UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
AGENCY FOR INTERNATIONAL DEVELO. ENT
MISSION TO HAITI

PD-AAT-561
45472

For U.S. MAIL:
USAID / HAITI
Department of State
Washington, D.C. 20520
For INTERNATIONAL MAIL:
USAID / HAITI
P.O. Box 1634
Port-au-Prince, Haiti, W.I.

MAR 31 1983

Mr. Bartlett Harvey
Executive Vice President
Agricultural Cooperative
Development International
201 Continental Building
1012 Fourteenth Street, N.W.
Washington, D.C. 20005

Dear Mr. Harvey:

Subject: Cooperative Agreement No. 521-0169-A-00-3029-00
Caribbean Basin Initiative Supplemental Appropriation

Pursuant to the authority contained in the Foreign Assistance Act of 1961, as amended, the Agency for International Development (hereinafter referred to as "A.I.D." or "Grantor") hereby provides to the Agricultural Cooperative Development International (hereinafter referred to as "ACDI" or "Recipient") the sum of TWO HUNDRED AND FIFTY THOUSAND DOLLARS ($250,000) to provide financial assistance for the development of an agricultural station focused on the design and implementation of fresh produce export marketing programs through farmer cooperatives, as more fully described in Attachment 2 entitled "Program Description".

This Cooperative Agreement is effective and obligation is made as of the date of this letter and shall apply to commitments made by the Recipient in furtherance of program objectives through the estimated completion date of May 31, 1984.

This Cooperative Agreement is made to the Recipient on condition that the funds will be administered in accordance with the terms and conditions as set forth in Attachment 1, the Schedule, Attachment 2, the Program Description, and Attachment 3, the Standard Provisions, which have been agreed to by your organization.

Please sign the original and four (4) copies of this letter to acknowledge your acceptance of the Cooperative Agreement, and return the original and three (3) copies to this office.

Sincerely yours,

Harlan H. Holgood
Director

Attachments:

1. Schedule
2. Program Description
3. Standard Provisions & Grant Modification
4. Assurance of Compliance

ACKNOWLEDGED:

Agricultural Cooperative Development International (ACDI)

By: Robert Kinsey

Title: Executive Vice President

Date: March 31, 1983

FISCAL DATA:

Appropriation: 72-112/31037
Budget Plan Code: LES2-83-25521-KG13
PIO/T No.: 521-0169-3-30049
Project No.: 521-0169 (12)
Total Estimated Amount: $250,000
IRS Employer ID No.: 52-0811461
Funding Source: USAID/Port-au-Prince, Haiti
FKA No. 72-00-9901

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SCHEDULE

A. Period of Agreement

1. The effective date of this Cooperative Agreement (C.A) is the signature date by the USAID/Director as shown on the cover letter, and the estimated completion date is May 31, 1984.
2. Funds obligated hereunder are available for program expenditures for the estimated periods of April 1, 1983 to May 30, 1984 as shown in the financial plan below.

B. Amount of Agreement and Payment

1. A.I.D. hereby obligates the amount of $250,000 for purposes of this C.A.
2. Payment will be made to the Recipient in accordance with the procedures set forth in Attachment 3 - Standard Provision entitled "Payment - Federal Reserve Letter of Credit".

C. Financial Plan

1. The following is the Financial Plan for this C.A. Revisions to this plan shall be made in accordance with Standard Provision entitled "Revision of Financial Plans".

BUDGET

April 1, 1983 - May 30, 1984

Feasibility Study		
1. Salaries		24,600
2. Travel, Transport per diem allowances		26,733
3. Other Direct Costs		26,200
4. Gen. Admin. Support		18,567
5. Subcontract-WWD	87,900	
6. Subcontract-Capital Consult, S.A.		6,000
		250,000
Pilot Test		150,000
Total Project		400,000

The Recipient may not exceed the obligated amount set forth; adjustments among the line items are unrestricted. The following represents the proposed release of funds:
needs of the project:

-- Upon submission of the formal written commitment to finance the pilot project on the part of the Israeli investor group, represented by WWD. $125

-- Following review ofpreliminary reports for site selection, and assessments of (July 1, 1983) initial feasibility work $125

D. Reporting and Evaluation

The following reports will be submitted by the dates indicated below:

1. July 1, 1983
   a) Initial Survey and Assessment of Available Data
   b) Selection of Short-Term Consultants and detailed work plan for July - August - September
   c) Preliminary site selection for Agricultural Station, Agronomic trials and Pilot Project
2. September 1, 1983
   a) First Draft Feasibility Study
      - Farm site Selection
      - Cropping/Farm Management Plan
      - Marketing Plan
      - Economic Analysis and Financial Plan
      - Agricultural Station
      - Cooperative Organization
   b) Project design for Agronomic Trials
   c) Project design for Pilot production/Marketing Project
3. November 1, 1983
   First Progress Report on Agronomic Trials and Pilot Project
4. January 15, 1984
   Second Progress Report on Agronomic Trials and Pilot Project
5. March 15, 1984
   Third Progress Report on Agronomic Trials and Pilot Project
6. April 15, 1984
   a) Summary results and evaluation of Agronomic Trials
   b) Summary results and evaluation of Pilot Project

c) Final Report: Feasibility Study and Recommendations
- Site selection for production farm
- Cropping/Farm Management Plan
- Marketing Plan
- Economic Analysis and Financial Plan
- Agricultural Station
- Cooperative Organization
- Survey and Recommendations regarding Prospective investors

7. The preliminary and progress reports will be submitted in English in 5 copies. The final report will be submitted in English in 25 copies and, if possible, in French in 25 copies.

