 to 1976 was:

1973	2,617	Long tons
1974	5,014	" "
1975	4,475	" "
1976	3,263	" "

The demand for fertilizer fell because of a slowing down of output in the two main agricultural enterprises, namely sugarcane and citrus fruits. Sugar output declined from 82,874 tons in 1975 to 61,799 tons in 1976, a drop of 25.6%, due to the vagaries of weather and drought in 1975 and heavy rains in middle of 1976. The latter hindered transportation from the fields to factories resulting in harvest stoppage prior to the end of the season, which is June.

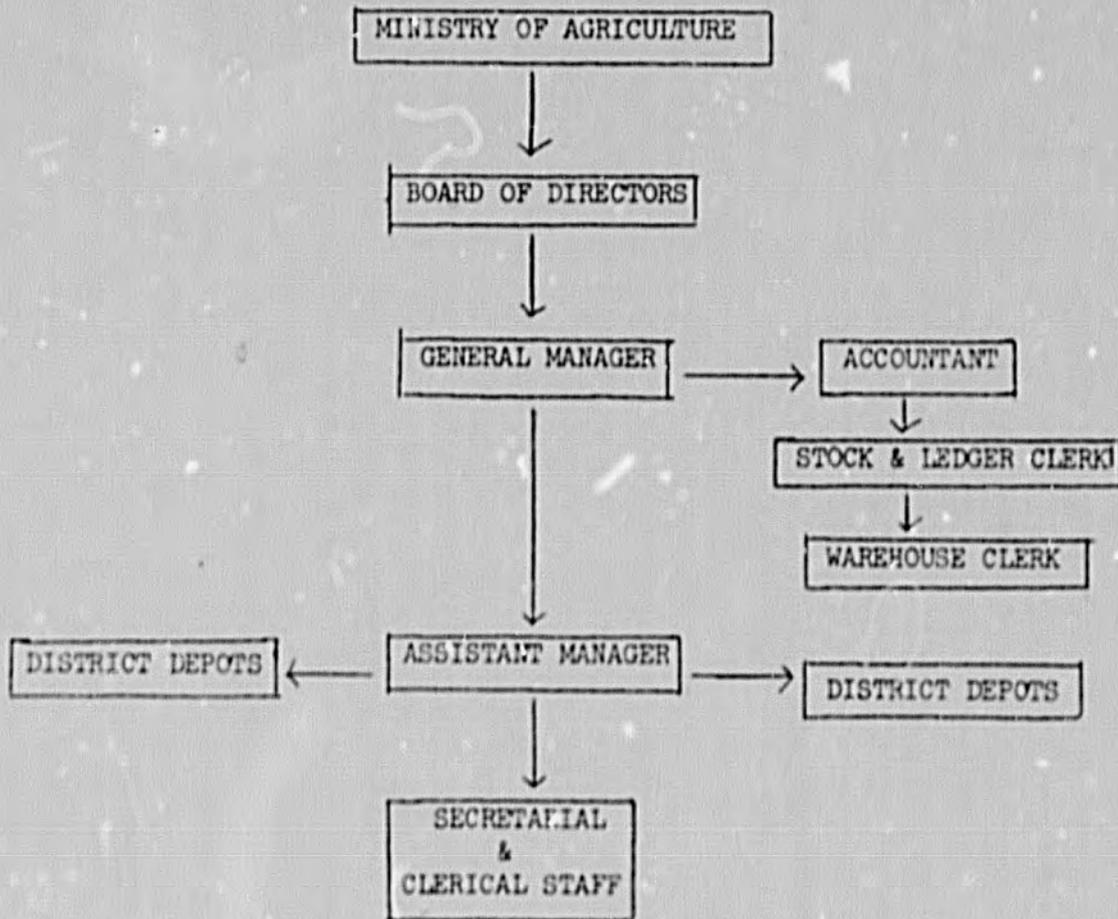
Other sources of agricultural inputs are two entrepreneurs in Belize City. Their dealerships handle tractors and implements which small farmers purchase cooperatively. A modicum of the other inputs are stocked and sold to farmers who visit the City during the business week. But farmers who will sell Saturdays, through the new Belize Market, will not be able to procure their input requisites as these outlets are closed.

b. Marketing

The Belize Marketing Board, organized in 1948, with Amendments in 1968, is a buying and selling semi-autonomous agency of government. Its operation is under auspices of the Ministry of Agriculture (MinAg) with annual sub-ventions for carrying out its statutory functions.

(1) Organization

Schematically, the organization is as follows:-

BELIZE MARKETING BOARD STRUCTURE

At the national level, the line of command flows as shown with the General Manager assuming executive responsibilities with operation under the Assistant Manager, who has responsibilities for depots in each of the districts.

The Board has a staff of 50 employees of which four are women, one of whom is the Assistant General Manager. The Team Leader met the Assistant General Manager who delineated the BMB functions and provided a copy of a recommended structure for its operation in Toledo District (Annex A.2.)

(2) Board Functions

- (a) to buy and re-sell produce;
- (b) to process agricultural produce;
- (c) to assist producers (in particular cooperatives) in the cultivation, production, preparation, manufacture and market the produce of Belize;
- (d) to trade in agricultural inputs, to facilitate farm operations;
- (e) to establish depots and agencies for purchase, sale and delivery of farm products and agricultural inputs which facilitate the operations

- of farmers;
- (f) to enter into contracts for the purpose, sale and transport of products and agricultural equipment and farm commodities upon such terms and conditions as the Board thinks fit;
 - (g) to act as commission agents for the disposal of products of any producer or cooperative for the purchase of supplies of any producer or cooperative;
 - (h) to invest any monies forming part of the reserve fund;
 - (i) to insure property against insurable risk;
 - (j) to maintain and improve the assets (land, building, etc.) to the Board;
 - (k) to provide credit for producers;
 - (l) to pay dividends on the basis of produce purchased by and services rendered to the Board by producers, cooperatives, individuals and other bodies; and
 - (m) where it is necessary for maintaining supplies to deal in commodities other than the products of Belize (importation).

(3) Analysis of Performance

BMB purchases the three basic staple foods, rice, corn, red kidney beans from farmers and sells on retail and wholesale markets. When supply is low it imports these commodities together with certified seeds for these crops.

Corn

Statistical data provided by the Central Planning Unit^{1/} in Belmopan record that between 1972 and 1976 acreage in Corn Production was 110,419. Yield from this acreage was 158,090,000 pounds of which BMB purchased 6,963,000 pounds or less than 5% of total market supply.

Improved seeds, favourable weather and high prices offered by the BMB were reasons for high corn yields. Prices were increased from 8¢ per pound to 16¢ per pound. Available land, obviously, was not a limiting factor. The Board Storage facilities could not accommodate the large volume sold by farmers, and had to suspend further purchases of additional quantities. Efforts to find they remunerative export markets failed because prices paid to farmers were higher than prices on the international markets.

The surplus could not be stored by some farmers which led to losses through spoilage. With surplus volume in their storage facilities, growers did not plant their traditional crop in the latter part of the year.

Rice

Total rice acreage for the period of 1972 - 1976 was 38,393. Yields from this acreage, for corresponding period was 55,684,000 pounds. The production is a reflection of a 6% increase in acreage between 1975 and 1976, and output increase of 3.1 million pounds an equivalent of about 21%. Favourable weather and available credit facilities made available to farmers made the improved production possible. The BMB purchased was about 36% of total market volume. Small (Milperos) farmers, reportedly produced more than 33% of total volume.

Beans

Beans acreage in Belize for the period 1972 - 1976 was 25,121, with a volume output of 12,650,000 pounds. BMB purchased 1,622,000 pounds, which was about 13% of volume marketed. Production of beans suffered from heavy rains during the peak of growing season making importation of 311,373 pounds necessary.

During 1975/76, the wholesale and retail prices of red kidney beans increased from 37 cents and 42 cents per pound to 45 cents and 55 cents per pound respectively. These higher prices led to an increase in purchases by BMB, and coupled with continued improvement in farm practices in most areas should boost output in future years, i.e. 1977 onward.

Vegetables

Production of tomatoes, cucumbers, cabbage, and peppers increased from 860,000 pounds in 1975 to 945 thousand pounds in 1976. Good weather and better prices were primary reasons for the increase.

(4) Future Plans

The Board's prospects for better expansion of facilities and organization was evidenced by the construction of grain storage facilities in Belmopan and Punta Gorda and a third one programmed for the Orange Walk Town. Each facility will have a capacity for storing 2,000 short tons of grain. These will curtail spoilage and protect resources during periods of glut and disaster.

In addition to storage facilities, the Board is striving to extend its services through better management at National and the six depots. The proposed organizational structure for Toledo district reflects district activities. Depots stock agricultural inputs for sale to farmers: inputs stocked are fertilizers, insecticides, herbicides, seeds and sprays.

To accommodate marketing of vegetables in Belize City, the Board, in concert with PWD, is finalizing a farmers market building. The Assistant Manager estimates that 100 farmers can be accommodated with stalls for selling their produce.

(5) Conclusion

The Belize Marketing Board has the statutory foundation for perfecting a genuine service to producers. Fixed capital cost provided by CDB, is needed to place functions in their proper perspectives, effectively, at Macro and Micro levels of government. Micro marketing facilities command attention to details from these viewpoints: small farmers produce 80% of red kidney beans; 30% of corn; and a large percentage of rice and vegetables. Corn is the only commodity that has a guaranteed price and market.

A Marketing Specialist (Belizean) needs to be recruited, trained, and put in charge of developing standards and grades, channeling of intelligence information to farmers and retailers in rural villages; and arranging training perspectives

in collaboration with MinAg AES.

New technologies have increased yields in staple foods and cane. Its impact has brought about some reduction in imports of corn, rice and beans. There maybe others.

Supply of agricultural inputs and distribution should be a major responsibility of BMB with a full-time Assistant Manager in charge of that section.

(6) Coordination

Linkage between MinAg and DFC leaves room for improvement. Economic growth in the agricultural sector requires cooperative and cohesive efforts if essential requisities needed by farmers are to be met. Some initiative on the part of DFC or MinAg is warranted in order that the greatest benefits can accrue from farmers investments.

2. Antigua

The evaluation in Antigua evolved from initial discussions with Bernard S. Percival, Manager, John DeNully, Operations Manager, Lesroy Grant, Acting FIO. Central matters discussed concerned a recasting of the prepared itinerary in an order to make full use of the Team's effort in collecting data pertaining to the sub-projects of the loan.

While the planning and services of -006 development was valuable, it was not at the same level of certitude experienced with DFC in Belize. Nonetheless, the chronology of our three day visit went forward enabling observations and discussions with 20 officials and farmers. Those contacts were very important for the APC and Feeder Roads sub-projects since these have Project Agreements approved for Antigua. In the case of APC, 42 loans have been consumated with EC\$48,000 disbursed to date. There is no programme planned for Agricultural Input Distribution and Marketing. However, discussions were held with appropriate officials to ascertain their status and foci in agricultural development.

