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FINAL REPORT

OF

United States Agricultural Development Corporation

under

Agency for International Development

Grant No. DPE-2002-G-SS-5069-00

"Technical, Commercial and Financial  
Feasibility Studies of Agribusiness Projects"

USAID Grant Terms

On September 23, 1985, the Private Enterprise Bureau of the Agency for International Development (AID) made a grant of \$150,000 to the United States Agricultural Development Corporation. This grant, augmented by Grantee funds of \$37,500, was to be allocated for use under the following line items shown in the Financial Plan in Article V of the Grant:

Salaries	37,500.00
Consultants	62,640.00
Travel/Transportation	50,400.00
Other Direct	<u>36,960.00</u>
Total Cost	187,500.00

Source:

AID	150,000.00
Grantee	37,500.00

The Grant funds were to be used in the period September 23, 1985 to October 31, 1986 covering 13 months and 7 days, for the purpose of determining the technical, commercial and financial feasibility of proposed agribusiness projects by private sector parties in AID assisted countries. The balance of this portion of the report will attempt to detail how USADC spent the funds available to it and how well the organization was able to carry out the contracted program and meet its objectives.

The Grant's purpose was to provide funding to the Grantee's project of making feasibility studies of private sector agribusiness projects in selected AID assisted countries.

Each of the feasibility studies was to include complete technical, marketing, financial and management plans and enough analysis of the legal requirements to permit USADC and local private sector parties to make investments in selected acceptable projects.

Project Categories

The Corporation's credit and investment policies and its Business Plan provide guidelines and limits to the extent of loans and investments proffered to each private sector project, the reduction of portfolio risk through geographical dispersion of investments and limited concentration of investments in any one type of enterprise. Studies were made of the following types of projects:

- 1) Projects that involved the expansion of an existing agribusiness;

- 2) Investment in a company that wanted to add a new enterprise or a subsidiary undertaking that was different, but not totally unrelated to the basic business of the parent company;
- 3) A project calling for a "de novo" development, i.e. bringing a brand new business into existence;
- 4) Reorganizing an existing business, such as a parastatal, that has suffered from previous bad management, inadequate capital, poor organization.

Appended as Attachment A are project studies, one each of the above-described categories.

Another type of project, that calling for the buyout or acquisition of one agribusiness by another was not studied although in the future, such transactions may need to be considered. USADC's Charter, Business Plan, and the documents outlining operating policies do not limit the corporation's activities, except to undertake projects only in those countries that are receptive to private enterprise and the entry of foreign capital on either a loan or equity basis. As a practical matter, the projects reviewed for investment were located in countries acceptable to USAID.

#### Project Identification Process

Project identification is a difficult process. USADC does have several advantages in finding projects that might turn out to be both feasible and acceptable.

- 1) The concepts under which USADC was organized have been endorsed by everyone who has reviewed the corporation's documentation. Subsequently, some of these contacts have suggested projects.
- 2) The board of directors of USADC represents a unique group of broadly experienced entrepreneurial types who collectively have knowledge of and contacts that permit the board members to identify projects.
- 3) Membership by USADC's principals in trade groups such as Rural Appraisers and Farm Managers, the American Society of Agricultural Consultants International and their participation in foreign agribusiness development missions has helped unearth potential projects.
- 4) The board members' own business activities often suggest or offer opportunity and new business ventures that people who are not in domestic/foreign foods and staples trading do not come across.

5) The interests of various government entities, both U.S. and foreign, and the personal interaction between personnel in these government posts and officers and directors of USADC has led to the identification of potential projects.

6) Lastly, there seems to be broad-based genuine interest in having the private sector undertake LDC agri-business development. We have been contacted numerous times by people without any particular affiliation who have suggested projects or company names that might benefit from USADC's involvement.

A list and short description of most of the projects we have seriously reviewed in the Grant's time period is appended to this report as Attachment B.

The grant funds were all spent as well as some of USADC's capital to carry out the exploratory aspects of the USAID-USADC project and the development of the plans associated with each of the representative feasibility studies. A breakdown of how the grant monies were utilized by USADC over the Grant period is attached as Attachment C.

#### Results Achieved/Conclusions Reached

Following is a discussion of the results we achieved and the conclusions we have reached after working for a little over one year with the Private Enterprise Bureau and USAID and utilizing the \$150,000 in Grant funds.

Before requesting USAID Grant funds, the founders and shareholders of USADC contributed initial paid-in capital of \$120,000. This was to cover the organizational costs, legal fees associated with the registration and incorporation of USADC, and the start-up operational expenses incurred until further stock options were exercised by the stockholders to provide base capital of approximately \$1.6 million. That amount was to be leveraged by term loans from AID and OPIC and others in the private sector to an expected capital pool of \$5-6 million. This could have provided for a start-up portfolio that was estimated to generate enough income from fees and interest (dividends and capital gains were not expected for 5 - 7 years after start-up) to service interest on the term loans and operational expenses.

Without a successful operating history it is difficult to raise equity capital in the U.S. for essentially a venture capital market outside the U.S. Our stockholders, while active and interested in LDC development do not, on average, have the means with which to exercise their several-times-renewed stock option deadlines.

A start-up company with limited capital (forgetting any other restrictions) cannot afford to make investments with deferred commencement of dividend or capital gains paybacks. A better near-term use of capital would be to make short-term loans, provide guarantees to others for the repayment of loans by others, and to provide stand-by letters of credit with little expectation of utilization - all the foregoing for fees.

Initial advances of capital for equity purchases and loans must be discounted some 5%-7% so as to provide some cash flow to USADC for operational expenses.

The difficulty of finding enough good projects, meeting the criteria of a Financial Intermediary, such as USADC, might be decreased by sending out trade organization newsletters, and corporate newsletters, which set forth the minimum-maximum investments, minimum-maximum loans, maximum percentages of equity to be purchased, countries acceptable as host countries, absence of government investment in projects, types of agribusinesses acceptable, and basic documentation required.

Our experience has brought us to the conclusion that without substantial start-up equity in a Financial Intermediary such as USADC, the success in start-up is doubtful. We need a financially sound partner, such as a well capitalized venture capital company, that would benefit by a merger with USADC, in that the organization is in place, it comes with a board made up of broad-based entrepreneurs offering a unique resource of experience, agribusiness project analytical skills, and interest in LDC projects and profits from their expanded interests, plus much of the legal work and some project identification work is already done. It is also extremely helpful that the Private Enterprise Bureau has provided USADC with an availability of \$2,000,000 subject to certain conditions to be used to purchase equities in offshore LDC agribusiness projects.

Attached as Attachment D also is an outline of the process by which a potential project is converted to an investment.

SELECTED TYPES OF PROJECTS

- A. Enterprise expansion - El Rosedal, Ecuador
- B. Subsidiary - Congolaise des Boise Impregnes,  
Congo, Brazzaville
- C. Restructuring - Big Falls Ranch, Belize
- D. Start-up - HAFCO, S.A., Haiti.

A. Enterprise Expansion - El Rosedal, Ecuador

1. Project:

Name: El Rosedal, S.A.

Address: Quito, Ecuador

Line of Business: Production, cooling and packaging cut roses for export to U.S. and European markets - **Expansion of existing facility.**

2. Investment:

Expansion Cost: \$368,000

USADC Participation: \$120,000

USAID Participation: \$120,000

Local Participation in Expansion: \$128,000

Tenure: 3 years including grace period of one year

Repayment Schedule:

Source of Repayment: Foreign currency earned by sales in U.S. and Europe and partially retained outside of Ecuador

Current Assets (prior to expansion): \$433,000

Collateral: Inventory, Receivables, Land and Equipment

3. Background and History on Sub-Project/Local Participants:

El Rosedal S.A. proposes to expand a year-old export-oriented long stemmed rose growing operation on 16 hectares in the Tabacumbo area of Ecuador.

The growing area is located 8,500 feet in an Andean Mountain Valley. The climate is mild throughout the year. Sunlight is constant though intense which necessitates sunshades to protect the plants. Occasional strong winds are mitigated by wind barriers erected on the windward sides of the growing area.