E. Establishment of Indirect Cost Rates

Rate	Base
13.5%	Total direct costs, excluding subcontracts

F. Alterations and Additions to the Standard Provisions

1. In Attachment 3, Standard Provisions, delete the words "grant" and "Grantee" wherever they appear and substitute in liew thereof the words "Cooperative Agreement" and "Recipient".
2. Delete the following Standard Provisions: (see Standard Provisions - select provision and delete others where noted).
   a) SP No. 7B - Payment - Periodic Advances
   b) SP No. 7C - Payment - Reimbursement
   c) SP 13B - Title to and Care of property (U.S. Government Title)
   d) SP 13C - Title to and Care of Property (Cooperative Country Title)

3. Alterations dated July 1982 are hereby attached and made a part of this agreement.

G. Subordinate Agreements

ACDI is hereby authorized to negotiate and establish subordinate agreements with World Wide Development, Ltd. an Isreali organization, hereinafter referred to as "WWD" or "subagreement" and with Capital Consult, S.A. a Haitian organization to collaborate and assists in this program. Notwithstanding the "Substantial Involvement Understandings" Provision, The Recipient will be fully responsible for the performance and management of this sub-agreement, including the approval of their accounting system, policies and procedures.

H. Substantial Involvement Understanding

The following USAID/Haiti criteria must be met under this Agreement

1. Agency review and approval of the special studies and plans outlined in provision entitled "Reporting and Evaluation", Section D above.
2. Agency review and approval of the following subcontracts and agreements will be required:
   a) The subcontract between ACDI and WWD to provide technical assistance for the feasibility study, and the pilot tests.
   b) The subcontract with Capital Consult, S.A. to provide advisory services for the feasibility study and pilot project
   c) The agreement between ACDI and the Israeli investors concerning the financing and conduct of the pilot production and export marketing test.
4. Agency concurrence will be required in the selection of the Project Director.

Haiti
Feasibility Study and Pilot Test
for
Vegetable Export
and
Cooperative Agricultural
Technical and Service Station

A Proposal for a Cooperative Agreement Grant
presented to the
United States Agency for International Development
Mission to Haiti

by

Agricultural Cooperative Development International
201 Continental Building
1012 Fourteenth Street, N.W.
Washington, D.C. 20005

March 21, 1983

acdi
Agricultural
Cooperative Development
International

201 Continental Bldg. • 1012 Fourteenth St., N.W. • Washington, D.C. 20005

Telephone: (202) 638-4661
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Donald H. Thomas
President

Bartlett Harvey
Executive Vice President

March 21, 1983

Mr. Harlan Hobgood
Director
USAID/Haiti
U.S. Agency for International
Development
Washington, D.C. 20523

Dear Harlan:

We are naturally very disappointed that it proved not possible to push through the agricultural station project on the time table needed for the utilization of CBI funds to get started this year. However, I must admit that I am not surprised that the number of unresolved issues, the evident divergence of aim as to ultimate beneficiaries, and the time pressure which precluded a sense of real participation proved too much for the Haitian group. I hope many of these doubts can be resolved during the coming months.

ACDI now proposes to carry out a feasibility study of the production in Haiti of winter vegetables for export and of an agricultural station to serve as a center for the encouragement and servicing of participation in such production by medium and small working farmers in one of the major agricultural areas in Haiti. This study would be carried out jointly with World Wide Development, Ltd. and Capital Consult, S.A. as subcontractors to provide Israeli agricultural and marketing expertise and Haitian assistance and liaison. Presented herewith is a proposal which refers to our February 25, 1983 proposal as general statement of the goals for which the study is to lay the basis. This proposal concentrates on a scope of work and level of effort for the study itself. I request a cooperative agreement grant from USAID to enable ACDI to carry out the proposed study.

Unfortunately, I am tied to the office here this week, but I will be available to discuss this proposal by phone, and I plan to come to Haiti for the review of this proposal, which I understand is scheduled for Monday, March 28, 1983.

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I look forward to seeing you again then, and to cooperating with you and your staff on the study and subsequent development of the station and export production.

Cordially,

Bartlett Harvey

Bartlett Harvey
Executive Vice President

Enclosures as stated

BH:rsv

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Annex A: A.I.D. Budget Detail

Annex B: Budget for the Pilot Project

Annex C: Initial Environmental Examination

Annex D: WWD Funding Status

Haiti Agricultural Station Feasibility Study
Project Description

I. PURPOSE

The purpose of this project is to lay a sound basis, including strong Haitian involvement, for the development in Haiti of an agricultural station or technical center and pilot production facility focussed on winter vegetables for export along the lines proposed in the ACDI/WWD proposal of February 25, 1983 to USAID/Haiti. It is proposed to proceed with a two phase initial approach (1) a comprehensive analysis of all aspects of the scheme including definition of alternatives, to provide a firm basis for investment decisions as to whether, how and on what scale to proceed further; and (2) a pilot test including small plot variety trials and production and export on a scale to test feasibility with minimum export quantities.

A foreign (Israeli) investor group has agreed to finance the pilot test, and to concern themselves with its success. Their hope clearly is that it will mark the beginning of a substantial and profitable export business, preferably on a joint venture basis with Haitian investors. The pilot farm will include a small area for variety, density fertilization and other tests and should form the basis for the agricultural "station" of the reference proposal.

Going forward with the studies and pilot test proposed herein rests on the assumption that should the analysis prove to be persuasive and the findings positive, it will be possible to assemble the necessary equity, credit and A.I.D. funding to launch the larger project. The study will be carried out by ACDI with the subcontracted help of World Wide Development, Ltd. and of Capital Consult Associates. It is not expected that

the Haitian agribusiness group which was considering the basic proposal will be directly involved with the conduct of the study, but the directors of the cooperative they are to form will review the resulting report and may have first option to participate in the agricultural station and production unit on the basis of the report.