The AES intervene for land preparation inputs for farmers with Agricultural Development Corporation in the MinAg. But budgetary constraints limits the effectiveness of the corporation. When called upon for service, tractor and equipment are inoperative.

a. Agricultural Input Distribution

APC clients procure their inputs from several suppliers which creates problems for ARDB. More than 50% of these loans are for labbr input, fertilizers, planting materials, insecticides. An orderly supply of inputs on a demand and timely basis fails because importers and distributors find profit margins too low. CMC would be the solution if it were structured and functionally capable of rendering this type of service. It appears to be the logical agency of government for handling inputs.

Caribbean Rural Development Advisory and Training Services (CARDATS) has a training programme for 20 farmers, 12 of whom are APC clients. These are vegetable

growers (carrots, onions, okra) who use improved seed varieties which are supplied by CARDATS Technical Officer. Seeds are purchased in bulk and sold to growers.

Tractors and sprays are provided by CARDATS for the two year period the farmers are in the Programme. The CARDATS concept is to make these farmers self sufficient, while serving, also, as a demonstration for AES. Farmers produce is sold to the Central Marketing Corporation.

b. Central Marketing Corporation (CMC)

In 1975, the government established CMC for the purpose of marketing fruits and vegetables of small farmers who are registered with the corporation. In 1978 the Corporation Act was amended to include fisheries and supermarkets. There are 140 CMC employees. An organization proposal is provided in Annex B. While the foundation and structure of CMC is unclear, its credibility among some growers is good and serves as an incentive for farmers to increase production. Copy of Act with list of functions was not provided, even though requested.

c. Analysis of Performance

Contractual arrangements to purchase farmers crops are made with the help of AES. Farmers receiving APC loans are recommended to AES, and as security, formalized procedures are made with CMC stating that repayment installments will be made according to plan. Loan payments are reschedule in case of disaster.

The mutually agreed to registration plan will serve as a control on production, marketing, pricing and farm planning. Adherence to standards and grades is an objective of the CMC registration plan, and this will influence the quality of vegetables sold, whether through CMC or hucksters. Growers are taught grading at the farms, CMC and agricultural shows. Many of the 500 hucksters are women who purchase vegetables from producers for resale to hotels.

CMC procures a limited amount of agricultural inputs for distribution to farmers, but the supply is irregular due to delay in shipment by suppliers from the U.S. and U.K. A sub-regional arrangement could be a satisfactory replacement for the present inordinate procurement practices.

CMC controls the price of vegetables, but politics interferes with equity of price controls. Price for grade I produce is fixed, but prices for lower grades are negotiated. Lower prices prevail when supply is high and demand is down. However, CMC knows the vegetable demand for Antigua and can help to stabilize production with statutory support. According to the Manager, margin of price mark-up ranges between 18 to 30% of production cost, but prices fluctuate and are lower for cucumbers and sweet potatoes. The crops in high demand are okra, onions, and carrots. These are retailed through CMC's supermarket in Antigua.

d. Future Plans

Hard statistical data on Antigua's agricultural economy was not provided by the MinAg nor its AES. The AES has great responsibility as discussed by the Director of Agriculture, a fact which was corroborated by the Manager of the CMC and FIO. In the process of explaining the functions of AES, the Director

enumerated these constraints:

- (a) limited AES input in APC effectiveness;
- (b) inadequate information, dissemination and feedback;
- (c) limited cultivation services by Agricultural Development Corporation and by private firms;
- (d) limited markets structure prior to 1978. It is still weak but has improved through CMC. There is a good market for peanuts, but production has not been accomplished. More education and research is needed;
- (e) land tenure is long term constraint, but is not a major impediment. Security of tenure is assured, once a farmer is certified;
- (f) AES needs upgrading. The major constraint is the shortage of trained personnel - only 50 of AES staff is trained. Of the five recently sent to Trinidad for training, three returned prior to course completion;
- (g) recruitment for additional AES personnel has been non-productive because government salary system is not comparable with other agencies.

The above constraints, highlighted by the Director of Agriculture, portend what Antigua's future plans for the sector should be for the short, medium, and long term. From discussions, and field visits with farmers in Bethesda, and the cooperative group farm - funded by Inter-American Foundation (IF) - the constraints delineated by the MinAg Director were verified.

Group and cooperative farming should be supported as they can promote employment, savings, and income distribution. The new technologies are known to farmers and are used whenever they are available on the market. Farmers in Bethesda were using improved varieties of okra, beets, and melons, sprinkler irrigation and a four-row vegetable seeder. The ten member Antigua Cooperative Farm was diversified over 50 acres of land with ten acres in vegetable crops. The balance - 40 acres - was utilized for production of cattle, sheep, rabbits, pigs and poultry flock of 600 layers. Produce is sold through CMC whereas the Bethesda farmers were selling to hucksters.

e. Conclusion

While AES has been entrusted with responsibility for the recovery of agriculture as viable and thriving sector, it is ill equipped to perform at levels paralleling responsibilities and expectancy. Delivery of results are aborted because AES is a weak institution. Antigua is where some of the CBD grant funds for Technical Assistance should have been programmed.

CMC is a new Government Agency when compared to Belize and St. Lucia, and St. Vincent, and can benefit from short and long term technical assistance under the CDB grant. Short term consultants are needed for pricing and procurement, and a long term Marketing Technician to assist CMC in establishing a modus-operandi for buying and selling produce and teaching AES rudimentary principles, and concepts of agricultural marketing. The manager could benefit from an observation tour to producers markets in the Southern United States and some of the MDC's in the region.

The factors of production (land, labor, capital and management), together with government policies relevant to pricing and distribution play an integral role in determining incomes from various farming systems. To assure farmers have the greatest comparative advantage possible, farm planning and monitoring should be injected in farming programmes. In relation to the above, farmers allocated land in the sugarcane recovery plan should have plans developed in concert with AES, research, CARDI and CARDATS.

f. Cordination

It seems that the prime objective of MinAg and subordinate institutions, ABDB, CARDI, CARDATS, and Credit Unions (CU) are to improve production and incomes of the small farmers. If this assumption is correct, there appears to be greater opportunities for closer coordination among these agencies for achieving these objectives. Effective coordination, design to affect betterment of farmers, has to be planned and programed. The MinAg and CDF/ABDB should seize the initiative in this regard.

3. Dominica

The Team did not visit Dominica because the government was immersed in recovery and relief programmes necessitated by Hurricane David.

APC Loan Agreement was consumated in October 1978, for \$181,000 and to date a sum of \$74,000 has been disbursed, leaving a balance of \$107,000 to be disbursed.

4. St. Lucia

Evaluation of agricultural input distribution and marketing sub-projects in St. Lucia began with discussion with the management at the Agricultural and Industrial Bank (AIB). In spite of Team's early arrival, the AIB was prepared to receive the Team with plans to accommodate necessary contacts for an assessment of the components of the -006 project loan.

To get an overview of the project status in St. Lucia, Mr. Norman Etienne, Manager, together with Messrs. Donald Louisy and Hillary LaFarce, Farm Improvement Officers for FIC and APC loan programmes respectively, gave a status report reflecting excellent management in the implementation of the AIB duties and responsibilities. Aside from the routine mechanics of the AIB business, its public relation and linkage with other government agencies and businesses was manifested by the official appointments and contacts arranged for the Team. Table I summarizes the contacts including those at the Micro level.

For data gathering regarding Agricultural Input Distribution and Marketing, contacts were arranged with: The St. Lucia Banana Growers Association (SLBGA), Winward Island Banana Growers (WINBAN); Ministry of Agriculture (MinAg); the St. Lucia Marketing Board (SLMB) and small farmers. Visit plans were finalized in concert with Mrs. Sheila Nelson, Economic Planning Officer II, Central Planning Unit.

a. Agricultural Input Distribution(1) St. Lucia Banana Growers Association (SLBGA)

SLBGA has the buying and selling responsibility for the banana farmers who have six members on the nine member Board. To assure that the necessary inputs are available the Board stocks the type required which is distributed through its depots in the North and South. As bananas are susceptible to fungus, and due to the uneven terrain of fields, the Board participates in joint-venture spraying contract with St. Vincent, Grenada and Dominica, which is augmented with knapsack spraying.

Fertilizer is supplied with a three months supply in store at all seasons of the year. Other inputs provided are insecticides for manual spraying, herbicides, nematocides, sleeving materials and cartons for marketing. Credit input is arranged through AIB for APC clients who authorizes SLBGA to make repayments to AIB.

(2) Agricultural Extension Services (AES)

Inputs provided by the MinAg Agricultural Extension Services have improved planting materials, pigs for pork production, and improved coconut varieties, as between 40 to 50% of coconut trees were destroyed by rodents in 1978. To circumvent a recurrence of this loss, AES has a five-year plan for production of improved tree crop varieties, i.e. avacados, cocoa and mangoes. For meeting future needs and contingencies, AES has projections for procurement of fertilizers and rodenticides.

The AES staff services the 12000 farmers in St. Lucia, inspite of its limited transportation. To keep farmers abreast of farm situations - outlook campaigns, supply/demand, etc., the Agricultural Information Division has embroidered programmes broadcast twice weekly. And unlike farmers in many other LDC's MinAg publishes Quarterly Digests of agricultural statistics. This type of input provides intelligent data relative to input distribution, marketing, performance of AIB, and the various commodity boards. Moreover, the Quarterly Digests includes tables on Weights and Measures, local measures and spacing for Tree Crops in feet per acre.

AES has a major input in deciding where -006 Feeder Roads will be constructed. It sets potentialities and priorities for discussion with appropriate officials at the Ministry of Works.

Under Part II 19 (11), the St. Lucia Marketing Board Act, the Board has statutory responsibilities to: "trade and deal in fodder and feeding stuffs for livestock, seeds, fertilizers, insecticides, and other production requisities".

b. Marketing(1) SLBGA

SLBGA buys bananas from its 10,000 members at three efficiency level of growers. The first level constitute those farmers who possess the knowledge and skills for carrying out all of the marketing functions and delivers crop to the reception depots located in the North and South. The second level of growers are those who deliver crop to a designated Boxing Plant where the crop is washed, santized, and boxed for dispatch to the reception center in Castries.

Mrs. Corela Benjamin (40 years), an APC client, owns and manages a Boxing Plant which was established with an APC -006 loan of EC\$3,000,00. She processes bananas from 94 growers whose farms are located in a 3/4 mile radius from the Boxing Plant. Output from the plant is 450 boxes weekly with an average weight per box of 35 pounds. Farmers are paid 21½ cents per processed pound. Each box is identified with a number - "500 black sticker" - and transported to the Geest reception center for delivery to the U.K. market. If questions are raised about the shipment, it goes directly to Mrs. Benjamin for reply.