Flowerbed area will be increased by 7,000 square meters (2.4 acres) to 35,000 square meters (8.6 acres). There are currently four shade canopied rosebeds of 7,000 square meters each. Each of the four canopies shelters some 40,000 French rose plants which will each produce one and one-half blooms per month meeting market demand for stem lengths of 30, 40 and 70 centimeters. Poles and cables support plastic sunscreening over the beds which are drip irrigated from a large holding pond fed from a nearby natural stream. The 16 hectares also support refrigerated holding rooms, packing rooms, offices, an employee dining and training room and two apartments. About 40 locals are employed to cultivate, harvest and hand-pack flowers. Pesticide applications are made by hand-operated backpack sprayers; fertilizers are applied through the irrigation system. In addition to the roses presently grown, El Rosedal plans to cultivate other flowers such as astromarias. These flowers will be grown throughout the year to meet the year-round demand in the U.S. and European markets.

**Market Assessment:** Harvested flowers are hand-packed into cardboard containers and trucked over paved roads to Quito International Airport. El Rosedal ships twice weekly to the United States via Equatoriana and Eastern airlines and several times weekly to Europe via Lufthansa, Iberia Air, Air France and KLM, giving the company access to markets in Frankfurt, Amsterdam, Madrid and Paris. U.S. marketing is through several brokers in Miami. The physical aspects of the shipments are taken care of by FRESCO, an air freight service company.

El Rosedal expects to yield and export 3.24 million blooms in 1987 under the expanded operation. Product quality, however, is of paramount importance to the buyer and is dependent in this case on the reliability of the air service. To date, performance of the carriers, brokers, airlines and service company has been adequate.

**Project Requisites:** The expansion will require the construction of another 7,000 square meter grow-out greenhouse. A grove of 6-7" eucalyptus trees on the property itself is the source of the timber used to construct the sunscreen canopies. Plastic, cable and irrigation system hardware must be purchased. Additional fertilizer, pesticides, seeds and workers will be required.

4. <u>Ownership and Management:</u>	<u>Actual</u>	<u>After Expansion</u>
Pablo Ruiz Perez	40%	28%
Teodoro Cresgo	20%	14%
Rodrigo Espinosa	20%	14%
Hernado Monroy	20%	14%
USADC		30%
	<u>100%</u>	<u>100%</u>

General Manager: Pablo Ruiz Perez aided by a Colombian flower grower. In addition, a Colombian agronomist and a farm superintendent are on the work staff.

5. Assets:

El Rosedal has total assets of about \$433,000 of which \$233,000 is paid-in and contributed-in-kind equity. Debt amounts to slightly more than net worth (Appendix A).

6. Expansion Costs:

Local Currency Component: \$200,000  
 Foreign Exchange Component: \$168,000  
 (Mostly for plants sheeting and 5% administrative costs)

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7. Financial Consideration:

Revenues: 160,000 plants x 18 blooms per year less 10% culls x 2,592,000 saleable	
Blooms: @ 22 cents average net to grower (remittances vary from 18-45 cents per bloom throughout the year)	\$570,240
Cash operating expenses @ 9 cents per bloom	<u>233,280</u>
Gross Margin:	\$336,960
Less depreciation 10 to 25 year life; 3 cents per bloom	<u>75,000</u>
Net income available for debt service, dividends and reinvestment	\$261,960 <sup>1</sup>
Assume 20% amortization of long-term debt including interest	<u>129,000</u>
Available for dividends and reinvestment	\$132,960
Assume 70% payout of earnings as dividends	93,072
Repatriation of 40% to U.S. investor	37,229
Investors return	10.6%
Investors return with 100% payout of earnings	15.2%

With the additional \$350,000 U.S. investment, a 7,000 square meter flower grow-out greenhouse will be added to existing facilities. The U.S. investor is offered 40% of the controlling stock in the venture which has only 1 class of stock. Income/expense relationships will improve as follows:

200,000 rose plants each producing 18 blooms annually, less 10% culls @ 22 cents each	\$712,800
Cash operating expenses @ 9 cents per bloom, 3,240,000 saleable blooms	<u>291,600</u>
Gross Margin	\$412,200
Less depreciation	<u>90,000</u>
Net income available for debt service, dividends and reinvestment	\$331,200
Assume 20% amortization of long-term debt including interest	<u>129,000</u>
Available for dividends and reinvestment	\$202,200
Assume 70% payout of earnings as dividends	\$141,540
Repatriation of 30% to U.S. investor	42,462
Investors return	17.7%
Investors return if 100% of earnings are paid as dividends	25.3%

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<sup>1</sup> Ordinary commercial venture in Ecuador faces a 40% income tax rate in earnings and must deduct prior to income tax calculation, or 15% of net earnings as a bonus to labor. Agricultural producers are exempt from keeping any accounting records and hence would be unlikely contributors to labor's bonus.

8. Rationale of USADC Approval:

Investigation of the project by USADC Chairman indicated a well-run, profitable operation. Present activities are carried out on 16 hectares of land owned by the shareholders. There is plenty of room for the planned expansion. There is plenty of good water available from a holding pond which supplies the drip irrigation system. Materials for poles can be supplied from the land. Existing facilities can easily accommodate the planned expansion. It seemed to USADC that management can easily handle the added production and thus investment will prove profitable.

## APPENDIX A. BALANCE SHEET

Item	March 1986	March 1987 <sup>1/</sup>
	-- percent --	
Current Assets	24.5	23.5
Other Assets	75.5	76.5
<b>Total Assets</b>	<b>100.0</b>	<b>100.0</b>
Current Liabilities	1.7	1.2
Term Debt	46.7	31.8
<b>Total Liabilities</b>	<b>48.4</b>	<b>33.0</b>
Equity and Retained Earnings	51.6	67.0
<b>Total Liability and Capital</b>	<b>100.0</b>	<b>100.0</b>
WC	14:1	19:1
Debt to Worth	.94:1	49:1

<sup>1/</sup> US\$350,000 invested during 1986.

B. Subsidiary - Congolaise des Boies Impregnees, Congo, Brazzaville

**PROJECT SYNOPSIS**

Company: Congolaise des Bois Impregnees

Location: Wood treatment plants located at Loudima and Pointe-Noire in the Congo

Activity: Production and marketing of preservative treated wood utility poles

Sponsor: NRECA

Shareholders: International Finance Corporation, OPIC, Union d'Aforestation Industrielle du Congo, Wood Industries International Ltd. (WIIL)

Management: Expatriate Americans

Project Cost: \$5,985,000

Net Sales: \$10 million by the fifth year

Capital Sought: \$2,285,000

Loans: IFC \$1.6 million, OPIC \$2 million

Form of USADC Investment: Equity - 30 percent share of WIIL - \$281,000

Return on USADC Investment: 25 percent ROI by the third year

PEOPLE'S REPUBLIC OF THE CONGO

CONGOLAISE DES BOIS IMPREGNES

SUMMARY

Investment:

Equity: CF80 million (US\$229,000 equivalent)  
Loan: FF11.2 million (US\$1.6 million equivalent)

Project Description:

Construction of a utility pole treatment plant with related service and support facilities, with nominal treatment capacity of 100,000 poles per year destined for exports. Total project cost is estimated at US\$5.5 million equivalent.

Ownership and Management:

UAIC, the public sector holding and management company of the eucalyptus plantation in Pointe Noire (49%), US private investors (41%) and IFC (10%). Management and technical assistance provided by US partners.

Risk:

Market: Although eucalyptus poles are produced and sold in East Africa, South America and Australia, pine poles are normally specified in many international tenders in the Middle East and Asia. Thus market penetration of eucalyptus poles might prove difficult in these regions and will require special efforts.

Rates of Return:

Financial: 27%  
Equity: 19%  
Economic: 39%.

I. PROJECT CONCEPT AND DESCRIPTION

The proposed utility pole project is based on the wood resources of Unite d'Afforestation Industrielle du Congo (UAIC), which was established in 1978 to plant eucalyptus species developed with the technique of cloning by the French Tropical Forestry Laboratory (Centre Technique Forestier Tropical, CTFT). To date, over 25,000 ha of trees have been planted on sandy soils around Pointe Noire, which are less suitable for alternative agricultural purposes. The plantations combine excellent wood quality with exceptional productivity.