II. SCOPE OF STUDY

The study will cover six areas of analysis, the results of which will be then pulled together into a comprehensive set of operational and budget alternatives and a recommended plan of action. The areas of analysis are: (1) selection of appropriate area for concentrated study, (2) market demand, arrangements, constraints and costs, including competing sources of supply and international transportation, (3) production feasibility, yields and costs taking into account all factors from available soils and water through cultivation practices to farm gate cost, (4) packing and transport requirements and costs, (5) functions and needs of the station, (6) organizational needs and alternatives regarding overall structure and interrelation of controls in the enterprise; alternative approaches to supply, production and marketing and the scope and nature of medium and small farmer involvement. These would be tied together in a comprehensive financial and economic feasibility analysis. A suggested, more detailed outline for the studies follows:

A. Area Selection

Investigations will be conducted in the Cul de Sac, Artibonite, and Leogane on which to base selection of one area for concentrated study as the best prospective base for winter vegetable production for export. Criteria of selection will be:

- Basic agronomic compatibility for selected crops
- Availability of irrigation, and/or possible irrigation with minimal capital investment

- Adequate road system or planned development
- Viable land tenure patterns, in terms of small farmer presence, i.e. tenants with adequate security or private holdings, viable land/population ratios
- Farmer experience with group action, desire to advance on cooperative basis
- Compatibility with current or planned crop usage patterns
- Land expansion opportunities in relation to long range project targets

The study will involve collection and analysis of available data and conduct of field investigations of:

a. Climate - rainfall, temperature, humidity, evapotranspiration, sunshine
b. Soils: physical and chemical characteristics
c. Pests and diseases
d. Water availability, irrigation possibilities and level of investment required.
e. Adequacy of roads, both feeder roads to farms and majc · roads to point of export.
roads to point of export.
f. Land tenure pattern - prevalence of medium and small farmers on appropriate land; availability of land for central production unit; area of expansion of production.
g. Experience and attitudes of farmers regarding cooperative enterprise.

This preliminary study is to be completed in forty-five days from the start of work. For the area for which a recommendation is made to carry out a full feasibility study, ACDI will discuss with USAID the work plan for follow-on activity, including a description of the technical

advisors required to carry out such a study and the timing of their participation. ACDI shall then carry out the following studies:

B. Market Analysis

1. Methodology to be used for marketing research
2. Data collection:
   a. Product characteristics: describe in detail the selected products indicating varieties, size, weight and any other special characteristics.
   b. Product uses and specifications, explain the different uses of the products in case they exist.
   c. Statistical data for 5 years (between 1978-82), for the U.S. and Canada: consumption, production, and level of imports for the selected products.
   d. Quality, aesthetic standards and regulatory requirements of the U.S. and Canada for the selected products.
   e. Geographical distribution of the market: identify the geographical zone in which products and by-products could be distributed, based upon a relevant justification.
   f. Competitive nature of the market and current marketing strategies. Indicate the comparative advantages and/or disadvantages of this project against those of the competition. Show the product prices and the prices of those similar products currently being sold in the country of destination. Indicate the selling and distribution systems used by the competition. Discuss any similar projects under way or consideration in Central America and the Caribbean.
3. Profile of alternative marketing arrangements - commission agents, direct sales to wholesalers or chain stores, brand name promotion, costs.
4. Analysis of alternative international transport arrangements, availabilities and costs.

5. Maximum unit costs, f.o.b. Haiti for competitive entry into the market entry.
6. Profile of anticipated marketing strategy for the selected products: sales arrangements, distribution methods, product packaging, technical services to clients, advertising, etc.
   a. Investigation of the organization and equipment necessary to distribute and sell the product at the best price.
   b. Using the most appropriate criteria and methodology available, make a 5 year projection of the estimated total demand for the products.
   c. Submit pricing models for the selected products, based on average wholesale prices.
   d. Describe the distribution and selling strategies that will be utilized for the sale of the products. Indicate the transportation costs for the products from the packing plant to the main selling centers, giving the basis for the cost configuration.
7. Demand projections and analysis of future prices (for a period of 5 years).
8. Domestic and possible export markets for summer season and rotation crops:
   a. Food varieties, prices, demand, and
   b. Feed, forage, oil seed demand, prices
9. The potential for absorption, by the local population and nation as a whole, of large volumes of non-exportable produce from the industry. Recommendations for use of non-exportable produce to avoid internal market disruption.
10. Final conclusions on marketing feasibility.

C. Production Analysis

1. Specific varieties which are adapted or adaptable to Haitian growing conditions.

2. Study of practices and yields of comparable winter vegetable production in Caribbean area.
3. Detailed farm production plan including cropping patterns, cultivation methods, fertilization, plant population per acre, irrigation requirements, plant protection requirements and techniques and rotation crops.
4. A survey of the availability of water and river flow, permeability and soil drainages - a detailed inspection of the existing irrigation systems. A study of irrigation requirements for vegetables.
5. Analysis of costs and benefits of alternative irrigation methods, including either conduct of or specific plans for field tests.
6. Time chart analysis of equipment and labor requirements, including investigation of availability of rented equipment, and analysis of trade-offs between labor and equipment under Haitian conditions and cropping requirements.
7. Feasibility of providing hire machine services to nearby farmers - revenues.
8. Estimation of total yields of export quality produce and of produce that will not qualify for export arrangements for disposal/sale of such.
9. Arrangements for and cost of in-country transport to export loading point.
10. Minimum unit costs of produce prepared for export, f.o.b.

D. Packing Facility and Production

1. Size of the plant

   Justification for the proposed capacity giving due consideration to the following factors:

   a. Estimated production

b. Production costs, economies of scale parameters
c. The required investment and adaptability to a phase and installation. (possibility for future expansion)
d. Technical aspects of the production process (automation, seasonality).

2. Location of the plant
Justification for site selection, giving due consideration to the following factors:
a. Availability of raw materials and complementary materials
b. Availability of other basic inputs: water, electricity, fuel, etc.
c. Availability of qualified manpower
d. Market location in relation to transportation costs for the raw material, complementary materials and finished products.
e. Other related aspects such as: availability of housing, health, educational and communication facilities.

3. Description of packing process and its technical requirements; all research and surveys utilized. Submit design, technical specifications, and list of parts for all required machinery. Provide international adapted standards, drawings, reference charts and everything considered convenient and necessary to efficiently pack the products.

4. Estimated technical requirements for adequate productivity in the packing process. Optimal storage conditions and shelf life of the selected products.

5. Description of the quality control and sanitation standards that the plant should have.

6. Selection and justification of the packing process. Submit a diagram which clearly indicates the process required and a written description of such a process.

