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DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D.C. 20523

PROJECT PAPER

HONDURAS

Agro-Industrial Export Promotion

Project Number: 522-0120

IA/DR-TQ: 1

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AGENCY FOR INTERNATIONAL DEVELOPMENT
PROJECT PAPER FACESHEET
 TO BE COMPLETED BY ORIGINATING OFFICE

1. TRANSACTION CODE ("X" appropriate box)
 Original Change
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PP
 DOCUMENT CODE
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2. COUNTRY/ENTITY
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3. DOCUMENT REVISION NUMBER

4. PROJECT NUMBER
 522-0120

5. BUREAU
 a. Symbol LA b. Code 05

6. ESTIMATED FY OF PROJECT COMPLETION
 FY 80

7. PROJECT TITLE - SHORT (stay within brackets)
 Agro-Industrial Export Promotion

8. ESTIMATED FY OF AUTHORIZATION/OBLIGATION
 a. INITIAL mo. yr. 9 76 b. FINAL FY 79

9. ESTIMATED TOTAL COST (\$000 or equivalent, \$1 =)

a. FUNDING SOURCE	FIRST YEAR FY			ALL YEARS		
	b. FX	c. L/C	d. Total	e. FX	f. L/C	g. Total
AID APPROPRIATED TOTAL						
(Grant)	(500)	(-)	(500)	(1625)	(75)	(1700)
(Loan)	()	()	()	()	()	()
Other 1.						
U.S. 2.						
HOST GOVERNMENT		820	820	-	3600	3600
OTHER DONOR(S)						
TOTALS	500	820	1320	1625	3675	5300

10. ESTIMATED COSTS/AID APPROPRIATED FUNDS (\$000)

a. Appropriation (Alpha Code)	b. Primary Purpose Code	c. Primary Tech. Code	FY 79		FY 77		FY 78		ALL YEARS	
			d. Grant	e. Loan	f. Grant	g. Loan	h. Grant	i. Loan	j. Grant	k. Loan
ST	253B	150	500		140		580		1700	
TOTALS			500		140		580		1700	

11. ESTIMATED EXPENDITURES

12. PROJECT PURPOSE(S) (stay within brackets) Check if different from PID/PRP

To develop GOH capacity to establish Agri-business export projects which will directly integrate small farmers into the development process.

13. WERE CHANGES MADE IN BLOCKS 12, 13, 14, or 15 OF THE PID FACESHEET? IF YES, ATTACH CHANGED PID FACESHEET.

Yes No

14. ORIGINATING OFFICE CLEARANCE

Signature: Martin V. Dagata *Martin V. Dagata*

Title: Acting Director

Date Signed: mo. day yr. AUG 06 76

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SUBJECT: AGRO-INDUSTRIAL EXPORT PROMOTION PP (GRANT)

1. SUBJECT PROJECT WAS REVIEWED BY THE DAEC ON AUGUST 13, 1976 AND A GRANT IN THE AMOUNT OF DOLS. 1.7 MILLION WAS APPROVED FOR THREE YEARS AS FOLLOWS: TQ - DOLS. 500,000; FY 77 - DOLS. 140,000; FY 78 - DOLS. 580,000; FY 79 - DOLS. 480,000. THREE MODIFICATIONS RESULTING FROM THE DAEC REVIEW HAVE BEEN INCORPORATED IN THE PROJECT.

2. THE DAEC WAS CONCERNED THAT THE REJECTS AND CULLS NOT ACCEPTED BY PATSA AND MEJORES ALIMENTOS (MA) COULD BE DUMPED ON THE LOCAL MARKETING SYSTEM CAUSING PRICES TO DROP THUS NEGATIVELY AFFECTING THE INCOME OF OTHER SMALL