The utility pole project represents an attractive alternative for the utilization of some of UAIC's existing wood resources. The project will produce and export wood poles which are competitive on the world market in terms of quality and pricing because the project will benefit from: (i) the low cost of

excellent quality of UAIC's wood resources and the location close to the Pointe Noire port; (ii) the know-how and reputation of strong foreign technical partners: the National Rural Electric Cooperative Association (NRECA) and Koppers, Inc., both of the USA; (iii) a comparative advantage on the African market, which represents 40% of the Company's potential sales; and (iv) the strong support of the Congolese Government because Congolaise des Bois Impregnes (C.B.I.) will be the first investment based on UAIC's plantations and the arrangements for the project are intended to serve as a model for other joint ventures in the forestry and other sectors of the Congolese economy.

The project consists of the construction and operation of a utility pole treatment plant near Pointe Noire with related service and support facilities and the provision of working capital for the start-up of operations. The plant will have a basic treatment capacity of 100,000 poles per year and could process up to 160,000 poles per year in two shifts. It will also be equipped to produce wood crossarms which are used as a support for electric insulation and to keep electric wires spread. The project is expected to be implemented over an eight-month period starting in August 1986 and to reach full production after four years of operation.

## II. THE COMPANY

C.B.I. will be incorporated as a private stock company under the laws of the People's Republic of the Congo. The Company will have a share capital of CFA800 million (US\$2.3 million equivalent) to be subscribed by UAIC (49%), Wood Industries International Ltd. (WIIL) (41%) and IFC (10%). IFC's equity investment is an important element of the project as neither UAIC nor the US partners would have accepted a minority position without IFC as a neutral partner in between.

The shareholders of Wood Industries International Ltd. are:

Kim Barkan, promoter	10%
Johnson and Tower	10%
NRECA	20%
Skaarup Shipping	30%
and USADC	30%.

USAIC is the public holding and management company of the eucalyptus plantations in Pointe Noire. UAIC's afforestation program has been a remarkable success, its operations are efficiently managed and the plantations well maintained.

WIIL is a US corporation established in Delaware by NRECA, the Skaarup group and Johnson & Towers. NRECA is the national service organization for rural electric systems in the USA. Its international division is well known within the World Bank Group and has been involved in rural electrification projects worldwide. It has established a quality control program for utility poles widely used by its cooperative members in the USA and is supervising pole purchases on behalf of the governments of Bangladesh, Egypt, Yemen A.R. and the Philippines. The Skaarup group is a US-based shipping company with special emphasis on dry bulk shipping. It is also involved in consulting and trading

of oil and other commodities; much of these activities are concentrated in West, Central and East Africa. Johnson & Towers is a manufacturer of electric generating equipment based in New Jersey, actively exporting equipment to Africa. It has an established service network in Cote d'Ivoire, Senegal, Zaire, Angola and the Congo and is associated with NRECA in a number of electrification projects in developing countries. All three companies have an excellent reputation and a strong financial position; their experience and know-how will strongly benefit the project.

#### Management and Technical Assistance

WILL will appoint the C.B.I. management team, provide technical and management assistance and will have the overall responsibility for the implementation of the project on a turnkey basis. Another important partner is Koppers Inc. of the USA which has one of the world's largest pole procurement, treatment and supply organizations and is one of the major producers of wood treatment chemicals. Koppers will participate in the project through a license agreement with C.B.I.; design and install the treatment plant as subcontractor of NRECA; and provide assistance to NRECA for the technical management of the plant.

### III. THE MARKET

Two principal markets for utility poles exist: (i) purchases of national electricity and telecommunication companies to maintain and expand their existing network; and (ii) large-scale electrification and telecommunication projects financed by bilateral and multilateral financial institutions.

The actual annual consumption of utility poles in selected markets are summarized below. The data are based on a market survey carried out by NRECA/Koppers in late 1985, and a country-by-country review by IFC and World Bank staff:

<u>Region</u>	<u>Actual Annual Pole Consumption</u>	<u>Potential Consumption in 1992<sup>1</sup></u>	<u>Projected C.B.I. Sales Volume in 1992</u>	<u>Projected C.B.I. Market Share in 1992</u>
Central Africa	57,000	70,000	25,000	36%
West Africa <sup>2</sup>	36,000	42,000	12,000	29%
North Africa/ Middle East	330,000	420,000	33,000	8%
Asia <sup>3</sup>	<u>600,000</u>	<u>760,000</u>	<u>30,000</u>	4%
Total	<u>1,023,000</u>	<u>1,292,000</u>	<u>100,000</u>	

<sup>1</sup> Assuming annual growth of 5%.

<sup>2</sup> Member countries of the UMOA zone.

<sup>3</sup> Mainly Japan, Bangladesh and Pakistan.

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#### IV. PROJECT COST AND FINANCIAL PLAN

The cost of the project and the financing are as follows:

Turnkey contract			\$3,975,000
Working capital			1,000,000
Development costs			530,000
Interest expenses, 1st year operation			160,000
Pre-start up costs			300,000
			<u>\$5,965,000</u>
<u>Debt</u>	IFC	\$1,600,000	
	OPIC up to	\$2,000,000	\$3,600,000
<u>Equity</u>	UAIC	\$1,200,000	
	WILL	\$1,000,000	
	IFC	\$ 250,000	<u>\$2,450,000</u>
			\$6,050,000

The difference between the project costs and the funds available are accounted for by possible exchange fluctuations, part of the costs and contributions being in CFA currency.

The fixed price turnkey contract with NRECA will cover approximately 60% of total project cost, thus limiting the risk of project cost overruns. The short implementation period of eight months can be achieved in view of the plant's relatively small size and simple technology and the participation of experienced partners. The plant, which will be similar to other Koppers plants in the USA and elsewhere, will be constructed in compliance with US environmental protection regulations. The plans have been reviewed by the World Bank's Office of Environmental Affairs and were deemed adequate.

Equity will be subscribed and paid in cash by all partners except for UAIC, which will also contribute the equivalent of US\$320,000 in kind by delivering approximately 20,000 trees to C.B.I. The Overseas Private Investment Corporation (OPIC) will provide a US\$ loan with fixed interest of 10.5% p.a., maturities of 8 1/2 years including 2 1/1 years of grace, a front end fee of 0.75% and a commitment fee of 0.5% of the loan amount.

#### V. PROJECTED PERFORMANCE AND BENEFITS

The following table presents a summary of the Company's key financial data for the first six years of operations (in constant 1987 US\$):

Year Ending March 31	(US\$ '000)					
	1988	1989	1990	1991	1992	1993
Number of Poles Sold	40,000	60,000	75,000	90,000	100,000	100,000
Sales Revenues	2,729	3,971	4,935	5,869	6,540	6,540
Operating Income	455	1,041	1,507	1,902	2,275	2,373
Net Income	(578)	6	403	728	1,230	771
Cash Generation	93	677	1,074	1,449	1,756	1,103
Dividends	--	--	--	546	984	656
<u>Ratios</u>						
Operating Margin (%)	17	26	31	32	35	36
Net Margin (%)	(21)	0	8	12	19	12
Current Ratio	6.7	2.7	3.2	2.4	2.2	2.3
LT Debt:Equity	65:35	61:39	50:50	41:59	30:70	17:83
LT Debt:Service Coverage	--	2.9	1.6	2.1	2.6	1.8

The projections indicate (i) strong margins and good profitability with a net margin of 12% at full capacity; (ii) good liquidity with a minimum current ratio of 2.2; and (iii) an adequate debt service coverage throughout the projection period with a minimum debt service coverage ratio of 1.6 in 1990, the first year of full loan repayment. Based on these projections, the project will yield a financial rate of return (before taxes) of 27% and a return on equity (ROE) of 19%, assuming a sale of shares after 10 years at book value (equivalent to a P/E ratio of 3.75).

#### Sensitivity Analysis

The sensitivity analysis indicates that the project is more sensitive to changes in prices and operating cost than to changes in sales volume or project cost. A permanent reduction of sales prices of 10% or an increase of operating cost by 15% would reduce the project's IRR to 19%, the minimum debt service ratio to 1.1 and the ROE to 8%. However, the price risk is limited as C.B.I.'s proposed sales prices are already projected to be 10% to 15% below international market prices; these prices have remained stable in real terms in the past and are not expected to change. An increase in operating cost or a project cost overrun are unlikely because of the relatively small size and simplicity of the operations and because the project will be implemented on a fixed price turnkey basis. The main risk for C.B.I.'s operations, namely a slow market penetration and thus lower sales volume, has a smaller impact on the project's profitability and debt service capacity. A permanent reduction in sales volume of 10% would reduce the IRR to 23%, the ROE to 14% and minimum debt service coverage ratio to 1.4. To reach break-even sales volume would have to fall by as much as 45% on a cash basis and 40% on a net income basis.