7. Selection and plans for the installation of the required machinery and other equipment. Submit a full lits of machinery and necessary equipment. The machinery should be grouped according to the process, by department or sections of processing, etc.
8. Design and specifications of the buildings and other construction.
9. Construction program, installation and initiation of the packing plant. Submit GANTT, PERT/CPM or any other similar diagram, that shows time requirement for construction, installation and start up.

E. Analysis of the Agricultural Station

1. Functions:
   a. Conduct of variety, plant population density, timing, fertilization and other cultivation trials.
   b. Administration of demonstration plots, preferably on farmers' fields.
   c. Holding of field days to introduce crops and methods.
   d. Training - of station agronomic and extension staff
      - of member farm managers
      - of leader working farmers
      - of extension staff of satellite cooperatives
      - of methods, duration, location.
   e. Advisory services to member farmers
   f. Bulk procurement and supply services for member farmers
   g. Packing and marketing contracts with member farmers, including production supervision.
   h. Quality control of member deliveries for export
   i. Assembly, cleaning, grading, packing and delivery of member produce for export.

2. Requirements of the station:
   a. Leadership and expertise, expatriate and Haitian
   b. Management and administrative staff
   c. Facilities - for training and information services
      - for procurement and supply services
      - for marketing services
      - for transportation and maintenance services.
   d. Financing - investment costs
      - operating costs
      - fees, commissions, margins, other revenues.

F. Organizational Analysis

1. Interest of medium and small farmers in area of station in participating in production of winter vegetables.
2. Alternative modes of organizing such medium and small farmer participation:
   a. Supervised production and marketing contracts
   b. Satellite cooperative(s), credit or marketing groups
   c. Indigenous, informal association.
3. Need, costs, benefit of setting up autonomous supply service for station and member farmers, if fertilizer, pesticides, packing materials and other supplies are not available at competitive prices.
4. Structure of the enterprise, areas of responsibility and authority, assuming a cooperative formed by the Haitian agribusiness group invests and takes the lead in its formation. Present and future roles of area farmers in the organization. Equity and voting criteria.
5. Alternative structures assuming foreign investor(s) take the lead in its formation or assuming the absence of such investments and a medium farmer base of organization. Equity and voting criteria.

6. Legal and institutional framework related to the execution of the project.
7. Management and staff requirements for alternative investment structures and production patterns of organization.
8. Management and administrative costs - range of per unit overhead charges.

G. Investment and Operating Budgets and Financing Plans

The results of the above analyses are to be pulled together in comprehensive, alternative investment, operating and cash flow budgets illustrating the available alternatives and trade-offs.

Alternative financing plans for project implementation should also be included as a basis for discussions with potential investors and bankers.

1. Show all investment grouped in a chart, including a detailed explantation of each component.
   a. Fixed investment
   b. Working capital
   c. Investment summary in local currency
   d. Foreign exchange requirements.
2. Investments Program

   A schedule for the implementation of the investments should be submitted, indicating probable dates of execution of the various phases of the project.
3. Costs
   a. Production costs

      Costs estimates should be estimated and submitted for each year, until the year of expected normal operations of the company is reached. In order to facilitate its analysis, it is convenient to submit the figures broken down by items, annexing the reasons and estimates of such figures.
   b. Management costs
   c. Sales costs

If sales organization is not considered within the project, these costs can be estimated with a certain percentage of the total value of the product.

d. Financial costs

It is convenient to separate the financial costs from the other costs.

e. Total operation costs

(i) Show the total costs of the company for the first three years of production.

(ii) Also show for the first three years the unit costs for the items to be produced. Indicate the criteria used for the distribution of the direct and indirect costs among the produced units.

4. Income

Incomes for the first three years should be submitted, until the normal year of operation for the company is reached.

5. Determine the break-even point for the first ten years of production.

6. Disbursements and capital inputs according to the project execution program.

a. Availability and cost of staff and labor

b. Transportation availability and cost

c. Cost of importation, handling and transportation of equipment, machinery and materials.

d. Costs of power and water

e. Costs of miscellaneous services

f. Projected capital requirements both long and short term

g. Sales estimates - export and local

h. Estimates of gross annual returns, not including cash flows.

7. Financial resources in local currency and foreign exchange: amounts, sources, terms and method of payment, interest rates, guarantees.

8. Source and application of funds chart (3 years)
9. Pro-forma cash flow projections (3 years) that demonstrate the financial stability of the company and projected profitability.

H. Recommended Program

Based on the indicated financial results and on agreed other considerations, the study team will draw up a recommended program and plan of action which can serve as the project description for renewed solication of private investment funds, Haitian and foreign, for credit applications to IDAI and/or other banks, and for a renewed request to USAID for technical assistance.

1. Financial Viability
   a. Internal rate of return: estimated for the useful life of the project.
   b. Sensitivity analysis: identification of project profitability in relation to variations in sale prices, cost of raw materials and total cost (net profit as % of total investment).
   c. The financial situation of the company is analyzed through a series of relative indicators (financial ratios) estimated for each year of the company's operations until it reaches its first year of normal operations.
2. Economic/Social Viability
   a. Creation of new employment, direct as well as indirect. Survey of the number of people in the selected areas (especially low income working farmers). Estimated available labor for the production of vegetables, considering the above mentioned groups.
   b. Utilization of raw materials and national resources. Description of land tenure patterns in the areas under consideration.
   c. Per capital income for above target groups.

d. Project effect on the national balance of payments through the generation of foreign exchange via exports or through import substitution.
e. Project impact on traditional patterns of Haitian agriculture.
f. Identification of the credit and technical assistance required to permit small farmer participation.
g. Integraton and mutual effects of the introduction of an export industry on traditional values and practices.

3. Potential Investors
   a. Survey and recruitment of potential investors
   b. Assessment and recommendations regarding prospective investors.

III. THE PILOT TEXT

The pilot test will be of two kinds, based on about 50 acres of leased land at the site or in the area selected by the feasibility study group as being the most suitable for the development of the agricultural station and production unit of the reference proposal. The investment and operating costs of the pilot tests, other than management, will be born by an Israeli investor group operating through WWD and any revenues resulting from the tests will belong to that group.* The project Team Leader will direct the conduct of the tests, assisted by a Haitian agronomist and a Haitian administrative manager, both funded by the grantee.