The third level involves points set up by the SLBGA in areas of low production, where boxing facilities are not available. All functions for this group are performed by SLBGA. Percentage of banana growers in the first two levels is 35%, and 63% in the third level.

Pricing is based on the Green Market Price (GMP) established through WINBAN. The current prices in U.K. was given to be 274 pounds sterling per long ton. Fluctuation occurs between winter and summer, but prices are better during the summer season. The cost for overseas operation is deducted from the GMP by the buying company - Geest Industries West Indies Limited. In 1978 net payment to growers was EC\$16,918,835^{1/} and net payment to growers for the first half of 1979 (Jan/June) was \$9,310,821.

Between January and April 1979, prices received by growers in St. Lucia were higher than those received by the other WINBAN countries (Dominica, St. Vincent and Grenada). During the same corresponding period, production in St. Lucia was 17,068.37 tons, whereas it was 7,471.12 10,281.25 and 4,924.38 tons respectively for the other WINBAN Islands.^{2/}

(2) St. Lucia Marketing Board (SLMB)

SLMB was established in November 1967, and charged with the duty of promoting the proper and effective marketing of agricultural produce and dealing with matters incidental thereto or connected therewith.^{3/}

In Part II of the Act, Functions and duties of the Board are delineated thusly:

- (a) to stimulate, facilitate and improve the production, marketing and processing of produce;
- (b) to secure the most favourable arrangements for the purchase, handling, transportation, storage, exportation, shipping, marketing and selling of produce whether in the Island or out of the Island;
- (c) upon being required to do so by the Minister to make recommendations on any matter directly or indirectly relating to the production and marketing of produce; and
- (d) generally to carry out the provisions of this Act.

Powers of the Board are broad and comprehensive provided it does not contravene the statutory authority of another agency or Board:

- (a) buy, sell, import and export any produce by wholesale or retail; Provided that it shall not without the consent of the Minister

^{1/}SLBGA

^{2/}Quarterly Digest, MinAg.

^{3/}SLMB Act 1967

- deal in any produce the marketing of which is under the control of another statutory authority or statutorily controlled;
- (b) act as sole importer of any article of produce for which it offers a guaranteed buying price;
 - (c) establish and operate depots and agencies for the purchase, delivery, grading, packing and sale of produce;
 - (d) enter into contracts for the purchase and sale of produce upon such terms and conditions as it may determine;
 - (e) enter into contracts for the transport of any produce, and such other commodities as may facilitate the operations of produce;
 - (f) establish itinerant systems for the purchase and sale of produce;
 - (g) establish and operate any plant or factory for preparing, processing or packing produce;
 - (h) establish and operate cold storage facilities or any other facilities for the storage of produce;
 - (i) regulate the grading of produce and prescribe the grades which shall be employed in the purchase by the Board of such produce;
 - (j) dispose of produce on behalf of any producer or co-operative society;
 - (k) trade and deal in fodder and feeding stuffs for livestock, seeds, fertilizers, insecticides and other production requisites;
 - (l) purchase, transport, store, insure, handle and sell any packing material used in connection with produce;
 - (m) fix guaranteed minimum prices at which it shall purchase stated kinds, quantities, and grades or any produce;
 - (n) advance money to producers for such agricultural purposes and on such security as it may from time to time determine;
 - (o) make initial payments to producers, under such terms and conditions as it may determine in respect of produce purchase from them for the purpose of re-sale and make such further or bonus payments to such producers as may prove equitable on the out-turn of such re-sale;
 - (p) act as agent for the Government for any purpose relating to the marketing of produce;
 - (q) collect and circulate statistics and other information relating to the marketing of produce;
 - (r) do such other things as may be necessary for the effective carrying out of its functions and duties under this Act.

A third delineated responsibility of the Board, with the Minister's approval, is the power to regulate. These are the following:

- (a) prescribing the grades, types and quality of produce it shall accept from producers;
- (b) prescribing the prices to be paid to producers in respect of any grade, type or quality of produce;
- (c) relating to the examination and grading of produce;
- (d) controlling the prices at which specified produce acquired from the Board by domestic buyers may be sold locally and the prices at which specified produce of stated grade and packing may be sold for export by licensed agents;
- (e) regulating the quantities of any specified produce which may be imported by licensed buying or selling agents;

- (f) relating to the licensing and registration of producers of any specified produce;
- (g) prescribing the form of licenses to be used;
- (h) requiring importers of produce to submit documentary evidence of the source and price paid for any category of produce;
- (i) establishing agricultural marketing schemes for one or more categories of produce;
- (j) requiring registered producers to keep records and, where required to furnish returns of all specified produce sold by them; and
- (k) generally for the better carrying out of its functions and duties under this Act.

c. Analysis of Performance

SIMB acknowledges that APC has been an incentive for increased banana production, but it has had little or no influence on vegetable production where local demand is good. To increase output, the Board has taken steps to:

- (a) improve grades and standards for 16 food crops produced in St. Lucia;
- (b) increase available supplies of vegetable fertilizers and insecticides;
- (c) expand supply of planting materials;
- (d) arrange equitable contracts with producers who agree to comply with grading standards which are distributed and interpreted to them by AES and the Board;
- (e) encourage growers to follow cultural practices recommended by AES to overcome losses encountered by some APC clients;
- (f) to assist in reduction of production cost of carrots which compete with prices of imports from St. Vincent; the -000 feeder road project will reduce transportation cost;
- (g) accelerate frequency of meetings between AES and SIMB in order to increase production of cabbage, tomatoes, white potatoes, all of which have a high demand and popularity with housewives;
- (h) the need for market education and intelligence is a high priority and will be programmed on a regular basis;
- (i) continue "farmgate" collections in both North and South where producers will be paid in cash if volume sold is EC\$50.00 or less. Volumes with values exceeding the \$50.00 maximum will be certified for payment at Castries or Vieux Fort. Weights and measures compliance are major features of SIMB future programmes, together with the reduction of imports which cost EC\$25,000 bi-weekly.

d. Future Plans

Marketing facilities are very limited. Personnel working area does not provide atmosphere for adequate concentration on jobs assigned. Frequent interruptions are occasioned by visitors whose access to the Manager is through the congested quarters. Records appear to be disorganized. A request for an organizational chart was not fulfilled because it could not be located, and there is no comparison between SIMC quarters and the more orderly ones at SIMGA. Therefore, the proposal presented to CDB by the Corporation is a good idea and should receive a positive response.

The officer in charge of marketing is doing a good job, but he contemplates

retirement in the near future and someone should be recruited to assist this officer in order to become knowledgeable about the position functions at all levels of the marketing chain.

e. WINBAN

With regard to CDB projection for establishing a sub-regional agricultural supply/distribution facility, Winban appears to have the required structure and foundation for making the concept workable. Its contacts with the Winward Islands is ideally suitable for distribution of these on sustained bases.

Additionally, Winban's thoughts regarding comparative advantages of various cropping systems seems compatible with pronouncements for crop diversification in the CDB region. Outlook for precise farm planning, supported by sustained improvement in all LDC's by AES, is essential for relief of monocultures and increased profitability in the agricultural economies. Winban foresees where closer linkages between AES and research emerge, increased productivity will result with induced change in use of credit and cultural practices including inter-cropping, terracing for erosion control pruning to increase yields, concentration on vertical increases, and a more critical economic analysis of factors of substitution to determine best return to factors of production. Winban views APC as a valuable mechanism for establishing mini boxing plants; farm planning programmes and farm diversification.

f. Caribbean Research Development Institute (CARDI)

Investment in CARDI is well placed and professionally managed in St. Lucia. Discussions with Messrs. Calixte George, and C.A. Mademootoo provided a valuable scenario relative to the objectives of CARDI in strengthening research networks with the CARICOM LDC's, especially small farm clientele, technological packages, nutrition and employment generation. It was revealed that ongoing research demonstrations are conducted on farmers fields in St. Lucia, St. Vincent and Dominica in collaboration with AES.

g. Conclusion

The major currency earner in St. Lucia is bananas, and recorded data report this commodity earns 80% of GNP. APC clients with banana investment loans are beneficiaries of net profit accruing to banana growers. Clients with vegetable investment loans have not been as successful and for good reasons: agricultural inputs for vegetable growers, have not been regular and timely provided; lack of cultural practices; import competition; pricing fallacies; unstructured markets; and disfunctional government agencies and support; imbalance programmes for production and marketing among others.

Coordination among AIB and other agencies is cordial and productive in addressing major problems of SLBGA, livestock and fisheries, but this collaboration has had little or no tangible effect in vegetable production. It appears that AID, AES, SLMB and CARDI could design vegetables production packages predicated on adaptive research findings.

SLMB should exercise its statutory powers and arrange for adequate stocks of

agricultural inputs geared to the supply demand situation throughout the year. The standardization of a grading system, inclusive of weights and measures will improve the quantity and quality of vegetables, and should be continued and supported at all levels of government.

Marketing importance requires personnel to orchestrate a system with equity and economic growth potentials. Annual imports valued at EC\$650,000 is too high in a country endowed with ample natural resources to support expansion in food and vegetable crops. This situation calls for a marketing specialist - St. Lucian - at the earliest point in time. CDB in collaboration with USAID/RDO should plan for training in marketing.

Mrs Corela Benjamin APC Boxing Plant client and Mr. Moses Lewis, APC Banana Production client, are potential success stories. Income netted annually from the boxing plant was reported at EC\$3,600 and from the initial banana production of Mr. Lewis' farm, he will amass profit margins enabling amortization of the \$6,500 loan well within the loan terms. Baseline data at the beginning of the loan and status of the borrowers should give some meaningful results pointing to attainment of goal. CDB should design a follow-up analysis of these clients. Both loans have generated employment and with implications for income generation. It is too soon to determine social benefits resulting from APC, but the time is propitious for setting-up a methodology for this determination -. AIB arranged telecommunication required for contacts in St. Vincent.

5. St. Vincent

Mr. Hugh McConnie, Farm Improvement Officer (FIO) for the Agricultural Cooperative Bank, arranged a two day programme, which encompassed all aspects of the -006 Loan in St. Vincent.

Upon arrival the Team met with the FIO to discuss the programme and to obtain terms of references for the respective visits. The principal contacts for Agricultural Input Distribution and Marketing were the St. Vincent Marketing Corporation, Ministry of Agriculture and farmers. The Assistant Financial Secretary did not keep his appointment.

a. Agricultural Input Distribution

The only orderly regularized source of inputs is the Banana Growers Association. Producers use fertilizer formulated for bananas on their food crops as well, except vegetable growers who procure from SVMC.