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b



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FARMERS GROWING THE SAME CROPS--BOTH THOSE WHO ARE BENEFITTING FROM THE PROJECT AND THOSE WHO ARE NOT. IT WAS AGREED THAT THE PP WOULD BE MODIFIED TO ASSIGN RESPONSIBILITY TO THE TECHNICAL ADVISERS AND PERSONNEL OF THE MINISTRY OF ECONOMY FOR: CONSTANTLY EVALUATING THE EFFECTS OF REJECTS AND CULLS ON THE INTERNAL MARKET; SEEKING WAYS OF UTILIZING PRODUCE NOT MEETING PATSA AND MA STANDARDS IN OTHER MARKET CHANNELS, E.G., FOR JUICES, PUREES, SECTIONS, ANIMAL FEEDS, CRUSHED AND FROZEN FOODS AND OTHER PROCESSED FORMS; AND RECOMMENDING OTHER ACTIONS, E.G., PLOWING THE

CROP UNDER, WHEN NEEDED TO ENSURE MAXIMIZATION OF INCOMES FOR ALL SMALL FARMERS, WHETHER OR NOT THEY ARE PARTICIPATING IN THE PROJECT. THE SCOPE OF WORK FOR THE TECHNICAL ADVISERS SHOULD INCLUDE THE RESPONSIBILITY TO ADVISE THE MINISTRY OF THE ECONOMY AND SMALL FARMERS ON THESE MATTERS.

3. THE DAEC DETERMINED THAT NO ACTIVITIES SHOULD PROCEED UNDER THE FRESH FRUITS AND VEGETABLES DEMONSTRATION PROJECT UNTIL THE PROJECT FEASIBILITY HAS BEEN DEMONSTRATED. CONSEQUENTLY, IT WAS AGREED THAT THE PROAG WILL CALL FOR IMPLEMENTATION OF THE INSTITUTION BUILDING ACTIVITY (310,000 DOLS.), THE TOMATO PROCESSING DEMONSTRATION PROJECT (260,000 DOLS.), AND FEASIBILITY STUDIES AND PRE-PROJECT TA (250,000 DOLS.) FOR THE FRESH FRUITS AND VEGETABLES DEMONSTRATION PROJECT. MISSION MAY INCREASE THE PROAG BY 880,000 DOLS. ONLY AFTER THE FEASIBILITY OF PROCEEDING HAS BEEN REVIEWED AND APPROVED BY THE MISSION.

4. DURING THE DAEC, IT WAS AGREED THAT THE GRANT FUNDS NEEDED TO FINANCE THE PACKING SHED OPERATION WILL BE LOANED TO QUOTE EMPRESA UNQUOTE.

5. THE PP HAS BEEN MODIFIED TO REFLECT THE ABOVE.

6. A CONGRESSIONAL NOTIFICATION (CN) HAS BEEN TRANSMITTED TO CONGRESS. THE 15 DAY WAITING PERIOD EXPIRED ON SEPTEMBER 22. ADVICE OF ALLOTMENT WILL BE POUCHED SHORTLY. THE MISSION IS AUTHORIZED TO NEGOTIATE A PROAG CONSISTENT WITH THIS APPROVAL. OBLIGATIONS IN EXCESS OF 500,000

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• DOLS. SHOULD BE MADE SUBJECT TO AVAILABILITY OF FUNDS.

7. APPROVED BY AA/LA ON . HABYB

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PART I: PROJECT SUMMARY AND RECOMMENDATIONS

B. Project Recommendations

Authorization is recommended for a grant to the Government of Honduras (GOH) for a sum of \$1,700,000 to develop GOH capacity to establish agribusiness export projects which will directly integrate small farmers into the development process.

TOTAL NEW AID OBLIGATION: \$1,700,000

C. Description of the Project

The purpose of the project is to develop a GOH capacity to set in motion agribusiness export projects which will directly integrate small farmers into the development process. End of project status will see the institutionalization of a systems approach to agribusiness development and the expansion of agro-industrial exports whose raw materials are produced by small farmers.

The dual nature of the project purpose reflects a project design which combines institution building with an action program. The activities have been designed in such a way as to be mutually reinforcing and to firmly establish a systems approach to agribusiness development within the GOH.

Institution building activities will increase the capability of the Project Management Group (PMG) of the Directorate General of Foreign Trade of the Ministry of Economy: (1) to collect and disseminate marketing information; (2) to coordinate all public and private participants in the demonstration agribusiness projects; and (3) to institute a New Project Development Process which utilizes the systems approach to project identification and development.