One kind of test, occupying about 2 acres, will be a series of small plot tests of the relative adaptation to Haitian conditions of alternate varieties of export produce, yields of alternative densities of plant population, responses to rates of fertilization, to variations in timing of planting, to alternative methods of irrigation, and other variations in method of cultivation. This type of testing should be a continuing function of the station, and while the results of these tests will not

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* Refer to Annex D

be available for production use until the following season, the conduct of the tests will be an essential component of the pilot test in its aspect as embryonic station.

The second kind of test will consist of the actual production and marketing of two basic winter vegetables for export, probably tomatoes and cucumbers, but the final number and selection of crops will depend on the results of the feasibility study. The scale of the test has been selected to produce refrigerated trailer (20 ton) lots during the harvest reason, that being the minimum scale acceptable for export transportation and marketing purposes.

The production and marketing plan for the test will be developed in detail by the feasibility study group prior to the winter vegetable planting season. The test will include preparation of the site, including necessary irrigation and erection or adaptation of a packing shed and other minimum essential buildings; planting, cultivation and harvesting of 24 acres each of two vegetables for winter export; cleaning, sorting, grading and packing the produce; its transportation to port of exit; arrangement for its transport to a North American market and arrangement for its sale, probably by a commission agent.

IV. IMPLEMENTATION

The study and tests will be carried out by an expert team under expatriate leadership but including both expatriate and Haitian membership. It is estimated that the study will require four months and a team of 14 experts for a total of __ person-weeks, since a number of specialists will be needed only for relatively brief periods. Composition of the team and planned implementation schedule are as follows:

Project director - one year
Agronomist (Haitian) - one year
Farmer organization specialist - 18 days
Cooperative organization specialist - 36 days

Soil & water specialist - 12 days
Produce marketing specialists - 30 days
Agricultural economist - 60 days
Agric. engineer - irrigation - 18 days
Agric. engineer - packing & storage - 24 days
Horticulturalist - 24 days
Plant protection specialist - 6 days
General consultant - 30 days
Test administrative manager (Haitian) - 6 months

Informal contact with the Private Enterprise Office and the Rural Development Office of USAID will be needed throughout the preparation of the study. This will be the responsibility of the team leader. Copies of the draft reports will be made available for USAID review prior to finalization of the report. It would be highly desirable for the Executive Committee of the cooperative to be formed by the founder group to participate in the USAID Director's Review of the study.

V. BUDGET

1.	Salaries	$ 24,600
2.	Travel, transport, per diem, allowances	86,733
3.	Other direct costs	26,200
4.	General admin. support	18,567
5.	Sub-contract - WWD	87,900
6.	Sub-contract - Capital Consult	6,000
	A.I.D. Grant	$250,000
	Pilot Test - Israeli investors through WWD	150,000
	Total Project	$400,000

VI. ARRANGEMENTS

The grantee is responsible for satisfactory completion of the studies and report of the results of the pilot tests. ACDI will sub-contract with World Wide Development, Ltd. for the provision of certain Israeli experts and for arrangement with the Israeli investor group to conduct the pilot tests in accord with the findings of the study. ACDI will also contract with Capital Consult S.A. of Port-au-Prince for assembly of available data, participation in the overall review of the proposal and liaison with the Haitian agribusiness group. These sub-contracts will be subject to USAID review and approval.

ACDI will provide air tickets, per diem advances, reimbursement of the expenses of all expatriate consultants and all direct costs under the grant other than the compensation of WWD and Capital Consult personnel.

Preferably, payment will be made through ACDI's Federal Reserve Letter of Credit, No. 72-00-9701. If that is not feasible, provision should be made for a revolving fund advance to ACDI to cover estimated 90 day disbursements.

ACDI will charge 13.5% for general administrative support on all direct cost disbursements made by it, other than payments to subcontractors. This is in accord with instructions from the AID/Washington contracts office embodied in the attached letters.

Payments to WWD and Capital Consult will be for the actual time spent on the study by their employees and facilities at agreed rates which include provision for overhead at 50% of direct cost.

VII. REPORTS

The team leader will report monthly by letter and orally to the USAID Project Officer and to ACDI/Washington on progress, problems and plans in the conduct of the study. Members of the study team will report on their assignments at least weekly to the team leader and will prepare complete drafts of their assigned segments of the study report in time for review and acceptance by the team leader prior to leaving Haiti.

D. Reporting and Evaluation

The following reports will be submitted by the dates indicated below:

1. July 1, 1983
   a) Initial survey and assessment of available data
   b) Selection of short-term consultants and detailed work plan for July - August - September
   c) Preliminary site selection for agristation. agronomic trials and pilot project

2. September 1, 1983
   a) First draft feasibility study
      - Farm site selection
      - Cropping/farm management plan
      - Marketing plan
      - Economic analysis and financial plan
      - Agricultural station
      - Cooperative organization
   b) Project design for agronomic trials
   c) Project design for pilot production/marketing project
3. November 1, 1983
   First progress report on agronomic trials and pilot project
4. January 15, 1984
   Second progress report on agronomic trials and pilot project
5. March 15, 1984
   Third progress report on agronomic trials and pilot project
6. April 15, 1984
   a) Summary results and evaluation of agronomic trials
   b) Summary results and evaluation of pilot project
   c) Final report: feasibility study and recommendations
      - Site selection for production farm
      - Cropping/farm management plan
      - Marketing plan
      - Economic analysis and financial plan
      - Agricultural station
      - Cooperative organization
      - Survey and recommendations regarding prospective investors
7. The preliminary and progress reports will be submitted in English in 5 copies. The final report will be submitted in English in 25 copies and, if possible, in French in 25 copies.