The risk of a depreciation of the local currency (CFAF), which would reduce the yield on IFC's equity investment, seems unlikely as it is part of the stable French monetary system with a fixed exchange rate to the French Franc. On the other hand, the project has a significant upward potential: if sales were to

reach 120,000 poles after 5 years as projected by the sponsors, the project would yield an IRR of 30% and a ROE of 21%.

### Economic Benefits

The project yields an attractive economic rate of return of 39% and will permit UAIC to generate revenues to maintain and expand the plantations. The high return, reflecting the low opportunity cost of the logs, enables the project to withstand sharp adverse fluctuations in revenues, which could drop as much as 25% before the economic return declines to 15%. The foreign exchange impact of the project is also favorable--annual foreign exchange earnings (after servicing of foreign capital) average about US\$4.0 million annually; this is equivalent to a net present value (discounted at 10%) of foreign exchange earnings of US\$12.4 million over project life.

## VI. SUMMARY OF SPECIAL FEATURES AND RISKS

The Congolese Government is strongly supporting the proposed project, as it represents an attractive alternative for an economic use of UAIC's wood resources. The timing of the project is crucial to UAIC, as several sections of the plantation are coming to maturity in 1987. The project will also enable UAIC to better utilize existing equipment and maintenance facilities and to retain qualified technical and administrative personnel they would otherwise have to lay off. In the context of an opening towards the private sector, C.B.I.'s ownership structure and management arrangements are of particular importance as they are intended to serve as a model for other joint ventures, especially in conjunction with the eucalyptus plantations in Pointe Noire (wood-chips and pulp mill projects).

Although eucalyptus poles are produced and sold in East Africa, South America and Australia, pine poles are normally specified in many international tenders in the Middle East and Asia. Thus market penetration of eucalyptus poles might prove difficult in these regions. The sponsors are well aware of this problem and will undertake a certain number of actions to facilitate market penetration: (i) to build up the necessary relations and to establish C.B.I. as a quality producer of utility poles, the Company will sell in a first phase primarily pine poles which are available from the nearby Loudima plantation; (ii) C.B.I. will undertake extensive marketing efforts as described previously, and (iii) gradually increase the sales volume of eucalyptus poles by offering price incentives compared to pine poles. Overall, the significant market risk that is associated with the novelty of the product is worth taking because of the excellent quality of the UAIC eucalyptus trees, the marketing support from Koppers and NRECA, the use of Koppers' brand name and NRECA's quality control program.

C. Restructuring - Big Falls Ranch, Belize

**PROJECT SYNOPSIS**

Project: Big Falls Ranch

Location: Belize

Activity: Rice and livestock production

Sponsor: Agribusiness Systems International (Bechtel)

Current Owners: Government of Belize, Adela Investment Co., S.A., private investors

Management: Bechtel

Project Cost: \$150,000 repairs Phase I  
\$3.5 to \$4 million investment Phase II

Projected Sales: \$1,394,400

Amount Requested: \$150,000 Phase I  
\$3.5 to \$4 million Phase II

Form of USADC Investment: Equity or guarantee of operating loan

Return on USADC Investment: Phase I - 31 percent  
Phase II - 53 percent

Timing: Begin Phase I at the start of any new crop year

**AGRIBUSINESS SYSTEMS INTERNATIONAL****THE BIG FALLS RANCH—BELIZE**Project Description

The Big Falls Ranch (BFR) is an integrated livestock, rice farming, and milling operation currently held jointly by the government of Belize (GOB), Adela Investment Company, S.A., and the Bevis family of California. The farm went into receivership in 1982 because of poor production, financial, and personnel management. Under new management of Mr. Godwin Hulse, a Belizean, the property is showing an operating profit for the first time in several years. Capital now is needed to upgrade rapidly deteriorating equipment in all areas of the operation (milling, drying, storage, packing, grain transfer, and field equipment), to improve fertilizer and pesticide use, and to conduct varietal testing.

The central element of the project involves expanding existing rice production and milling operations sufficient to eliminate the country's rice production shortfall and permit export of 10,000 tons per year. Livestock production would be continued at the present level (1,500 head of Brahman cattle). Slow diversification into alternative crops with high agronomic potential such as corn, cocoa, citrus, tobacco, and winter vegetables is planned both for domestic and export markets.

The importance of BFR to the Belizean economy is evident from the fact that, even in receivership, the farm produces about 85 percent of the Belizean rice crop and accounts for 51 percent of total consumption. The property, located 35 miles west of Belize City, consists of 37,000 acres of which 10,000 acres are cleared. Although 4,000 acres are leveled and developed for irrigated rice production, equipment limitations restrict farming only to

2,000 acres at present. Another 1,000 acres are unimproved pasture, supporting the cattle herd.

The region has a temperate climate with temperatures varying between 55 and 85 degrees, excellent for crop farming and livestock production. The current rice yield is 3,500 pounds per acre, but with introduction of new semi-dwarf varieties, yields could improve to 5,000 pounds or more per acre.

The proposal embraces a two-phase strategy: to manage the BFR for a year and develop a realistic long-term business plan, and then to offer to purchase the property.

#### Phase I

Phase I would involve 12 months of management prior to exercise of the purchase option. It will require a cash input of US\$150,000 for maintenance and repair of existing facilities. No expansion of activities is contemplated. Rice will continue to be farmed on the acreage now cultivated, and the livestock herd size will remain unchanged. This period will enable the investors to become familiar with operational problems as well as opportunities for future expansion.

#### Phase II

Phase II will proceed according to the business plan prepared by Bechtel in Phase I. It is anticipated that operations will be expanded to all previously developed acreage, but no new land will be cleared. Rice production will be expanded to the available 4,000 acres and the 2,000 acres suitable for pasture improved.

#### Project Requisites

Ample water supplies exist for rice production. Water is pumped from the Belize River by an on-farm pumping station, and quality is very good and flow

is adequate throughout the year. Pumping capacity is 59,000 gallons per minute. No formal water rights agreement exists at this time.

Site infrastructure generally is in good shape. A good paved road links the farm to Belize City, but the public road to the farm itself is not paved. International donor agencies have indicated plans to pave the road. All power at BFR is generated on-site using diesel fuel. The farm has local and long distance telephone service, and telex service is available. Belize International Airport is 40 miles from BFR but has no special handling facilities for outgoing cargo.

Beyond usual working capital requirements and production costs of sowing, pesticides, and fertilizer, the project will require investment for repair and maintenance of existing facilities and subsequently for their selective replacement. Track driven rice harvesters and bankout wagons must be replaced after the first year of the project. Drying and storage units are serviceable but deteriorating. In the milling and packaging facility, grain transfer equipment and some units in the milling system must be upgraded to increase milling efficiency to 67 percent from the current 60 percent.

The cost of bringing the remaining 2,000 acres of cleared land into rice production should be reasonable since dikes, ditches, irrigation systems, and roads already exist. Also, during the first year, considerable attention will be given to technical studies in such areas as varietal testing, soil and land use, fertilizer application, alternative crops, and production system tests. The operation, layout, and design of the rice mill will be examined to permit identification of milling problems and system bottlenecks. Finally, investment is planned in new management systems for farm financial, labor, and livestock management.

The port at Belize City has roll-on/roll-off containerized handling, breakbulk handling by palletizing, trailers, etc., and a hopper machine for bulk fertilizer. Guarded transit sheds with security fencing are available. Eight shipping lines now serve Belize.

### Market Assessment

#### Domestic Market

The 1985 domestic demand for rice in Belize was 12 million pounds (paddy). Domestic production failed to meet demand by four million pounds which had to be imported. Producer and consumer rice prices are controlled by the Belize Grain Marketing Board (BGMB). BFR has a permit to sell its rice in one pound bags without price controls; however, when there is a domestic shortfall, the ranch has been required to sell bulk rice to BGMB. The price controls have led to declines in production and income, as well as loss of the export market to Jamaica.

The new GOB has stated officially that the BGMB must be changed or eliminated. Once a free market approach is adopted, BFR could expand production to capture a much greater proportion of the domestic market and eventually establish viable export quantities. It is anticipated that all Phase I production will be sold within Belize, since total national production still will fall short of demand.