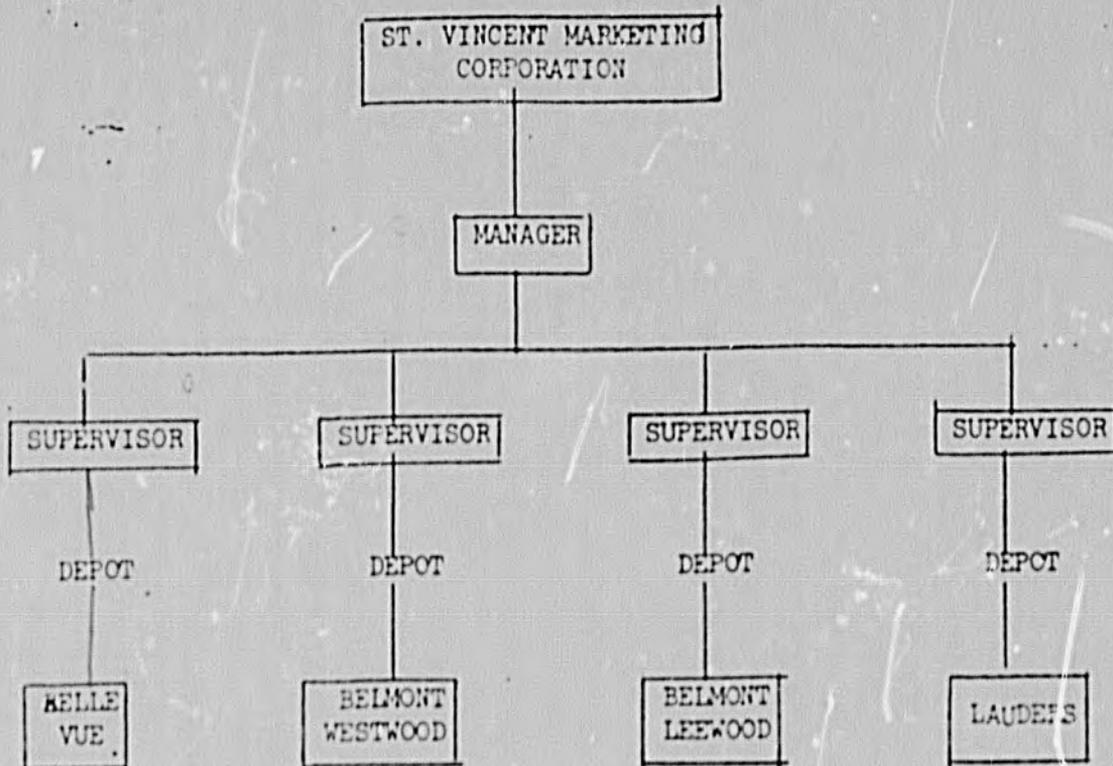
The Plant Protection Division of MinAg subsidizes inputs which is limited to those materials required to safeguard crops from diseases, rodents and funguses.

As stated above SVMC stocks fertilizers for vegetable producers, together with carrot seeds and planting materials for sweet potatoes. These are shipped in 50 pound and 75 pound bags respectively; the seeds are sold to growers at subsidized prices. SVMC, also imports mango cartons from St. Lucia.

b. Marketing

The St. Vincent Marketing Board, established in 1959, was repealed with the enactment in June 1975 by the St. Vincent Marketing Corporation (SVMC) Act.

Structurally, SVMC seems to be organized to meet the needs of the people in four separate regions of the country with supervisors for each in addition to Kingstown.



The Manager of the Corporation serves under the corporation which has nine members designated by the Cabinet. The Chief Agricultural Officer is an ex-officio member of the corporation which has broad functions, powers and regulatory duties:

Functions of the Corporation^{1/}

- (1) to organize and effect imports of commodities particularly for the purpose of securing a sufficiency of those commodities essential to the well being of the community; their equitable distribution and their availability at fair prices;
- (2) to establish and administer in accordance with the directions of the Minister procedures and controls whereby the objectives of the Government relating to the effective control of the importation of commodities into the State and the exportation of produce out of the State can be achieved;
- (3) to act on behalf of the Government as importer of commodities or exporter of produce as the Minister may direct;
- (4) to stimulate, facilitate and improve the production, marketing and

^{1/}Source: St. Vincent Marketing Corporation Act

- processing of produce in the State particularly for the benefit of the producer;
- (5) to secure the most favourable arrangements for the purchase, handling, transportation, marketing and sale of produce within the State;
 - (6) to secure the most favourable arrangements for the purchase, handling, transportation, exportation and shipping marketing and sale of produce out of the State;
 - (7) to assist agricultural and fishery co-operative societies to dispose of their produce to the best advantage;
 - (8) to secure the most favourable arrangement whether within or without the State for the storage of produce and for the storage of such other matter or thing as the Corporation may think fit;
 - (9) to make recommendations to Government on any matter directly or indirectly relating to the production and marketing of produce;
 - (10) to recommend to Government measures whereby external trade can be promoted for the benefit of the community; and
 - (11) to engage in such trading activity as would be beneficial to the community.

Powers

The Corporation shall, subject to the provision of this Act, have power to carry on all activities the carrying on whereof appears to it to be requisite, advantageous or convenient for or in connection with the discharge of its duties under this Act, and in particular without prejudice to the generality of foregoing, shall have power:

- (1) to buy and sell produce;
- (2) to fix and determine the grading of produce;
- (3) to export produce;
- (4) to establish and operate depots and agencies for the purchase, delivery, grading and sale of produce;
- (5) to establish and operate facilities for preparing and processing any produce;
- (6) to enter into contracts for the purchase and sale of produce upon such terms and conditions as the Corporation may think fit;
- (7) to enter into contracts for the transport of any produce as may facilitate the operations of producers;
- (8) to establish itinerant systems for the purchase of and sale of produce;
- (9) to establish and operate facilities for cold storage or any other form of storage for produce;
- (10) to act as commission agents for the disposal of the produce of any producer or co-operative society;
- (11) to purchase, transport, store, insure, handle and sell any packing material in such quantities and at such prices as the Corporation may from time to time determine;
- (12) to import commodities;
- (13) to enter into contracts for the shipping or transportation of commodities into the State.

Regulatory duties

The Corporation may, with the approval of Cabinet, make regulations generally for the better carrying out of the purposes of this Act, and in particular but without prejudice to the generality of the foregoing may make regulations providing for:

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- (1) the procedure to be followed at meetings of the Corporation and in the transaction of its business;
- (2) the manner in which documents, cheques, and instruments of any description shall be signed or executed on behalf of the Corporation.
- (3) the inspection and grading according to its quality of produce intended for sale or for export, prohibiting the sale or export of such produce without inspection and grading and of any produce of inferior quality and the general control of the handling and export of any produce;
- (4) the granting, varying and amending of licences under section twelve of this Act, the forms of such licences and the fees payable in respect thereof;
- (5) the cancellation or refusal of licences in the case of persons contravening any regulations made under the Act and for disqualifying such persons from obtaining licences;
- (6) the fees to be paid for any matter or thing done under regulations made under this Act and the disposition of fees.
- (7) the granting of travelling and subsistence allowance to members of the Corporation and the rates of such allowances;
- (8) the power and duties of inspectors and other officers appointed to carry out the provisions of this Act; and
- (9) areas where and places from which fresh meat and fish may be disposed of.

c. Analysis of Performance

The SVMC has 140 employees who serves under the Manager and four Supervisors in five different localities, i.e. Kingstown, Belle Vue, Belmont Westwood, Belmont Leewood and Lauder.

Facilities in Kingstown are located on the harbor for receiving and shipping agricultural supplies and produce. The storage area is equipped with mechanical equipment which is used for moving goods within the premises to and from vessels.

In addition to the warehousing quarters, a supermarket, managed by a female employee, operates under the aegis of the Corporation and deals in produce and merchandise that are competitive with private establishments. It is well organized with merchandise attractively arranged.

On the export aspect, SVMC has a monthly Agricultural Marketing Protocol (AMP) carrot quota with Trinidad. In striving to meet this obligation, SVMC offered contracts to interest farmers. This contractual scheme attracted the interest of only 50 farmers. Prices offered for A and B grades were not sufficient to attract farmers when the demand for carrots were high and supply was declining.

Several reasons were given for the declining production, but the major one was the historic eruption of La Soufriere volcano in April of this year. Farmers suffered severely. In the North Leewood, 71% of the crop was destroyed and an estimated 328,500 pounds of carrots were lost.

The eruption, coupled with other constraints (transportation, irrigation, storage and processing facilities) did not dampened the SVMC's motivation. It marketed 383,750 pounds of carrots from a reported production harvest of 420,000 pounds. But the AMP was never met according to data provided in Table II below.

TABLE II CARROT EXPORTS FROM 1970 - 79

YEAR	AMP QUOTA	EXPORTS	VALUE	PERCENTAGES
	2,000,000 lbs			
1970	"	23,196		
1971	"	18,697		
1972	"	358,145	107,317.50	
1973	"	519,525	149,825.12	+ 39.61
1974	"	1,339,610	455,741.40	+ 204.18
1975	"	1,004,460	420,525.70	- 7.73
1976	"	1,626,450	713,531.50	+ 69.68
1977	"	757,630	320,585.00	- 55.07
1978	"	684,550	300,314.00	- 6.32
1979	"	389,200	170,965.00	- 43.07
		6,721,463	2,638,805.22	

While SVMC buys and sells a large number of crops, its dealings in the marketing of carrots is illustrative of its performance and problems.

d. Future Plans

The future outlook of carrot production was summarized recently by the Ministry of Trade and Agriculture. It is the view of the Ministry that: (quoted)

- (1) not enough attention is paid to the research and extension of the commodity, hence the slow development of new farming techniques;
- (2) the unavailability of essential crop protection chemicals necessary for pests and disease control giving rise to serious set backs in the field;
- (3) improper marketing and financial arrangements between farmers and Agricultural Agencies as regards handling of produce, price structure, incentives, disincentives, crop loans and credit supervision;
- (4) roads and transportation hazards in major production areas. If only these were heeded, production could rise from 2,000 - 2,500 pounds per acre at present, as compared to 6,000 - 8,000 in 1976, to 10,000 - 15,000 pounds in the ensuing three year period. It is our wish that these be put into remedial construction thus boosting our carrot production at the dawn of 1980.

e. Conclusions

SVMC has most of the requisites for execution of its statutory responsibilities. Needs of farmers in areas of production, seems to satisfied through depots. Inability

to meet the AMP is not due solely to the pricing structure. The incapacity of the AES and lack of research are also, contributing factors. An ample and orderly supply of agricultural inputs and distribution thereof should be a high priority of SVMC. If the proposed sub-regional Winward Island Depot for distribution of agricultural inputs materializes, SVMC is the appropriate National Agency in St. Vincent.

Marketing expertise is lacking in MinAg and SVMC. Indigenous qualified personnel should be recruited for training in marketing and the concepts of agricultural extension education.