A.I.D. BUDGET

Feasibility Study and Pilot Project Management

	Days	Fee	ACDI	WWD	Capital Consult
Project Director (Salary & fringe)	Annual			43,000	
Haitian Agronomist	Annual		12,000		
Farmer Org. Spec.	18	200	3,600		
Gen. Org. Spec.	36	200	7,200		
Soil & Water Sepc.	12	100		1,200	
Produce Marketing Spec.	24	100		2,400	
Produce Marketing Spec.	6	200	1,200		
Agricultural Economist	60	100		6,000	
Agr. Eng. Irrigation	18	100		1,800	
Agr. Eng. Packing & Storage	18	100		1,800	
Horticulturalist	24	100		2,400	
General Consultant	30	200			6,000
Plant Protection Spec.	6	200	600		
			24,600	58,600	6,000
Overhead (50%)				29,300	
Housing & Allowances			17,000		
Travel & Transport			49,300		
9 rd. trips, Israel			13,500		
5 rd. trips, U.S.			2,500		
3 trips Caribbean			1,500		
Project Supervision (3 x 1,000)			3,000		
HHE & Emergency			12,800		
Car & car rental			16,000		
Per Diem			20,433		
Expatriates (37 x 7 x 75)			19,425		
Haitian Assts in country			1,008		
Other Direct Costs			26,200		
Agronomic Tests			4,000		
Secretary 8 mos. x 600			4,800		
Production Admin. Manager 6 mos. x 900			5,400		
Office space, supplies, communications			4,000		
Report translation & duplication			3,000		
Contingency			5,000		
Total Direct Costs			137,533		
Gen. Admin. Support			18,567		
Total			156,100	87,900	6,000

Project Total $250,000

BUDGET FOR THE PILOT PRODUCTION AND EXPORT MARKETING TEST

- 24 Acres Tomatoes - 24 Acres Cucumbers

A. Direct production Costs

Tomatoes:	24 acres at 1,260 dollars/acre without C.R. and interest on working capital	$ 30,240
Cucumbers:	24 acres at 750 dollars/acre without C.R. and interest on working capital	18,000
Shipping Cost:	8 refrigerated containers at 44,000 lbs each 2,000 dollars (Haiti - N.Y. per container)	16,000
Pading Sorting and Transport Cost:	F.O.B./ Port-au-Prince 11,732 cartons exportable vegetables at 2 dollars	23,464
	Total Direct Costs:	87,704

Revenue:	from sale of 176,000 lbs export tomatoes at 0.20 dollars the pound	35,200	
	from sale of 176,000 lbs export cucumbers at 0.50 dollars the pound	88,000	
Total Revenue:		123,200	
Total Surplus			35,496

B. Investment Costs

Rent 50 acres* ea. 40 dollars	2,000
Irrigation system	29,000
Small tools	2,000
Sorting packing and storing shed (300m2)	17,000
Store room chemicals (40m2)	4,800
Small office (20m2)	2,100
2 Haitian formen	2,400
1 Haitrian Sec. Bookkeeper	3,000
	62,300
Total Expenditures	150,004

*Includes 2 acres for agronomic tests

INITIAL ENVIRONMENTAL EXAMINATION

Project Location:	Haiti
Project Title:	Agricultural Cooperative Devlopment
Funding:	$250,000
Life of Project	One Years (4/83 - 5/84)
IEE Prepared by:	James J. Talbot, Regional Environmental Management Specialist (REMS)

Signature: James J. Talbot Date 11 March 1983

Environmental Action Recommended: Negative Determination

Concurrence: _____

Harlan H. Hobgood
Director, USAID/Haiti

March 31, 1983
Date

INITIAL ENVIRONMENTAL EXAMINATION

Agricultural Station Development Project

Description of the Project

PURPOSE

The purpose of this project is to lay a sound basis, including strong Haitian involvement, for the development in Haiti of an agricultural station or technical center and pilot production facility focussed on winter vegetables for export. It is proposed to proceed with a two phase initial approach (1) a comprehensive analysis of all aspects of the scheme including definition of alternatives, to provide a firm basis for investment decisions as to whether, how and on what scale to proceed further; and (2) a pilot test including small plot variety trials and production and export on a scale to test feasibility with minimum export quantities.

A foreign (Israeli) investor group has agreed to finance the pilot test, and to concern themselves with its success. Their hope clearly is that it will mark the beginning of a substantial and profitable export business, preferably on a joint venture basis with Haitian investors. The pilot farm will include a small area for variety, density fertilization and other tests and should form the basis for the agricultural "station" of the reference proposal.

SCOPE OF STUDY

The study will cover six areas of analysis, the results of which will be then pulled together into a comprehensive set of operational and budget alternatives and a recommended plan of action. The areas of analysis are: (1) selection of appropriate area for concentrated study, (2) market demand, arrangements, constraints and costs, including competing sources of supply and international transportation, (3) production feasibility, yields and costs taking into account all factors from available soils and water through cultivation practices to farm gate cost, (4) packing and transport requirements and costs, (5) functions and needs of the station, (6) organizational needs and alternatives regarding overall structure and interrelation of controls in the enterprise; alternative approaches to supply, production and marketing and the scope and nature of medium and small farmer involvement. These would be tied together in a comprehensive financial and economic feasibility analysis.

THE PILOT TEST

The pilot test will be of two kinds, based on about 50 acres of leased land at the site or in the area selected by the feasibility study group as being the most suitable for the development of the agricultural station and production

unit of the reference proposal. The investment and operating costs of the pilot tests, other than management, will be born by an Israeli investor group operating through WWD and any revenues resulting from the tests will belong to that group. The project Team Leader will direct the conduct of the tests, assisted by a Haitian agronomist and a Haitian administrative manager, both funded by the grantee.

One kind of test, occupying about 2 acres, will be a series of small plot tests of the relative adaptation to Haitian conditions of alternate varieties of export produce, yield of alternative densities of plant population, responses to rates of fertilization, to variations in timing of planting, to alternative methods of irragation, and other variations in method of cultivation. This type of testing should be a continuing function of the station, and while the results of these test will not be available for production use until the following season, the conduct of the tests will be an essential component of the pilot test in its aspect as embryonic station.

The second kind of test will consist of the actualy production and marketing of two basic winter vegetables for export, probably tomatoes and cucumbers, but the final number and selection of crops will depend on the results of the feasibility study. The scale of the test has been selected to produce refrigerated trailer (20 ton) lots during trhe harvest reason, that being the minimum scale for export transportation and marketing purposes.