#### Export Market

During Phase I, exploration of the market potential for various crops which might be produced at BFR will be a high priority.<sup>1</sup> The decision by ASI

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<sup>1</sup> Crops under consideration include citrus, cocoa, cashews, mangoes, corn, grain sorghum, soybeans, sunflowers, red kidney beans, tobacco, and vegetables.

to buy into and operate the ranch would depend in part on the GOB's success in developing export markets and GOB marketing guarantees to BFR.

The natural market for BFR's production is the Caribbean. Proximity to importers and trade agreements within the Caribbean Community (CARICOM) are major advantages. The Caribbean region imports about 425,000 tons of rice annually. Mexico, Jamaica, Puerto Rico, Trinidad and Tobago, and Martinique offer considerable market potential.

#### Livestock Production and Marketing

Livestock markets in Belize are not well developed. Some exports have gone to Martinique, but this is a limited market. The recent recertification of the abattoir in Belize City by USDA will help open up the market for fresh and frozen beef in the Caribbean and North America.

#### Government Support and Regulations

Agriculture is the leading development priority for the GOB, and BFR is one of the most important farming enterprises in the country. The ranch cannot continue to function much longer without additional capital to repair and upgrade field equipment, the irrigation system, and milling facilities.

The GOB has made significant changes in agribusiness policy and has stated its intention to do more. Removal of restrictions on sale of breeding stock and reducing or eliminating the role of the BGMB are two examples with favorable consequences for BFR.

In accordance with its policy to stimulate growth in the agricultural sector, the GOB offers substantial incentives to foreign investors, and is actively developing export market opportunities within CARICOM. Incentives include tax holidays exceeding 15 years, no import restrictions or duties on essential inputs, and no restrictions on repatriation of earnings or capital

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gains. Export market development efforts by the GOB include a February 1985 mission to Jamaica to open trade and barter channels.

#### Financial Requirements and Projections

A preliminary examination of existing equipment and facilities has led to an estimate of US\$150,000 required for improvements and repairs in Phase I operations. Working capital requirements are minimized by cash flow from the mill, which operates almost continuously throughout the year. Preliminary cash flow analysis indicates that Phase I operating costs largely can be met from revenues but cash flow will be negative owing to maintenance and renovation costs (see Appendix A).

The buildup to a larger scale of operations in Phase II will require additional investment and working capital, the magnitude of which will be determined during Phase I. A preliminary cash flow analysis for Phase II is presented in Appendix A. The estimates include an investment of US\$3.5 to \$4 million, in addition to the purchase price of the property, and would suffice to expand rice production to 4,000 acres and generate an estimated annual net cash flow of US\$2 million.

At this time, it is envisaged that ASI will be the majority owner. The participation of the GOB and an international agency, International Finance Corporation, is being sought. Sources of long- and medium-term debt financing have yet to be determined. If possible, equipment will be purchased through export credit financing. Barclay's Bank, Belize City, has been identified as a possible source of an operating loan but will require some form of loan guarantee.

Ideally, the participation of international agencies in BFR would be in the form of equity and the guarantee of the operating loan.

**APPENDIX A. ASSUMPTIONS FOR CASH FLOW ANALYSIS**

## PRELIMINARY CASHFLOW ANALYSIS

RICE PRODUCTION	-----Phase One-----		-----Phase Two-----	
	First Crop	Second Crop	First Crop	Second Crop
Paddy Production (lbs.)	3,600,000	3,600,000	20,000,000	20,000,000
Milled Rice yield (lbs.)	2,160,000	2,160,000	13,400,000	13,400,000
Pounds to Bags	1,296,000	1,296,000	2,520,000	2,520,000
Pounds to Bulk	864,000	864,000	1,680,000	1,680,000
Pounds to Export	0	0	9,200,000	9,200,000
Revenue				
Bulk rice	224,640	224,640	436,800	436,800
Bagged rice	492,480	492,480	957,600	957,600
Export rice	0	0	1,932,000	1,932,000
Bran	12,960	12,960	40,200	40,200
<b>TOTAL REVENUE</b>	<b>730,080</b>	<b>730,080</b>	<b>3,366,600</b>	<b>3,366,600</b>
Operating Costs				
Rice production	292,150	292,150	1,212,600	1,212,600
Dry, Mill, and Pack	117,000	117,000	650,000	650,000
Overhead	150,000	150,000	177,816	182,191
Management Fee	125,000	125,000	200,000	200,000
Insurance	12,240	12,240	20,327	20,327
Cost of Working Capital	10,118	10,118	36,922	37,001
<b>TOTAL OPERATING COSTS</b>	<b>706,507</b>	<b>706,507</b>	<b>2,297,665</b>	<b>2,302,118</b>
<b>OPERATING INCOME (NET)</b>	<b>23,573</b>	<b>23,573</b>	<b>1,068,935</b>	<b>1,064,482</b>
Capital Improvements				
Investment each Semester	75,000	75,000	0	0
<b>Net Cashflow</b>	<b>(51,427)</b>	<b>(51,427)</b>	<b>1,068,935</b>	<b>1,064,482</b>
Annual Operating Results:				
Expense/acre		\$706.51		\$574.97
Revenue/acre		\$730.08		\$841.65
Net Margin/acre		\$23.57		\$266.68

## ASSUMPTIONS FOR CASHFLOW ANALYSIS

RICE PRODUCTION	-----Phase One-----		-----Phase Two-----	
	First Crop	Second Crop	First Crop	Second Crop
Acres in production	1,000	1,000	4,000	4,000
Harvested acreage	1,000	1,000	4,000	4,000
Paddy yield (lb./ac.)	3,600	3,600	5,000	5,000
Production costs (\$/ac.)				
culture and harvest	292.15	292.15	303.15	303.15
Overhead (\$)	150,000	150,000	177,816	182,191
Mill Efficiency	60%	60%	67%	67%
Bran yield	10%	10%	5%	5%
Brn, mill, and package (\$/lb.)	0.0325	0.0325	0.0325	0.0325
Revenue Breakdown:				
Total Domestic Demand (lbs.)	12,000,000	12,000,000	12,000,000	12,000,000
Domestic sales total (lbs.)	2,160,000	2,160,000	4,200,000	4,200,000
to Bulk	40%	40%	40%	40%
Bulk price (\$/lb.)	0.26	0.26	0.26	0.26
to Bagged	60%	60%	60%	60%
Bagged price (\$/lb.)	0.38	0.38	0.38	0.38
Foreign Sales total (lbs.)	0	0	9,200,000	9,200,000
Price (\$/lb.)	0.21	0.21	0.21	0.21
Bran price (\$/lb.)	0.06	0.06	0.06	0.06
Investment Schedule (\$)	75,000	75,000		

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**APPENDIX B. CROP BUDGET**

**CROP BUDGET**  
 (Based on 1984 Operations)  
 Irrigated Rice on 2,000 Acres  
 Big Falls Ranch, Belize

<u>Item</u>	<u>Per Acre Cost (US\$)</u>	<u>Total Cost (US\$)</u>
Land preparation	35.00	70,000
Fuel and oil	9.50	19,000
Irrigation water (pumping)	18.50	37,000
Irrigation labor	11.75	23,500
Seed (soaked and treated)	15.00	30,000
Airplane (sowing)	6.25	12,500
Herbicides	15.80	31,600
Insecticides	53.70	107,400
Airplane (pesticides)	6.50	13,000
Fertilizer	59.00	118,000
Airplane (fertilizer)	18.75	37,500
Bird control	5.25	10,500
Weed control (canals and drains)	5.00	10,000
Clean canals and drains)	2.15	4,300
Harvest and haul to dryer	<u>30.00</u>	<u>60,000</u>
Total culture and harvest costs	<u>\$292.15</u>	<u>\$584,300</u>
<hr/>		
<b>Yield</b>	<b>3,500 lbs</b>	<b>7,000,000 lbs</b>

Dry store, mill, and package at \$0.0325 per lb	\$113.75	\$227,500
Overhead at U.S. \$25,000/mo	150.00	300,000
Capital start-up	<u>75.00</u>	<u>150,000</u>
Total costs	<u>\$630.90</u>	<u>\$1,261,800</u>

Income: yield x mill efficiency = sales volume  
 7,000,000 lbs x 60% = 4,200,000 lbs