Banana growers in the Massaraqua area are capable and understands the benefits that can accrue from the new technologies, credit, sleeving and weeding.

While none of the farmers visited in St. Vincent were APC clients, one was a FIC client and very successful: Arnold McDonald (48 years) borrowed EC\$2,300 to establish 4 acres of banana on land he owns and 3 acres he leases. According to the FIO, in 1978, he had a profit of EC\$10,000 a portion of which he used to build a new house. Mr. McDonald is a progressive farmer who uses recommended applications of fertilizers, pesticides, etc., and weeds to assure high yields and quality. He has a wife and eight children and plans to expand the size of business with lease of another parcel of land.

6. Grenada

The assessment of -006 activities in Grenada was finalized by Mr. Winston Bain, FIO, following a telcon from FIO office in St. Vincent. Initially, a meeting was held with the Senior Officials of the Grenada Agricultural and Industrial Corporation (GAIDC). Except for Mr. Bain and the Technical and Field Officers, the GAIDC hierarchy were recent employees.

Consultations with appropriate agencies and the private sector were made for the respective Team Consultants in accordance with the CDB circular letter and the telcon from St. Vincent. The situation regarding Agricultural Inputs Distribution and Marketing was discussed with the Marketing and National Importing Board, Grenada, AES of MinAg, Remick and Thompson Company Limited and farmers.

a. Agricultural Input Distribution

The supply of inputs, except vegetable seeds, is through two private firms. The company of Remick and Thompson was visited at the Team Leader's request. The reason for the visit was to gather data about the type of supplies the company sells. In a discussion with Mr. Thompson, it was revealed that the company sells three types of fertilizers, five brands of fungicides, ten brands of herbicides, and a wide selection of agricultural tools and equipment and veterinary products. Missing from the list of inputs were seeds, and this was a common complaint of the farmers visited in the Mardi Gra vegetable producing areas. The company supplies inputs to APC clients in an orderly fashion.

b. Marketing

The Marketing Act Number 40 of 1973 has been amended by a proclamation of the People's Revolutionary Government as of August 31, 1973.

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Functions of the Board

This Proclamation changes the name from Grenada Marketing Board to Marketing and National Importing Board, Grenada. The functions of 1973 Act nor the powers are changed. But during discussions with the Board, it was revealed that their assigned duties are:

- (1) import produce and commodities for sale;
- (2) promote agricultural production of crops designated by the Ministry of Agriculture and Finance;
- (3) buying and selling of vegetables, which is limited due to inadequate storage, and there are no plans afoot for the provision of storage facilities.

Under the 1973 Act, the Board's functions were:

- (1) to buy the specified produce of Grenada and to re-sell the same;
- (2) to improve, by such means as it shall from time to time determine, processing and marketing of produce for the benefit of producers;
- (3) to secure the most favourable arrangement for the purchasing, handling, storage, exportation, shipping, and marketing of all produce and, in particular, to assist agricultural and fishery co-operative societies to dispose of their produce to the best advantage; and
- (4) upon being required by the Governor so to do, to make recommendations on any matter directly or indirectly relating to or affecting any specified produce.

Powers of the Board

- (1) buy produce other than specified produce and re-sell the same; provided that this shall not apply to produce the marketing of which is under the control of any other statutory body;
- (2) to establish and operate depots and agencies for the purchase, delivery, grading and sale of specified and other produce;
- (3) enter into contracts for the purchase and sale of produce upon such terms and conditions as it may deem fit;
- (4) enter into contracts for the transport of any specified or other produce or of such commodities as may facilitate the operations of producers;
- (5) establish itinerant systems for the purchase of produce;
- (6) establish and operate mills and other plant for preparing and processing any produce;
- (7) establish and operate cold storage or any other form of storage for produce;
- (8) regulate the grading of specified and other produce, prescribe the grades which shall be used in the purchase of the produce and the prices to be paid to producers for each grade;
- (9) act as commission agents for the disposal of the produce of any producer or co-operative society;
- (10) trade and deal in feeding stuffs for livestock seeds, fertilizers, insecticides and such other commodities as may facilitate the operations of producers;

- (11) purchase, transport, store, insure, handle and sell any packing material, in such quantities at such prices and at such times as the Board may from time to time determine;
- (12) make initial payments and pay dividends under such conditions and at such rates as may be decided by the Board on the basis of the quantities, types and grades of produce purchased by the Board;
- (13) defunct from the gross proceeds of sale of all produce sold by it -
 - (i) a percentage commission to be fixed by the Board with the approval of the Governor in respect of each type of produce; and
 - (ii) allowances to meet the actual cost of direct working expenses, inland transport, ocean freight, dock charges, overseas agents' commission and insurance; and
- (14) sell by wholesale or retail in Grenada.

c. Analysis of Performance

If the present Government accepts the duties and powers under the 1973 Act as legally binding, there is hope for some amalgamation between the two. If this is not acceptable, there are caveats with which the MNIBG maybe unable to cope. For instance remunerations for Board members salaries come from the sales of cement, rice, and sugar. Cement (30,000 bags) is imported from Cuba and Columbia, rice (52,500 bags) from Guyana, and 10,000 bags of sugar from Trinidad.

Several vegetable producers sell crops on the bed, and in the case of fruit on the trees to hucksters who assure a market to growers with limited capital. But several growers have contractual arrangements with MBIBG, but the agreement are not always clear to the farmers. A young farmer let cucumbers rot in the field because he misunderstood the terms of his contract. The quantity of cucumbers lost was in excess of what the Board had agreed to purchase and these could have been marketed through other channels.

d. Future Plans

The present social situation in Grenada precludes any judgment as to what the future holds for a viable marketing structure. Nevertheless, from discussions and observations, an efficient structure is needed and should be designed and developed. The capital estimated by the British Development Division (BDD) could be used as a guide for construction of a Grenada Marketing Facility.

e. Conclusion

The need to develop the agricultural potential in Grenada is crucial, especially among small farmers who produce crops other than the current export commodities. This requires developing a market depot for vegetables, root crops and some tropical fruits. Also, the seasonal production and import of pulses, grain, onions and irish potatoes need to be systemized so as to eliminate import of these commodities, in an orderly manner. Local market depots will have to be established for locally produced crops, tropical fruits, pulses, grain, onions, and irish potatoes.

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Meanwhile, buyers in Trinidad will likely impose standards on imported food-stuff which is inevitable should graded materials become competitive. Without a good marketing system in Grenada, small producers of these commodities selling on Trinidad market would be losers. Security for the farmers appears to be dependent upon creation of a Grenada Marketing Board, properly structured with backstopping by the Agricultural Extension Services and information channels of government and media to farmers.

The market for grain, irish potatoes and onions exist in Grenada, but without a well structured Board, the AES would be hampered in channeling promotional messages to farmers. Conceivably, rural banana marketing points could be used on non-banana days, which facilitate farmer contacts and affection of an efficient utilization of an existing asset. After MINBG conceptualization, it could benefit from the experiences and models of Belize, and St. Vincent. While these are not perfect institutions, they are illustrative of the type of functions performed in the marketing process, with some degree of effectiveness.

With regard to fruits, root crops, and vegetables, Grenada should explore possibilities for licensing growers, contracting for supplies, grading, boxing and storing of crops such as potatoes and onions.

Fixed cost for land, buildings and equipment could come from government sub-ventions and CDB loans, but the overall cost will depend upon all of the functions to be performed, and Government priorities.

Vegetable growers in Grenada are familiar with the new seed varieties and desire to grow them, but they cannot be procured locally nor can formulated vegetable fertilizer. These farmers are APC clients and produce some 10 different varieties of vegetables including carrots, tomatoes, lettuce, polebeans (Ky Wonder), beets, eggplant, cucumber and melon.

This is a situation where new technology is desired, but unable to attain. Adaptive research could assist in providing the appropriate seed varieties, including hybrids and open pollinated types

7. Barbados

a. Marketing

The Barbados Marketing Corporation (BMC) made a request to CDB for \$1,077,500 of -006 funds, which was sent to USAID for concurrence and ultimate approval. Purpose of the funds is to relocate BMC and expand its facilities to attract and accommodate a wider variety of produce, especially that of Small Farmers, many of whom left the land because of inequities in pricing and lack of assured markets for crop surpluses.

In October 1978, USAID approved the request for the \$1,077,500. Actual disbursement of these funds, or a portion thereof, is dependent upon approval of a Report-Relocation and Expansion of BMC Facilities-by Halcrow Caribbean Limited for CDB. The Report is awaiting acceptance and approval by BMC Management, CDB and USAID. According to BMC Management, the Report will be approved during the week of October 7, 1979, and immediately thereafter, BMC expects to advertise for bids.

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preparatory for construction start-up in early 1980. BMC could however, consume the balance of the \$2.0 million allocated for the marketing component of the -006 loan.

BMC like other aforementioned Marketing Boards, has the statutory obligation to develop commercial activities related to the handling, processing and marketing of agricultural products, excluding sugar, in the interest of local farmers. Equity participation on part of Government, Producers and Traders is a condition for approval. Anticipated increased in yields for the expanded BMC facility is indicative that the necessary inputs are available for boosting yields at levels commensurate with the capacity that will be developed with the utilization of 538-T-006 loan funds. Moreover, the estimated 25,000 small farmers in Barbados are the potential beneficiaries of the BMC expanded facility.

b. Profile of Small Farmers

Small farmers in the Caribbean have a size of business ranging between 1-25 acres which they may own, lease, rent or freehold. They have a low level education (average 5 years) with average chronological age of about 25 years. They produce 60% of the export and domestic crops on about 10% of the available arable land suitable for farming. Cash crops are bananas, sugarcane, coconuts, cocoa, and livestock (poultry, cattle, swine, fishing)

Vegetable crops, ground provisions, and citrus are in their cropping system for both domestic and export markets.