The production and marketing plan for the test will be developed in detail by the feasibility study group prior to the winter vegetable planting season. The test will include preparation of the site, including necessary irrigation and erection or of adaptation of a packing shed and other minimum essential buildings; planting, cultivation and harvesting, of 24 acres each of two vegetables for winter export; cleaning, sorting, grading and packing the produce; its transportation to port of exit; arrangement for its transport to a North American market and arrangement for its sale, probably by a commision Agent.

AREA AFFECTED BY THE PROJECT

The site for the demonstration farm/production units have not been determined at present, but potential sites have been identitied in the Cul-de-Sac region of Haiti, presumably on class I (USDA) soils. Since site-specific evaluation in not possible, generic determiation of potentiel environmental effect must be forcasted. Once feasibility studies and an on-farm management plan are completed, further enviromental analysis will be necessary to address concern raised in the next Section of the I.E.E.

Identification and Evaluation of Enviromental Impacts

Major environmental effects can be grouped into two general categories: short-and-long term effects of use of pecticides; and long-term impacts of irrigation and fertilization.

Use of Pesticides

Pesticides are subject to much misuse in Haiti, either through improper storage and handling or field application. Almost no regulatory control exist and no major pesticide legislation is in existence or planned. Table 1 presents the pesticides proposed for use on the project and gives some indication of their relative toxicity.

Short-term impacts relate to misuse of pesticides resulting in poisoning of people, either applicators and mixer-loaders, people who pick fruit or thin/weed plots, or the general population, perhaps a child. Examples of misuse are fairly straight forward for field workers and proper training can reduce there cases to a minimum. Examples of dangerous situations for children include:

1. placing toxic pesticides in soft drink or beer bottles.
2. bringing toddlers to the fields when the mother is working.
3. disposal of pesticide containers in garbage dumps where children have access and which may be picked up and used by a family.
   The following pesticides, described in Table 1, are organophosphate and carbonate insecticider that manifest cholinergic illness: diazivan, malathion, furadan. There require special presentions in all aspects of their use.

Long-term effects result in accumulation of residues in food, animal tissue, and eventually people. Fortunately, more of the proposed pesticides are chlorinated hydrocarbons, since this persistence problem is significantly reduced

Impacts on wildlife will be minimal since areas for project implementation will most likely not be close to rivers or in areas where endangered species may be present.

Impacts of Irrigation and Fertilization

Irrigation and fertilization, although basic elements of the intensive agriculture proposed, have associated problems of supply and cost, impact on agro-systems, and side effects outside, or adjacent to, agricultural areas.

Based on the ACDI/WWD proposal submitted several assumptions must be made:

1. Drip irrigation will not causes severe standing water problems as would flood, border and corrugation systems. Standing water serves as breeding grounds for mosquitos and other sector-born and gastroenteric diseases.

2. Natural drainage of the proposed farm site is sufficient to prevent water logging of soils (i.e., there are no impervious conglomerate layers within the upper soil horizons).

3. Farm technicians will examine the soil system thoroughly and identify all problems related to increased flux of water through the system.

4. An appropriate soil protection strategy will be included in the on-farm management plan to address the above concern.

Several specific factors must be considered in evaluating the potential impacts of irrigation on the proposed project area. At this time, however, nothing more than a generic listing of effects can be made. Such variables, however, must be addressed in the feasibility study done by ACDI/WWD and in consultation with the AID. Two major factors are obvious:

1. Irrigation water quality: Salinity; sodicity; and toxicity must be monitored/evaluated.

2. Soil quality: conductivity; exchangeable sodium must be evaluated since vegetables, corn and sorghum exhibit low tolerances to salinity.

Major effects/impacts of irrigation can be divided into primary and secondary.

Primary (Direct) Effects

1. Soil salinity
2. Toxicity

Secondary (Indirect) Effects

1. Salinization (salt water intrusion) of groundwater supplies
2. Hard subsidence, if water is pumped excessively from wells

At this time, environmental impacts are unresolved since the degree of

environmental protection and level of farm system management has not been formulated by ACDI/WWD. Potential problem areas are:

1. No drainage system/flushing system is proposed; well-drained soils are necessary with drip irrigation in this case

2. Are soils water retentive? If so, infiltration rates, permeability and leacking of chemicals through the soil - water matrix should be known to avoid eventual deterioration of the soil resource.

3. Is salinity a problem, either irrigation water or soils used in farming?

Impacts of the heavy fertilization proposed are not ascertainable at this time. If fields are put into continious crop production without rotations, problems may arise with accumulation of fertilizer salts in the soils. Health hazards to people and livestock resulting from groundwater contamination by heavy nitrate-nitrogen application is feasible if potable water supplies are adjacent to agricultural fields. Ruminants are susceptible to nitrate poisoning of water supplies but drip irrigation will reduce standing water. Potential non-point source runoff is another possibility during the rainy season.

Environmental Protection Measures

In order to ensure the success of this project from an economic and environmental perspective, REMS suggests the incorporation of several environmental protection measures into the project.

Soil Protection

Feasibility studies can address the concern associated with soil protection by conducting a soils constraints analysis which identifies (i) climatic region (ii) soil fertility properties, (iii) drainage and flooding indices, (iv) exchangeable sodium, (v) cotion exchange capicity and other variables. Major limitations to soil management using irrigation and fertilization technology can then be properly formulated.

Pesticide training

1. All workers, including farm management personel and extension workers, who will be buying or using pesticides should be specially trained in their safe use and to the potential dangers to their health, if misused, especially the toxic organophosphate and carbonate chemicals. Some of this training effort should be in the form of a small farmer crop protection manual in Creole. This manual should be written intentionally to direct the farmer to use only those pesticides in the lower toxicity range. A sample outline of training

INITIAL ENVIRONMENTAL EXAMINATION

Agricultural Station Development Project

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components is found in Attachment 1.