<u>Item</u>	<u>Per Acre Revenues (US\$)</u>	<u>Total Revenues (US\$)</u>
<b>Rice sales:</b>		
60% in 1 lb bags @ US\$ 0.38 per lb		957,600
40% in 100 lb bags @ US\$ 0.26 per lb		<u>436,800</u>
Subtotal		1,394,400
 <b>Bran sales</b>		
700,000 lb @ US\$ 0.06 per lb		42,000
Income	718.20	1,436,400
Net	87.30	174,600

D. Start-Up - HAFCO, S.A., Haiti

1. Project:

Name: HAFCO, S.A.  
Address: Haiti  
Line of Business: Pilot Plant Production on Sale of Breadfruit Chips

2. Loan:

Total Project Cost: \$210,000  
USADC Participation: \$105,000  
USAID Participation: \$105,000  
Through its local shareholder, USADC has put together a syndicate which will match AID's contribution.  
Shareholders: Antillean Commodities 47.5%; Ralph Perry 23.75%;  
Al Fegan 23.75%; USADC 5%  
Tenure: 3 years including grace period of one year  
Repayment Schedule: One year grace - two annual equal payments  
Source of Repayment: Profit on export sales  
Collateral: Equipment, inventory, receivables

3. Background and History on Project/Local Participants:

Breadfruit was introduced to the Caribbean from the Pacific South Sea Islands. Breadfruit seedlings were the main cargo onboard the "HMS Bounty," captained by the infamous Captain Bligh. It now grows throughout the Caribbean Basin. The fruit is round and green, weighing 1½ to 5 pounds, when mature. Breadfruit is never eaten raw but is cooked by boiling or roasting; after cooking and peeling it can be eaten as is or seasoned in a manner to suit various cuisines. The tree, under ideal conditions, grows 50-60 feet high with a leaf spread of 40 feet and an accompanying extensive root structure. A young tree begins bearing fruit after 3 years and continues to do so indefinitely. The tree produces fruit all year round with two heavy seasons.

OUTLINE OF CHIP PROJECT

The Market: Snack Foods provide a \$20 billion annual market in the U.S. alone, with the chip market accounting for \$4 billion. The introduction of new types of chips usually increases the volume of this market. It is a product for which the consumer "grazes," in search of variety. The characteristics of the Breadfruit Chip are highly attractive; it has a very crispy texture and is high in fiber, minerals and vitamins. Haitian Breadfruit also qualifies as "organic" because they are not exposed to herbicides, pesticides or fertilizers.

Initial marketing investigations halted after an approach to the GNC chain of health food stores indicated that they would require up to forty containers per week of such a product! Supplies of the fruit are not available in this quantity at this time and

therefore further marketing has been confined to the Health Food Markets within South Florida.

**Reforestation:** Haiti is an ecological disaster due to its stripped mountainsides, and planting new trees is the greatest priority of international development organizations. Having spoken with Dr. Roger Webb<sup>1</sup>, a forestry advisor to the USAID offices in Haiti, we are assured that the Breadfruit tree could play a vital role, with its properties of retaining soil and water, providing shade and ease of propagation.

**Overall Benefits to the Haitian Economy:** The increase in market potential of the Breadfruit can be directly compared to the existing Mango industry. From its humble beginnings 20 years ago, the Mango is now the largest agricultural export industry second only to coffee. The Mango industry employs thousands of people and hence supports millions, and is a major earner of foreign exchange. Local spinoff business is great when one considers the labor requirements, i.e., growing, reaping, transport, carton manufacturing, processing and export related jobs at the ports and airport. Most of the above work is done by unskilled peasants on their own land thus providing a major economic advantage to the Haitian peasant - this is a main objective of the President's CARIBBEAN BASIN INITIATIVE. All the above has been achieved exclusively by private sector investment.

#### **RELEVANT DATA ON BREADFRUIT CHIP MANUFACTURING IN HAITI**

**Fresh Breadfruit Supply:** 12 months of year with heavy season May-August, November-February; will yield 249,750 pounds of Breadfruit, giving 126,623 pounds of chips.

**Product Development:** Laboratory work done in Haiti and Clearwater Florida. Critical factors in manufacture were found to be: thickness of chip, type of oil and temperature/time of cooking (for both frying and baking). 1,000 taste tests conducted in direct comparison with potato chips indicated 65% preference in favor of Breadfruit.

**Quality Control:** All trees tested yielded good quality fruit for chipping provided fruit was harvested at proper maturity.

**Pilot Plant Requirements:** Washing and peeling by hand, slicing by Knott Slicer, Kettle cooking (batch) and oven baking in custom oven. Automatic nitrogen fill and seal machine for packaging.

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<sup>1</sup> Dr. Roger Webb, Assistant Professor and Extension Pathologist, University of Florida, Institute of Food and Agriculture Sciences. School of Forest Resources and Conservation, 208 Newins-Ziegler Hall, Gainesville, Florida 32611 (904/392-4826).

#### 4. Ownership and Management:

##### **MANAGEMENT TEAM**

**Mr. Ian Sturdy**, Initiator of Breadfruit Chip Project. Background in food processing with development of his own processing plant in Jamaica. Responsible for initiation and development of processed Mangos for Chutney and frozen products. Consultant to World Bank for food processing.

**Mr. Ralph Perry**, Haitian National with 34 years as agent for Hot-point. 20 years as a pioneer in the development and production of fresh Mangos. 8 years experience in processing Mangos. Founding Director of Sogebank Haiti formerly Royal Bank of Canada.

**Mr. Dennis Carroll**, a food chemist graduate of University of Massachusetts. Worked for Coca Cola before becoming a private consultant. Did research for project.

**Mr. A. E. Fegan**, 30 years of business experience in Haiti and other Latin American countries. Largest importer of Haitian Mangos. Extensive importation and distribution experience.

##### **LOCATION, SERVICES AND PRESENT OPERATIONS:**

The location of the pilot plant will be on the premises owned and operated by Ralph Perry, an investor. It is 1 kilometer from the International Airport and 5 kilometers from the Seaport. Haiti is served by more than 12 airlines and 7 steamship companies. Services at the Ralph Perry complex include electricity, water, telephone and telex.

##### **PRESENT ON-SITE OPERATIONS:**

Fresh Mangos: Packing plant producing 400-500 thousand cartons annually with USDA approved facilities for quarantine treatment.

Carton Manufacturing: Producing among other cartons, most of the cartons used for Haiti's Mango export industry, i.e., over 1.2 million annually.

Frozen Processing: Equipment producing Mango pulp, dices and slices.

Mango Brining: Producing over 700 tons per annum of salted Mango slices -- a basic component of Chutney manufacturing.

Breadfruit Production: The fresh fruits are treated and boxed for export.

USDA Inspection Station: USDA officers supervise the quarantine treatment of the entire export fresh Haitian Mango crop.

5. Financial Considerations:

**INVESTMENT AND FIRST ANNUAL BUDGET:**

Investment:

**Machinery Costs:**

Slicer	3735	
Fryer	3500	
Baking Tunnel (hot air electric)	10000	
Packaging (filler/sealer w/nitrogen injection)	10000	
Dehumidifier	1000	
Tools and accessories	2000	
Transport and installation		
Port-Au-Prince	10000	<b>\$40235</b>

**Marketing:**

Trade shows, travel, establishing food brokers		<b>16000</b>
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**Set-up Costs:**

Legal and accounting	3000	
Travel during installation (8 trips) from U.S.	4000	<b>7000</b>

**Bag and Carton Design:**

**2075**

First Annual Budget:

**Building:** All the required functions of the plant will be housed on the complex.

**Annual Lease:**

**3000**

**Packaging:**

Printing and transport of bags	10000	
Cartons made in Haiti	19800	<b>29800</b>

**Working Capital:**

For first year production based on an annual operation of two four-month crops:

Salaries: 1x watchman		
8x peelers		
1x general laborer		
2x slicer operators/salters		
2x packing/filling operators		
at \$4/day for 34 weeks, 5 days/week (170 days/annum)	9520	
1x maintenance man @ \$10/day	1700	
1x general manager	16000	
1x quality control	10000	<b>\$37220</b>

Benefits including vacation & bonus 18%/ann

**6670**

Building overhead, electric, water, telephone	4000
Insurance, machinery and inventory	3000
Purchasing of fruit incl. transport for 1st year	22000
Purchasing of oil incl. transport for 1st year	6000
Purchasing of salt incl. transport for 1st year	1000
Travel during first year of operation from U.S.	4000
<b><u>TOTAL EXPENDITURE</u></b>	<b>\$182000</b>
Estimated Contingency	18000
Administrative Expenses	10000
<b><u>TOTAL SUM</u></b>	<b><u>\$210000</u></b>

Haitian law permits the unrestricted and untaxed importation of the machinery and materials necessary for the plant. A tax exempt status is also provided for under Haitian law for a period of ten years from date of formation of the Haitian company.