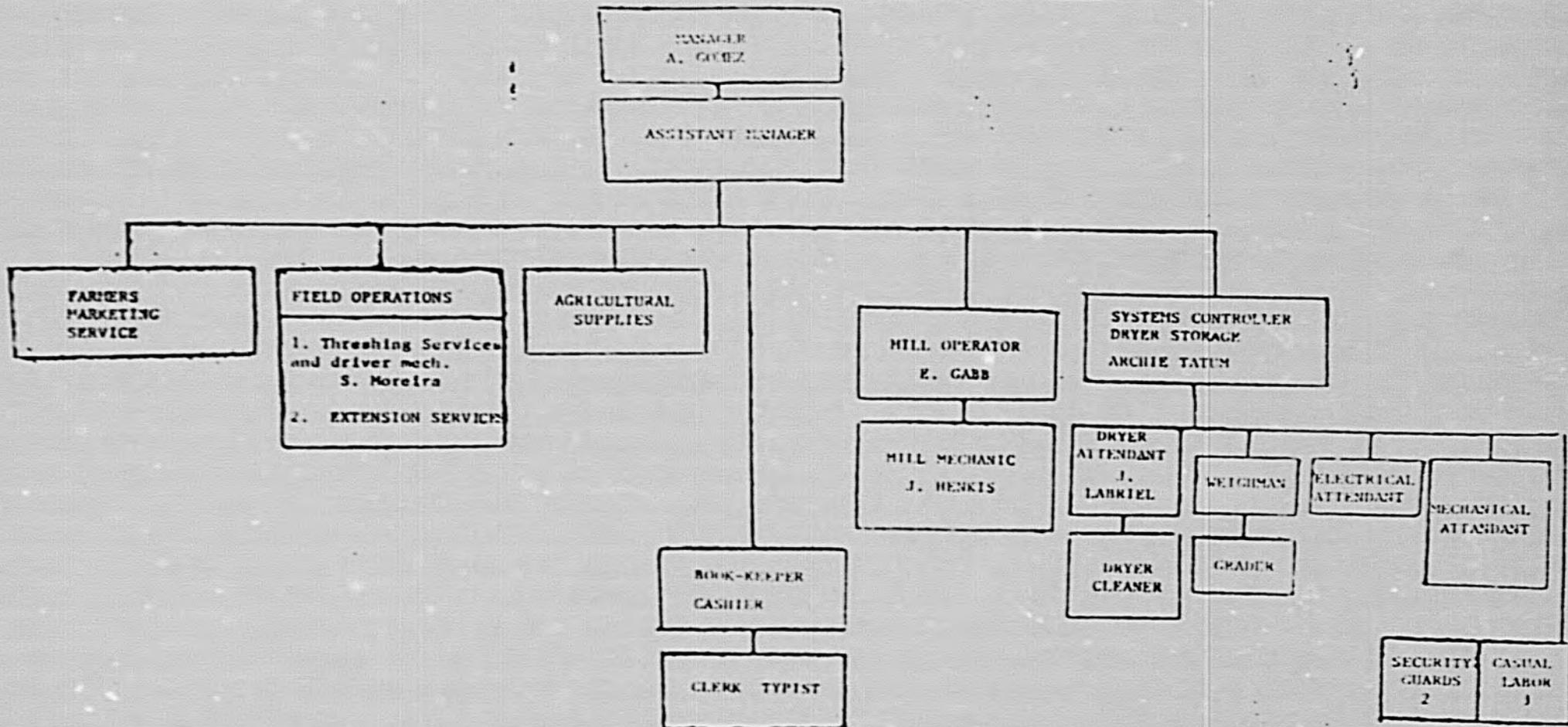
Often, his owned land becomes fractionated due to dependent family ties. They are hard put to provide the factors of production due to land tenure policies, wages for labor, scarcity of capital at equitable interest rates, lack of agricultural inputs and exploitation and market manipulation.

Rarely do small farmers obtain the mix of agricultural technology suitable for his size and type of business. Their reliance on agriculture extension services is sometimes non-productive, thereby forfeiting benefits from adaptive research that may be rewarding. Where credit and technological packages are available, their entire production efforts are improved.

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APPENDIX 1.1.

NEW ORGANIZATIONAL STRUCTURE - CLASSIFIED BOARD OPERATIONS - TOLEDO DISTRICT



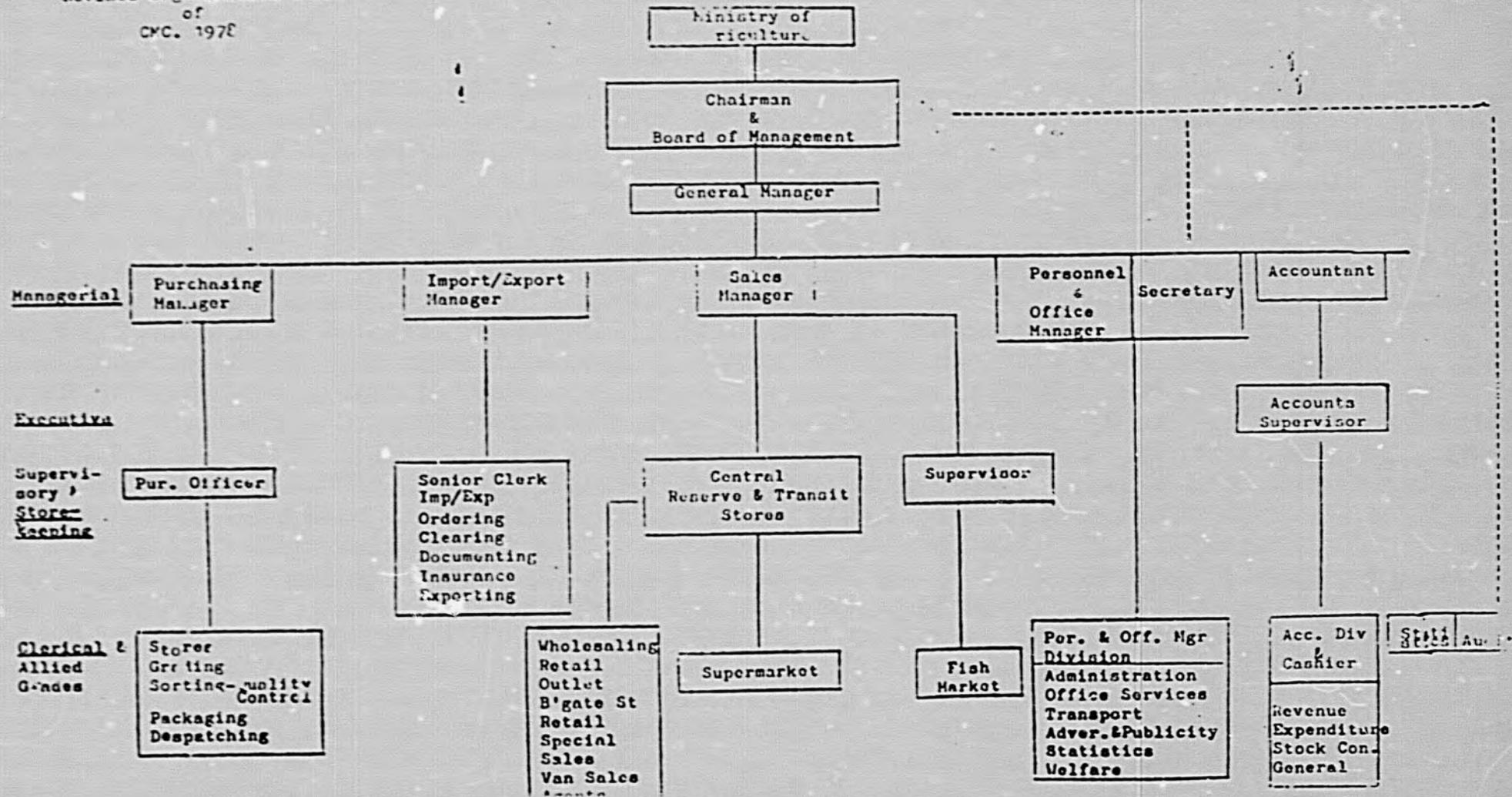
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Revised Organization Chart
of
CMC. 1978

APPENDIX 1.2

LONG TERM ORGANIZATION CHART



C. Field Trip Report - Feeder Roads (Stephenson)1. Belizea. Contacts - Field Trip September 4 - 7, 1979

Frederick Hunter, Minister of Works
Evan Young, Permanent Secretary, Ministry of Works
Wilfredo Guerrero, Executive Engineer, Ministry of Works
Hector Medina, Officer-in-Charge, Ministry of Works, Orange Walk District; and Works Supervisor, Sugar (Feeder) Roads, Orange Walk and Corozal Districts.
Errol Brooks, Officer-in-Charge, Ministry of Works, Toledo District

b. Current Feeder Road Programme

Under Caribbean Development Bank (CDB) loans aggregating US\$2,470,000 equivalent, the Ministry of Works has completed about 100 miles of "sugar roads" -- feeder roads serving the cane fields -- in the Orange Walk and Corozal Districts in the northern portion of Belize. An additional four miles of road in the programme are under construction and expected to be completed in October 1979.

The construction programme has been accomplished over a period of about three years utilizing a unique blend of local contractors (up to six) and a Ministry of Works organized Sugar Roads Construction Unit of about twenty men and US\$250,000 worth of equipment purchased under the CDB loan in 1977.

Detailed design, inspection, and certification of quantities for payment were performed by a consulting engineer firm (R.C. Mahler, Belize) at a reported cost of about 15% of construction value. The work has been accomplished under the project estimate with reported savings of about US\$450,000. This substantial saving was attributed to availability of satisfactory base and surface material in close proximity to the road locations -- thereby saving both time and transport cost -- and some of the final surfacing and other work being done by the Ministry of Works Construction Unit on segments where contractors were not performing well. The savings are expected to be used for additional roads and improving the wearing surface on some of the more heavily travelled stretches.

The feeder roads are not paved. The wearing surface is a 12-14 feet width of selected marl, compacted at near optimum moisture content. Inspection showed two-three year old roads to be in remarkably good condition even though maintenance has been minimal. One could generally proceed at 30-50 miles per hour with no difficulty. (The writer saw better than 50% of the roads in the programme). A rather dramatic impact on cane production since construction of

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the "sugar roads" was reported: deliveries to the sugar factory up from 5,000 tons to 15,000 tons annually. With all-weather roads available, activity in the cane fields continues into the wet season and new lands are being developed.

c. Future Feeder Road Programme

Now that the 100-mile programme in the sugar cane fields of the North is virtually completed the Ministry of Works is thinking about a 75-100 mile programme in the South (Toledo District). Some 10,000-15,000 people live in the area which produces 75-90% of the rice consumed in the country -- production reported at 5-6 million pounds of paddy per year. (The Team saw a new rice mill with storage capacity of 2,000 tons under construction a few miles north of Punta Gorda). The topography in the South (hilly) contrasts sharply with the North (flat). Even so, an unpaved typical road section is planned with cost estimated by the Ministry of Works at US\$25,000 - \$30,000 per mile. Inspection of a seven-mile stretch of such construction -- three miles were old, four miles were new, serving an area in the vicinity of the Mayan Villages of Silver Creek, San Miguel and Columbia -- showed that it was holding up remarkably well. Given the more precipitous terrain in the South, preserving the proposed unpaved road section will require special attention to cross-drainage of the roadway with ditches alongside of adequate capacity.