2. Monitoring of the safe use of pesticides should be a logical follow-up to the safety training program. The cooperative should "cooperate" with appropriate chemical epidemologists in an exposure monitoring program to ensure that worker exposure is minimized. This monitoring will be in the form of urinary sampling of at-risk workers or taking of blood samples, if specified. Analyses can be performed by AID/W contractors at low cost.

Recommendations for Environmental Action

Those efforts to ensure protection of soil resources in the project site must be formulated once the necessary feasibility studies are completed. Assuming a firm committment from the ACDI/WWD team to address the aforementioned concerns, adequate measures will reduce impacts and provide long-term project sustainability. Based on AID activities in developing countries and in accordance with its self-imposed regulations developed from practical experience in the pesticide control arena, certain minimum conditions must be imposed on this project. Those outlined in the Environmental Protection Section are a start. More specific condition can be subsequently suggested.

If all of these conditions are implemented expanded agricultural production in Haiti will benefit. Based in the supposition that the proposed project, with environmental protection measures, will foster no change with adverse implication for the human and natural environment of Haiti, it is recommended that a Negative Determination be approved for this project.

TABLE 1. Relative toxicities of proposed ACDI/WWD Pesticides

Group	I Highly Toxic DANGER	II Moderately Toxic WARNING	III Slightly Toxic CAUTION	IV Relatively Non-Toxic NONE-REQUIRED
Insecticides				
Malathion			X	
Diazinon		X		
Nematicide				
Furadan	X F4F	X Granules		
Furigicide				
Ridomil				X
Maneb 80			X	
Herbicides				
Round up		X		
Atrizine			X	
Sencor			X	

Unknowns? Not in Farm chemicals Handbook (1981) Need to know substitute trade name

Lannet 90
Coside
Dyniol

SAFETY PRECAUTIONS IN HANDLING OF PESTICIDES ATTACHMENT 1

B K Rai

Caribbean Agricultural Research and Development Institute

Sale of pesticides

1. Stack various pesticides neatly and in separate groups. Each pesticide container should have a label.

2. Weedicides should be kept in a separate area in the bond from insecticides, fungicides and nematicides, etc. while the latter can be kept in one area.

3. Develop a system of measuring and selling quantities of pesticides so that there is no spillage and contamination of bond.

4. The bond should be kept clean and there should be no spillage, Any spillage should be cleaned. At all times bond must be clean.

5. Wear gloves and apron while handling pesticides. The bond should be opened at least 15 minutes before you stay in it for long durations.

6. Label each container after filling it with pesticide even if it belongs to a farmer.

7. Give safety and use instructions to farmers at the time of selling pesticides.

8. The empty large containers should be suitably disposed. Pesticide containers should never be re-used for storing foodstuffs or drinking water for humans and animals. There is always the danger of concentrated amounts of pesticides remaining in the seams or crevices of the containers which could never be throughly cleaned of all residues.

   Never use a weedicide container to buy other types of pesticides.

Pesticide application machines

1. Everyday before use fill machine with water alone and work it. See if it is leaking somewhere and if the spray is proper. Rectify any defects. Do not use teeth to open nozzles. Most people fill pesticides in machine and start working and then find that machine is defective. Avoid this situation.

2. After use of pesticides, empty the machine, wash it with water. Work the machine with water so that all pesticide from the lance and nozzle is removed. Throw out all water from tank, work in machine to remove all water from the lance.

3. Mark the machines for use of weedicides and other pesticides and use them for the same purpose only. If weedicide machine is to be used for application of other pesticides then wash the machine from inside and outside with water throughly as given above. Fill it half with water and add soap. Let the soap dissolve in water. Shake the water in tank fully and then work the machine so that traces of weedicide from lance are also removed. Repeat the process once.

While applying pesticides

1. Always read the label and follow the instructions carefully.

   PESTICIDES ENTER THE BODY (A) BY BEING EATEN OR SWALLOWED (B) BY BEING SPLASHED ON THE SKIN OR (C) BY BREATHING

2. Smoking, eating and drinking must be avoided whenever applying pesticides.

3. Wash hands and face with soap and water immediately after using pesticides. Remember "Cleanliness is next to Godliness".

4. Most pesticides are dangerous when spilled on the skin and could be taken up in the blood stream through the skin.

5. All clothes after pesticide application should be washed with soap and preferably hot water before re-use.

6. Spillage of pesticides should be avoided at all costs. Should spillage occur, the spilled pesticide must be washed away or be thoroughly covered up. This is to prevent persons or animals from getting in contact with it.

7. Always mix pesticides with a stick or paddle, never use bare hands.

Storage of pesticide by farmers

1. All pesticide containers should be labelled 'poison'. Name of pesticide should be written on the container. Pesticide should be stored in a safe place, in lock and key, away from the reach of children and animals.

IV

Bartlett Harvey
Executive Vice President

ANNEX D

acdi
Agricultural
Cooperative Development
International

Telephone (202) 638-4661
201 Continental Building
1012 Fourteenth St., N.W. • Washington, D.C. 20005

March 28, 1983

Mr. Harlan H. Hobgood
Director
USAID/Haiti
Port-au-Prince, Haiti

Dear Harlan:

Eli Mizrachi advised me this morning that he has consulted with the members of the Israeli investor group and that they agree to take responsibility through WWD for financing the investment and working capital needs of the proposed pilot production and export test on the understanding that:

a. A.I.D. through ACDI will provide the management for that effort (Dan Reis, Team Leader and Haitian agronomist);

b. They would have opportunity to review and agree to the detailed recommendations of the feasibility study as to site selection and pilot test production and marketing plan and requirements (currently estimated at about $60,000 investment and $90,000 working capital).

c. Investment would not be expected from them until the plans of the study group were available for review; and

d. All revenues from the sale of produce from the pilot test would be available to WWD to apply against expenses.

I understand that Rami Gutt, spokesman for the Israeli investors, is prepared to confirm this commitment in writing, but distance and the current holidays in Israel make it impossible for him to do so before the end of this month.

It is my view that the stated conditions are entirely reasonable and in line with our thinking and that this commitment provides a solid basis on which to proceed with the project.

Sincerely,

Bartlett Harvey

Bartlett Harvey
Executive Vice President