#### **MARKETING COST AND ESTIMATED PROFIT**

Product will be marketed in conjunction with a Health Food Product distributor.

<b>Production:</b> (per 100 lbs batch of chips)	
<u>Fruit:</u>	312 lbs (13 doz. @ \$1.20/doz.)
<u>Peanut Oil:</u>	40 lbs (@ .62/lb)
<u>Salt:</u>	.7 lbs
10% shrinkage	44.52
Cost per 1 oz bag	<b>\$.028</b>
Packaging, bag .05, carton .01	<b>.06</b>
Freight - Haiti to Miami (1500 cases/container, 60 bags/case)	<b>.025</b>
Labor .022, overhead .007	<b>.029</b>
<b>TOTAL COSTS</b>	<b>.142</b>
<b>SELLING PRICE (C.I.F. Miami)</b>	<b>.180</b>
<b><u>PROFIT/1 OZ BAG</u></b>	<b>.038</b>

On anticipated supply of 126,623 pounds of chips the annual profit is \$76,608 (less debt service).

#### 6. Rationale for USADC Approval:

This is only a pilot plant operation but with a profit margin. Production appears to be limited by supplies of raw material. It is the promoters intention to start small and tailor expansion to growth in demand for the finished product.

The project has a long-term positive development impact in that studies have shown that the breadfruit tree is ideal for reforestation in Haiti. As the demand for the fruit will create income for the local farmers, the trees will not be cut for charcoal.

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One of the promoters of the project, Mr. A. E. Fegan, through his company, Lincoln Diversified Services, Inc., is a shareholder of USADC. His experience in Haiti is long standing and through the handling of Mangos for export, has acquired considerable knowledge of agricultural problems and possibilities in that country.

Based on market research and careful study of manufacturing costs, the project appears sound and financially positive. The environmental impact is a strong incentive to promote this endeavor to improve the Haitian farmers lot.

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**SUMMARY OF PROJECTS EXAMINED BY USADC**

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A. ENTERPRISE EXPANSION

NAME	LOCATION	DESCRIPTION	COMMENTS
CARIBE FARMS INTL. LTD.	BELIZE	Vegetables and tomatoes - growing and exporting	Local growing conditions may not be optimal for this type of product. As production is targeted on small window of opportunity, any breakdown in transportation could be catastrophic - risk is great as shipping is through Mexico by truck.
LOS ARBOLITOS, S.A.	DOMINICAN REPUBLIC	Production and marketing of tree seedlings; later coffee, fruit and nut seedlings.	Strong financial and development project-promoters are Floresta USA Inc. Project started in 1985. Capital and loan required for expansion.
EL ROSEDAL, S.A.	ECUADOR	Expansion of cut roses production for export to USA.	This is a well-established company wishing to expand by some 7,000 square meters their present well-established and successful operation. This project will be formally presented to AID with a request for funding when final details have been assessed by the Investment Committee.
SPC, INC.	COSTA RICA	Cultivating and marketing Cayenne Pineapples	Project has been well-prepared and is well-advanced. Some concern is felt that management in the field may be too thin-only one man. Another major concern is possible fate of small independent grower competing in the same country with some 650 acres with major producer with 6000 acres.

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NAME	LOCATION	DESCRIPTION	COMMENTS
VEGETABLE GROWING	PANAMA	Growing, processing and marketing vegetables	Vegetables grown in the Cerra Punte Valley some ten hours from Panama reach the city in very poor condition. Project would improve quality and yields through outsourcing, provide vacuum cooling and marketing vegetables to U.S. standards supplying U.S. military bases, ship chandlers and quality supermarkets.
PRODUCTOS FRESCOS, S.A.	GUATEMALA	Melon growing and shipping to the United States	There are considerable differences of opinion regarding the value of melon growing in Central America and the Caribbean Basin, targeted at the short period when the U.S. can only be supplied by imports. If this aspect is positive, this could be an interesting project. Marketing in the U.S. would be handled by one of USADC's shareholders, Steve Tavilla. Some more information is still expected from Guatemala before a formal proposal can be put before the Investment Committee.

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B. SUBSIDIARY

<b>NAME</b>	<b>LOCATION</b>	<b>DESCRIPTION</b>	<b>COMMENTS</b>
LUPINE GROWING	SHABA PROVINCE, ZAIRE		This project would permit two of USADC's shareholders to join forces for mutual benefit. IN-AG, formerly Good Earth Corp. of Minneapolis, specialist in the development of lupine and triticalee would raise lupine in Zaire for incorporation in UNIBRA's biscuit manufacturing. UNIBRA has been having trouble finding a suitable source of protein in Zaire. Tests run by IN-AG in Cameroon has shown that lupine can be grown in the tropics. When sufficient seed is available, UNIBRA will run milling tests.
MAIZE DRYING AND STORING	SHABA PROVINCE, ZAIRE		With the assistance of USAID, maize production in the Shaba Province has increased sevenfold. The problem is that due to lack of drying and storing facilities, a large proportion of the maize is lost to rot and infestation. On behalf of UNIBRA, a USADC shareholder, an extensive pre-feasibility study was prepared indicating a strong need for drying and storing facilities. The AID mission in Zaire has been approached to ascertain what could be done to remedy the situation. Further studies will be pursued after receipt of local information.

C. RESTRUCTURING

AFRICAN AGRICULTURAL KENYA  
MGT. KENYA (LTD.)

Vegetable and flower  
growing

Fonville Enterprise of Texas formed a Kenyan registered company in 1966. The company owns a 50,000-acre ranch of which 1,000 acres are irrigated. The ranch was at one time managed by two Israelis in partnership with Fonville but serious problems developed. Complete restructuring was required and it is now planned to produce snow peas, asparagus and roses for export to UK and Europe. A very comprehensive feasibility study was prepared by Ecuador Advisory Services Ltd and submitted to USADC, a potential investor. Management would be by Western-Agrimanagement of Colorado. More information is required before the project can be presented to the Investment Committee.

BIG FALLS RANCH

BELIZE

Rice farming and  
cattle operation

Agrisystems International of Bechtel, a USADC shareholder, planned to invest \$150,000 in a one-year management of Big Falls Ranch to ascertain rice growing potential. Big Falls Ranch has been under a number of different owners; the latest, ADELA, placed the company in receivership. Under management of a Belizean, operation has shown a small profit. The plan was to expand rice production, rehabilitate rice mill and other equipment. If the one-year operation proved encouraging, Bechtel planned to purchase the Ranch. Investment would have been 3.5 to 4 million dollars. Bechtel has abandoned the project and property is once again available.

ANTIGUA SHRIMP LTD

JAMAICA

Growing to marketable  
size marine shrimp  
from larvae

The project suffers from lack of financial means. The projected return on investment is considerably below USADC standards. Discussions with AID, who have financed part of the project, indicated that no further investment through USADC would be considered.