With respect to the timing of a future feeder road programme, CDB advises that a Project Identification/Appraisal Team may be fielded in Belize early in 1980. The planning estimate at this time is US\$1,500,000. It is of course possible that a feeder road project of higher priority might be identified in one of the Districts other than Toledo; the Ministry of Works is well aware of the role of the Ministry of Agriculture and economic evaluation in road selection. Identification, appraisal, design and construction of a new project would run some four years into the future.

d. Operational Strength and Mission, Roads Department

There are about 1200 miles of roads in this 70 by 170 miles country. The annual budget for maintenance and reconstruction is under US\$2,000,000. The British are doing some main highway work -- relocating a portion of the Belize City-Orange Walk Highway under a Crown Agent arrangement -- about US\$15 million over a five-year period.

The Ministry of Works roads department is organized into six districts, each with a small complement of equipment -- loaders, graders, trucks, rollers and tractors -- and personnel (about 80) to carry out maintenance and road improvement. The Headquarters at Belmopan, has a Central Work Shop for major repair of equipment and maintains control of heavy special use items such as a low-bed trailer, large crane and pile driver which are shifted to needed locations.

Total Ministry of Works personnel strength was reported at 134 permanent employees and about 500 casual hires most of which are involved in road work. Technical staff numbers about twenty: six graduate engineers plus surveyors, draftsmen, and work supervisors.

e. Findings

(1) Although projected completion some four years hence of its next feeder road project mitigates against funding from Loan -006 (terminal disbursement date October 30, 1980), the Belize Ministry of Works is an attractive candidate for a roads loan. It has demonstrated that it can perform. It has no "hang-ups" about the use and role of consulting engineers and construction contractors. It has a small Feeder Road Construction Unit that does effective work as an adjunct to construction contractor activities.

(2) The maintenance and rehabilitation of roads and highways leaves much to be desired. The resources for an annual planned recurring programme to keep the roads system in satisfactory condition simply are not available. Even so, with the limited resources at its command the Ministry of Works is coping so that the traffic moves except for occasional flooding in low areas and at stream crossings. In a country which experiences annual rainfall ranging from 60 inches in the North to 160 inches in the South, that is no mean accomplishment on a shoe-string.

2. Antigua

a. Contacts - Field Trip September 10-12, 1979

Ernest Williams, Minister of Works
 I. Thompson, Director of Public Works
 Philip Lewis, Roads Engineer
 David West, Superintendent, Bendals Rock Quarry

b. Current Feeder Road Programme

No construction of feeder roads is currently underway in Antigua although a five-road 10.5 mile project was appraised and approved by the CDB in June 1978, and funding of \$688,706 from Loan No. 538-T-006 approved by AID August 3, 1978. Total project cost was estimated at US\$765,222 equivalent. A total of 1609 cultivated acres is expected to be affected by the project; 704 of which were being farmed at the time of project appraisal.

The Government was reluctant to execute the sub-loan with the CDB as the terms required the work to be carried out by construction contract. The Ministry of Works held the view that its Public Works Department had men and equipment sufficient to accomplish the work departmentally (force account); that it wanted to utilize its own people and "put the money in roads, not for contractor's overhead and profit."

During the writer's visit to the Ministry of Works office, he was advised the CDB sub-loan had been signed the week before. Subsequent check with the CDB, Barbados confirmed the date as August 30, 1979 (thus within the deadline of August 31, 1979 set by CDB for signing or else loan cancellation). The terminal disbursement date of the sub-loan is September 30, 1980 which is unrealistic for sub-project completion.

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There was no evidence of initial steps having been taken to begin implementation of the project; rather there was uncertainty as to how it was going to proceed. The Ministry is still most reluctant to proceed by construction contract. It indicated willingness to bring in from the outside a Project Manager who would control the construction using a Feeder Road Unit from Public Works -- men and machines. In this way Public Works estimated that the roads could be completed in about 18 months.

The design and construction of the roads pose no particularly difficult technical problems. The alignment of the five roads (inspected in large part by the writer) follows existing dry weather tracks and abandoned roadways in fairly easy terrain. It is a matter of shaping the road subgrade and drains to the approved typical section, constructing the base with approved material, and paving with bitumen-sealed stone. In short, the primary difficulty to be overcome is mobilization of the resources and the management of the project, i.e. bringing together the needed men, equipment and material and utilizing them efficiently to complete the job to agreed standards. The prognosis is not favourable as the Ministry and CDB, hold strong opposing views on the force account-construction contract issue.

c. Operational Strength and Mission, Roads Department

The Public Works Department of this 12 by 18 mile Island has in its charge some 600 miles of roads: 150 miles of paved main roads, 300 miles of secondary roads (mostly unpaved), and 150 miles of village roads (mostly unpaved). The annual maintenance/improvement budget is about US\$1,200,000; hardly enough for a planned recurring programme to keep all roads in satisfactory condition. Nonetheless, the condition of the main roads was relatively good. Capital works proposed are some US\$400,000 for drainage and village roads and US\$1,800,000 for a 4.5 miles link road on the south coast -- Old Road to Falmouth.

Total personnel strength of the Roads Department is about 500, approximately half assigned to 16 Road Gangs engaged in cutting-back brush, clearing drains and culverts, filling potholes and surface patching. The technical staff is very thin: a Roads Engineer, a Superintendent of Works; three Inspectors of Works, six Foremen and Engineering Cadets.

An equipment pool and repair shop is operated as well as two quarries - one for pit run limerock (base and sub-base material) and one for stone which is blasted from the quarry face, crushed and screened for road surface dressing and concrete aggregate. Concrete pipe for culverts are cast adjacent to the quarry site in 18-48 inches diameter sizes.

The Ministry of Works Construction equipment list includes three bulldozers, five front end loaders, two graders, one excavator, one bitumen distributor, one asphalt spreader, two water tankers, four road rollers, seven small concrete mixers, ten dump trucks (7-ton), eleven pick-ups. (Some general haulage is done for hire by private truckers). Keeping equipment operating is a major problem due, at least in part, to an insufficient budget for spare parts.

d. Findings

(1) The feeder roads in the proposed -006 project were logically selected on the basis of economic evaluation carefully worked out in the Appraisal Report. When constructed, these roads will no doubt enhance agricultural production and farmer income in the area served.

(2) There is little evidence of formal coordination with the other components of the APC project, but when the feeder roads are completed they will catalyze the demand for the basics for increased farm production; agricultural inputs, agricultural credit and better marketing.

(3) It is regrettable that the project has not moved since its approval in August 1978. Evidently, there was no clear meeting of minds between CDB and the Ministry of Works on the details of project management and implementation while the project was being developed.

(4) It is doubtful whether the project can be salvaged at this juncture. CDB's requirement that the work be undertaken by construction contract is well reasoned and supported by experience in similar situations. To give positive effect to the Ministry's force account proposal would require as a minimum:

- Agreement between CDB and the Ministry on the composition and source of an outside Project Management Team and the responsibility and authority to be vested in it -- technical and managerial. (After substantive agreement, selecting such a team and bringing it on board would be a lengthy process).
- Establishment of a Feeder Road Construction Unit independent of other Ministry of Works demands. The construction equipment, personnel and construction materials to make the Unit effective would have to be assured, and the capability of the Ministry of Works to provide and maintain it demonstrated to CDB's satisfaction. (Again, a lengthy process involving procurement as the Construction Unit could hardly be equipped for effective operation solely from equipment in the Ministry's present complement).

It may well be that practical resolution of the implementation issue may prove impossible which leaves no alternative but to cancel this sub-project which, more than a year after approval by CDB and AID, remains on dead-center.

3. St. Lucia

a. Contacts - Field Trip September 13-17, 1979

- John Calixte, Chief Engineer, Ministry of Works
- Leonard Augier, Feeder Roads Project Manager, Crown Agents.

b. Status of Feeder Road Programme

St. Lucia has been involved in formal programmes of feeder road construction since 1973 when the CDB granted a loan for the construction of 37.25 miles of road. Only 20.25 miles were actually constructed due to severe inflationary cost increases and the necessity for design changes in mountainous areas. This programme was followed in 1977 by a second CDB loan in conjunction with AID Loan -003 for an additional 18.25 miles of roads. This project has recently been completed as has a European Development Fund (EDF) financed project of about twenty miles.

St. Lucia has the most extensive system of feeder roads of the countries visited by the Evaluation Team. St. Lucia has been able to organize an effective feeder roads construction operation following a somewhat unsatisfactory experience with the Ministry of Works direct labor approach on the initial project in 1973. On subsequent projects, construction management services have been provided by a Crown Agent team, under contract to the Ministry of Works, who handles all aspects of the work -- organization, labor, equipment and materials. A separate consultant inspects the work for compliance with specifications and certifies quantities.

Under this arrangement work has been completed approximately on schedule and fairly close to project estimates. The recently completed EDF project was completed virtually within the cost estimate and CDB reports the CDB/AID -003 project was completed with an over-run of about 19% -- US\$333,000 equivalent (provided from St. Lucia's own funds).

c. Future Feeder Road Programme

St. Lucia is keen to proceed with construction of additional feeder roads and has a proposal before CDB for a 14-roads, approximately 20-miles project. The proposal is now in the pre-appraisal stage by CDB and it is expected that the project will be ready for Board action in February or April 1980. The current planning cost estimate is US\$2,000,000 and CDB is interested in AID Loan -006 participation.

d. Operational Strength and Mission, Roads Department

There are some 470 miles of road on this Island which extends 28 miles north-south and about 13 miles east-west. The main roads are paved with aggregate-bitumen surface treatment as are the feeder roads.

Road maintenance was found to be generally satisfactory. There is of course a constant need for filling pot holes, surface patching and cleaning drains. The country's road work is organized into a North and South Division with three Works Supervisors directing the activities of thirteen Road Foremen in as many districts.

Technical strength of the Public Works road organization rests in five engineers, three surveyors, three Works Supervisors, 13 Road Foremen, one laboratory materials Engineer and two technicians. The administrative staff numbers about 25. The feeder road construction unit under the direction of

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the Crown Agents numbered about 300 unskilled laborers and 200 craftsmen -- equipment operators, masons, truck drivers, mechanics, etc. Total Ministry of Works force was reported at about 1600 of which some 400 were considered skilled.

Availability of construction equipment for road work was reported to be reasonably good. A Government Funding Scheme which lets out equipment (on charges) to the various government departments appeared to substantially fill Public Works requirements. For example, the Agent reported the use of 10 tractor/bulldozers from the Government Funding Scheme pool. Additionally, there were firms on the Island from which construction equipment could be hired to supplement equipment from the Government Funding Scheme. Also much of the general hauling was let out to private truckers. In summary, unlike most other places visited, availability of construction equipment did not appear to be a particular constraint to road building.

e. Findings

(1) The writer visited many miles of feeder roads in the area from Castries in the northwest to Mons Repos-Patience in the southeast. Road condition was generally good although isolated locations needed work -- filling holes, patching, cleaning drains -- usually associated with heavy rainfall and steep grades.

(2) The effect of the feeder roads on the countryside was striking. The intensity of cultivation and tempo of farm activity in otherwise inaccessible mountainous areas attest to a strong economic upsurge in the roads' zone of influence.

(3) St. Lucia has made a proposal to the CDB for another feeder road project of about 20 miles. The Ministry of Works has shown a capability for organizing the construction of similar roads through a Crown Agent arrangement and the salutary effect of such roads on agricultural activity has been demonstrated. The CDB is engaged in appraising the proposed project which may be approved as early as February, 1980. Thus St. Lucia is considered a prime candidate for further feeder road financial assistance, including AID Loan -006 if funds are available for allocation for this purpose and the terminal disbursement date (October 30, 1980), can be substantially extended.

4. St. Vincent

a. Contacts - Field Trip September 17-19, 1979

Moulton Williams, Permanent Secretary, Ministry of Works
Reuben Bailey, Chief Engineer, Ministry of Works

b. Current Feeder Road Programme

In December 1978 the CDB approved a second Feeder Roads Project for St. Vincent in the amount of US\$1,706,667 for the construction of 20 agricultural feeder roads aggregating 24.01 miles in length. On February 27, 1979 AID approved a sub-loan to the project in the amount of US\$1,636,272 from AID Loan No. 538-T-006. On May 20, 1979 St. Vincent signed the sub-loan with

CDB after resisting to no avail the loan requirement for securing the services of a consulting engineer and employing a construction contractor to undertake the work. In late August 1979 the Ministry of Works invited the submission of pre-qualification data from Consulting Firms interested in performing final engineering and construction management services for the project. The final date for receipt of pre-qualification data is October 5, 1979.

The project involves the completion of construction of 11.19 miles of road which were left in various stages of partial completion from the former CDB loan project, the construction of 8.32 miles of road previously designed but not constructed, and the design and construction of 4.50 miles of new road. A total of 6019 cultivated acres is estimated to be affected by the project, i.e. 3419 acres currently cultivated and 2600 acres of new lands.

Construction of the roads will be carried out under a competitively-bid construction contract. Engineering, preparation of bidding documents, construction management and inspection of works will be carried out by a consulting engineering firm responsible to the Ministry of Works Project Manager. It is estimated that the process of selecting and contracting with a consulting engineer, engineering and preparation of contract documents, bidding and signing of construction contract will require one year. Actual construction will require two to three years. Thus project completion is not reasonably expected until late 1982 - early 1983.

c. Operational Strength and Mission, Roads Department

There are some 600 miles of roads on this 11 miles wide by 18 miles long island. It was reported that 288 miles were hard surfaced, the remainder grading down from gravel to rough motorable (dry weather) to tracks.

There is no firm annual maintenance and rehabilitation programme for keeping the roads in satisfactory condition as resources are limited. The Roads Department gets funds monthly for operation and maintenance -- primarily filling pot holes, patching, cleaning drains, and blading gravel sections with motor grader. Special project money is required for significant capital improvements; one is underway currently: 10 miles of the East Coast Highway is being reconstructed under Crown Agent management to an 18-foot wide carriageway surfaced with hot mix asphalt paving.

Personnel strength of the Ministry of Works was given as 85 permanent staff -- administrative, supervisory, technical and financial -- and some 600 casual/daily hires of laborers and craftsmen for road work. The engineering and planning staff for Public Works consists of a Chief Engineer, Deputy Chief Engineer and three Civil Engineers (one vacancy) and a Mechanical Engineer (vacancy); a surveyor, two draftsmen and two draftsmen trainees. Road maintenance and improvement is organized into eight districts under three Engineering Assistants who function as Works Supervisors and direct operations through Road Overseers and maintenance crews.

The Ministry of Works has charge of the "Government Funding Scheme" which purchases, operates and maintains all vehicles and construction equipment for the various government departments. The Roads Department and the Crown Agents on the East Coast are the primary users of heavy construction equipment.

Assigned to the Crown Agents are a front end loader, one flat bed and six dump trucks, two road rollers, two compressors, two concrete mixers, and a vibrating hand roller. The Public Works/Government Funding Scheme equipment list includes of particular interest for road work six motor graders, four tractors, five road rollers, seven excavators, nine front end loaders, five air compressors, 36 dump trucks, five flat bed trucks and a low bed trailer. The situation with respect to downtime and spare parts was reported as "reasonably good"; however, it was noted by the writer that much of the equipment was quite old. In the absence of "down time" records showing otherwise, a rate of 40-50% would not be surprising.

Public Works operates six rock quarries and six mobile crushers -- eight-inch jaw size, producing screened aggregate down to 3/8 inch size. One larger crusher on the Windward Coast works river boulders up to 18-inch diameter.

d. Findings

(1) The writer visited feeder roads in the Massaragua-Cotton House, Fiddlewood-Greiggs, and Higher Lowmans areas. Some roads were completed or partially completed under the earliest project; some were scheduled for completion in the present Loan -006 project. The tempo of agricultural activity and the many new houses in the area served by the roads -- generally precipitous terrain -- were impressive. Cultivation of the more established arable land was intense and clearing/first cropping of new lands was evident. Clearly agricultural production and farmer income is being increased.

(2) There is little evidence of formal coordination between location of feeder roads and other APC sub-project components. However, increased farming activity which follows the access provided by completion of all weather feeder roads brings with it the demand for the other basics of increased production: inputs, credit and marketing.

(3) Road locations for the project were selected, as shown in the CDB Appraisal Report, on the basis of detailed economic evaluation from data collected in the field by Farm Improvement and Extension Officers.

(4) Although delayed in getting started, the -006 sub-project is now on a rational track that should bring it to successful completion -- but not within the Terminal Disbursement Dates (TDD) of the CDB sub-loan (December 31, 1981) and AID Loan -006 (October 30, 1980). As set forth above, the sub-project will likely run into late 1982 - early 1983. However, if consultant services and construction contracting continues on track over the next year, the case might be made for extending the loans.

5. Grenada

a. Contacts - Field Trip September 20-22, 1979

Oscar Phillips, Chief Technical Officer, Ministry of Works
 Subash Gupta, Feeder Roads Project Engineer, Ministry of Works
 Ralph DiZasso, Feeder Road Construction Manager, Beaver Asphalt Paving Co.

b. Current Feeder Road Programme

In November, 1973 the CDB approved a loan for US\$1,161,000 equivalent to build 30 miles of feeder roads. Construction was undertaken by the Ministry of Works using direct labor. This did not work out well -- reportedly only six miles of road were constructed in four years. In August 1978 a contract was awarded to Beaver Asphalt Paving Co. Ltd., (Canada) in the amount of US\$641,000 equivalent to construct 10 miles of road in five segments. Detailed design and contract documents had been prepared by a consultant, L.T.D. Surveying Engineering Ltd., (Bahamas). Due to unrest in the country the contractor delayed mobilization and start of work until March 1979. Since that time he has completed all but one segment of road. That segment needed only final compacting and surface finishing at the time of the writer's visit with completion expected by mid-October. Upon completion of the contract, eight miles will have been constructed with a 10 feet wide paved carriageway (asphalt surface treatment) and 1.92 miles with a water bound macadam surface (consolidated crushed stone). This will complete the presently financed program.

Construction inspection and certification of quantities has been performed by a Roads Engineer provided to the Ministry in March 1979 under the technical assistance programme of the Commonwealth Fund for Technical Cooperation.

c. Future Feeder Road Programme

Grenada is keen to proceed with further feeder road construction and has proposed for CDB financing a 13-roads 70-miles project costing of the order of US\$1,500,000. Project appraisal by CDB is actively in progress. Presentation of the project for CDB Board approval could come as early as December 1979; if not then, by February 1980. The gestation period from loan approval to starting construction on the project is expected to be foreshortened. Given the effectiveness of the technical assistance - provided Road Engineer/construction contractor arrangement in building some ten miles of road in the past six months, CDB has indicated willingness to proceed upon loan approval directly to construction contract tendering from design and bidding documents prepared by the aforementioned Roads Engineer. This would save six to nine months of time normally required in the selection of a consulting firm and its preparation of designs and bidding documents.

d. Operational Strength and Mission, Road Department

There are about 500 miles of road of all types on the 9 miles wide by 17 miles long Island. Something of the order of 50-60% of the roads were reported paved.

Resources are too limited for a planned recurring annual programme for satisfactory road maintenance and improvement, the annual budget running no more than US\$250,000-\$650,000. By filling pot holes, surface patching and cleaning drains the roads are kept passable.

The Island is organized into six maintenance districts each in the charge of a District Road Officer who directs the activities of 2-4 Foremen with maintenance crews. Overall direction is provided by the Ministry's Engineer, Roads through two Engineering Assistants who each supervise three District Road Officers. Maintenance work is done in large degree with hand labor and

hand tools, supported by a dump truck. Equipment such as a front end loader, bulldozer, motor grader or road roller is shifted to point of need.

Public Works operates two gravel pits and one stone quarry with crusher and screening equipment. Bitumen for paving and patching is imported in drums.

Public Works runs a central equipment pool and workshop that services all the Ministries. The construction equipment list includes two tractor/bulldozers, three front end loaders, three motor graders, six road rollers, (8-10 tons), ten dump trucks (5-7 tons), one excavator and one low-bed trailer. Spare parts are a problem; the deadline rate for the equipment probably approaches 50%. No equipment is available for hire other than some trucking.

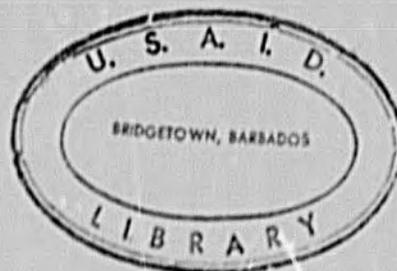
Total personnel strength of the Ministry of Works was reported to be 260 plus 500-600 casuals engaged in road work and another 400 casuals on various building projects.

e. Findings

(1) The writer visited the feeder roads completed in the Petit Etang and Chaddeau Laforce areas, and segments nearing completion in the Plaisance area (Tricolor-Grand Sol-Mt. Reuil). It is too early to judge impact on farming activity as construction began only six months ago.

The contractor was well-mechanized and obviously knew what he was about. Some deterioration of paving (asphalt surface treatment type) due to heavy rains on fresh construction and blockage of drains by earth sloughing from near vertical backslopes were observed. (Detail design features and construction procedures should be set out in the next contract to avoid or minimize such occurrences).

(2) Implementation of the next feeder road project should proceed without difficulty if the modus operandi of the past six months is continued. The Feeder Roads Engineer indicated that plans and documents for construction bids would be ready to go out in January 1980, and that contractor prequalification might be invited in October 1979. Assuming project and CDB loan approval in December 1979 or February 1980, a construction contract could be signed in April or June 1980. CDB has indicated interest in AID Loan -006 participation which would require an extension of the current terminal disbursement date.



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