NAME	LOCATION	DESCRIPTION	COMMENTS
JAMAICA DAIRY	JAMAICA	Developing agricultural resources to support Cornwall Dairy Processing Plant	<p>Included: <u>Farm Service Center</u> selling, repairing farm equipment, training and communications, financing marketing of breeding stock, veterinary services. <u>Cornwall Processing Plant</u> will collect and process local milk production as well as natural fruit prices for export. <u>Shettlewood Dairy Heifer Raising</u> will raise replacements for local dairy herds and import young heifers. <u>Innswood Irrigated Farm</u> will produce corn for livestock feed to cease depending on imported feed. <u>Montpellier Cattle Farm and Research Station</u> - genetic research and development in joint venture with Jamaican Government. Will establish two nucleus dairy herds, emphasizing embryo transfer. Multiplication of dairy cattle acclimated to local conditions will create very valuable export item for tropical countries. Project is long-term and requires substantial loan and equity investment. More information on structure has been requested and will be analyzed before proceeding further. Similar enterprise had been studied by Winrock International and abandoned for various reasons. Jamaican Government involvement may preclude USADC/AID involvement though AID has shown interest in renovation of Cornwall Dairy Plant. Commodity Credit Corp (CCC) has agreed to guarantee up to \$3 million in local bank loans to purchase and ship dairy cattle to Jamaica.</p>

NAME	LOCATION	DESCRIPTION	COMMENTS
CASHEW PLANTATION	MATADI, ZAIRE	Growing of cashew nuts for export-eventual establishment of shelling plant	UNIBRA, USADC shareholder, has acquired a 1,000 hectare plantation in Zaire in poor state. Project would rehabilitate trees and ascertain feasibility of establishing shelling operation. Value of shelled nuts is considerably higher than unshelled; also, there is a good market for shells as they are used to manufacture brake linings.
GUM ARABIC	SENEGAL	Resin is secreted by Accacia trees in Sahel region. Project would involve training local farmers in harvesting and processing	Prices vary tremendously according to quality. Training in timing and technique of harvest could bring Senegalen resin to compete favorably with better known kordofan gum. Study is being prepared by former FAO executive in Sahelian region of Senegal.
TEAK EXPORT	SENEGAL	Logging and export of teak from Casamence province of Senegal	As Senegal is an importer of wood and wood products, all exports are prohibited. The result is that high-quality teak which could be a substantial foreign exchange earner is being used where low-grade pine would suffice. The project would involve training local workers after authorities have been convinced of hard currency value of teak exports compared to import of low-cost pine or other soft woods.

D. START-UP

<b>NAME</b>	<b>LOCATION</b>	<b>DESCRIPTION</b>	<b>COMMENTS</b>
CONGOLAISE DES BOIS IMPREGNES	CONGO-BRAZZAVILLE	Utility pole production from existing planta- tion	The French planted some 23,000 hectares in eucalyptus destined for pulp industry. Following collapse of pulp prices, project was abandoned but an American promoter, with backing of NRECA set up a project to use mature trees for utility pole industry. IFC will put up 1.6 million dollars in loans and ten percent in equity. OPIC has agreed to put up two million in loans. An American investment group, Wood In- dustries International (WIIL) will take 41%, the Congolese, Union d'Aforestration Industrielle du Congo (UAIC) will take 49%. With the IFC participation, "Western" interest will have a majority. Management will be controlled from the U.S. USADC has been asked to take a substantial equity position in WIIL.
HAFCO, S.A.	HAITI	Manufacture and mar- keting of breadfruit chips	A syndicate was formed by USADC to build a pilot plant to produce chips from bread- fruit in Haiti; though small, the project has strong financial and ecological appeal. Approved by USADC Investment Committee, formal application for funding under Revolving Fund agreement will be presented in the very near future.

NAME	LOCATION	DESCRIPTION	COMMENTS
MOHAIR SCOURING	LESOTHO	Producing 3,300 tons of fine wool and 750 tons of mohair in greasing state, government wishes to enhance these resources by scouring and eventual spinning	Project was brought to USADC by OPIC, but could not be pursued as partner would be local government. Also, USADC would be required to take 49% of the equity which is incompatible with our stated policy of not exceeding 30%.
SEA LIFE AUTOMATION CORP.	COSTA RICA	Harvesting and processing crabs for shipping as fresh meat to U.S. and Europe	Certain aspects of this project and its management did not inspire the confidence needed for such a major investment and further investigations were dropped.
INTERNATIONAL FISHERIES SERVICES INC.	GRENADA	Growing and processing Caribbean King Crab in cages. Feed would come from algae grown on netting of the cages	Scientific research concluded that technology involved in the feeding was not fully developed. It is also feared that crabs growing in restricted spaces could be decimated by disease.
S.K. BEDIAKO LTD.	GHANA	Production of logs and sawn timber for export primarily to Europe, North Africa and the Middle East	In-depth study brought to USADC by Equator Advisory Services. Bediako actively logging two sub-leased concessions to fill orders he obtained in Germany. Profitability will be greatly increased once saw mill is in operation and exports will be of higher value. New equipment is expected to be financed either directly by export credit agencies or through loans from Equator. Definite equipment costs have not yet been obtained but project appears sound and will be presented to Investment Committee for review.

*W.P.*

E. PRIVATIZATION

NAME	LOCATION	DESCRIPTION	COMMENTS
BRAZZAVILLE POULTRY PRODUCERS FEED MILL	CONGO, BRAZZAVILLE	Production of poultry and eventually cattle feed by formerly government-owned feed mill	Dissatisfaction with unreliability and low quality led to closing of government- run mill. Poultry producers group is attempting to privatize and rehabilitate feed mill as only source now is expensive imports. As Congo-Brazzaville is not on AID's priority list, project is now held in abeyance. It does have some valuable aspects and will receive further study if political climate improves.

**PAYMENTS MADE UNDER  
AID GRANT NO. DPE-2002-G-SS-5069-00**

**I. Consultants (services rendered at \$261/day  
except where otherwise noted)**

Alex Beehler (139 days)	\$ 36,279.00
Joseph Borgatti (17 days and 2 days per diem)	4,587.00
Milton Brown (99 days and 3 days per diem)	26,130.00
M. M. Brown (5 days @ \$115/day)	575.00
Harvey Campbell (2 days and 2 days per diem)	682.00
Roland Kemp (18 days and 14 days per diem)	5,880.00
Walter Minger (15 days)	3,915.00
J. B. Penn (30 days)	7,830.00
Arthur Lee Quinn (69 days)	18,009.00
Karl Tanaka (10 days and 8 days per diem)	3,210.00
R. O. Wheeler (30 days and 12 days per diem)	<u>8,730.00</u>

Subtotal \$115,827.00

**II. Travel/Transportation and Other Direct Costs**

34,173.00

**TOTAL**

**\$150,000.00**

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SEQUENTIAL STEPS IN  
EXTENDING LOANS OR TAKING EQUITY

SEQUENTIAL STEPS IN EXTENDING LOANS OR TAKING  
EQUITY POSITIONS IN LDC AGRI-BUSINESS PROJECTS OR PARTS OF PROJECTS

<u>STEPS</u>	<u>CRITERIA OR ACTION REQUIRED BY WHOM?</u>
1. Identify projects or pieces of projects	Sources of leads: stockholders, agri-consultants, U.S. government officials; lending institutions; trade associations; private agri-business companies.
2. Make initial screening	USADC staff, using criteria such as size, cost, country or nature of project, makes initial assessment.
3. Obtain sufficient data for first analysis	Accumulate pre-feasibility data provided by sponsor in a USADC format; analyzed by staff, Board member, or hired consultant. Advise sponsors of projects of results of first screening.
4. Visit to project site	Staff and possibly hired consultant, physically inspect project particularly when project is an expansion of an existing business, an addition of a new activity to an existing enterprise, the privatization of a parastatal, or when the equity/debt funds are to finance a merger or an acquisition.
5. Receive and analyze formal proposal backed by feasibility study	Sponsor provides a fully fleshed-out feasibility study including a business plan; staff and stockholders and hired consultants may participate.
6. Make second site visit if necessary	Staff of USADC, stockholders, hired consultants and a representative from a local private financial institution reinspect the site if data collected warrants such a step.
7. Prepare proposal for Investment Committee	USADC prints and distributes its staff-prepared Summary Report. The Investment Committee reviews and either rejects or recommends project to USADC's Board with or without any suggested changes for Board's consideration as a worthwhile investment and/or loan. Summary includes financial aspects, equity/loan terms and conditions.

STEPS

CRITERIA OR ACTION REQUIRED BY WHOM?

- |   |   |
|---|---|
| 8. USADC's capital providers are notified | As per prior agreement, the institutions providing most of USADC's capital are notified whenever USADC's Board votes an investment or loan in an LDC private sector agribusiness. Summary of project is prepared in format required by USAID and OPIC for their review and eventual approval. |
| 9. Funds are disbursed                    | Upon approval and allocation of funds, USADC authorizes in writing or by telex the release of funds to project operating accounts and/or directly to vendors, if so arranged, providing inputs - services and materials to the project.   |
| 10. Progress reports are issued           | Made by project manager, local lender or USADC in accordance with the requirements contained in borrowing agreement.  |
| 11. Inspections are made periodically     | Staff and stockholders of USADC monitor progress with special emphasis on control of expenses, growth of sales, training of personnel and compliance with all local laws and regulations, and overall project performance.  |