To this end, A.I.D. will finance 36 MM of technical assistance in agribusiness to the PMG as well as an extensive training program and a new project development fund.

Four masters degree programs will be made available to the PMG and other GOH agency personnel in business with specialization in agribusiness marketing. Two marketing internships for PMG personnel will be established with a multinational agribusiness corporation to impart first hand knowledge of marketing in the United States. An in-country seminar will be arranged through the World Trade Institute to explain the various procedures and standards which must be taken into consideration when marketing Honduran agro-industrial products in the United States, e.g., transportation and credit procedures and packaging, labeling and sanitary restrictions. Given the emphasis of this project on the systems approach to agribusiness development and the coordination of all participants in such ventures, a special agribusiness seminar will be developed for the PMG and the other participants in the demonstration projects which will explore the critical factors which have determined the success or failure of previous Honduran and Central American agribusiness projects. In addition, a new project development will be established to finance feasibility studies which cannot be carried out by PMG personnel. End of project status for the institution building component will see the beginning of the implementation of a new agribusiness project which was identified and developed by the PMG and the utilization of inter-agency agreements and evaluation committees to coordinate both the demonstration and new agribusiness projects.

The action program will consist of two demonstration agribusiness projects which represent the major agribusiness export prototypes: processed vegetables and fresh fruits and vegetables. The processed vegetable demonstration project will increase tomato production by small farmers and the export of tomato paste and other tomato based products to the United States. The project involves the following elements:

- increased tomato production by small farmers (primarily Agrarian Reform groups in the Comayagua Valley);
- processing/canning of tomato products by the Mejores Alimentos, S. A. plant; and
- export sales to the U. S. market by Mejores Alimentos.

The PMG will coordinate the inputs of all project participants which include: (a) the National Development Bank (to provide credit); (b) the Ministry of Natural Resources (to provide agricultural extension services); (c) the National Agrarian Reform Institute (to promote participation in tomato production by Agrarian Reform Groups); and (d) the National Investment Corporation (the principal owner of Mejores Alimentos, S. A.). Technical assistance and training will be provided to overcome constraints in production, processing and marketing. A tomato specialist will be contracted for 36 MM to train and supervise MNR extension agents in tomato production. Two tomato production interships will also be made available to the MNR for advanced training. Additional short-term technical assistance will be provided to assure the quality control of tomato processing and to develop tomato marketing guides for the U. S. market.

End of project status for the processed vegetables demonstration project will encompass 625 manzanas of processable tomatoes under cultivation by 292 farm families. An additional 8,500 tons of processed tomato products will be exported to the United States and other markets by mid-1980.

The fresh fruits and vegetables demonstration project involves the following elements:

- complete agronomic, financial and engineering studies for three agricultural regions to determine the feasibility of establishing a fresh produce export industry;
- the selection of the first region for development;
- the production of fresh produce by small farmers (Agrarian Reform groups);
- the construction of a packing shed;
- the selection and packing of fresh produce;
- the transportation and marketing in the United States or Europe; and
- coordination of all aspects of the project by the PMG.

This demonstration project is more complex and requires more preparation than the processed vegetables demonstration project. While the processed vegetable project will expand production for which there is some experience, the fresh fruits and vegetables demonstration project must establish the first steps of project feasibility before expanded crop production and packing operations can be undertaken. After the specific crops, production area and packing shed model are selected, the PMG will coordinate the implementation of the project which will involve the relevant GOH institutions (MNR, BNF, INA) to provide credit, agricultural extension and promotional services and a private U. S. corporation, PATSA (refer to Technical Analysis for a description), to handle the export marketing.

The project will finance a large amount of technical assistance for feasibility studies and in crop production, packing and marketing in addition to training, commodities and other costs. A research organization will be contracted to do feasibility studies on crop production and packing operations during the first year. Three agricultural specialists will be contracted for 72 MM to provide crop specific expertise and to train MNR counterparts. In addition six agricultural internships will be provided for advanced training in selected crops. A packing shed advisor will be contracted for 36 MM to manage the packing operation and train counterparts in its operation. Produce-packing specialists will be brought in to provide short-term assistance. Marketing guides will be developed for approximately three crops. Equipment for the packing plant and the first year's working capital will also be financed.

End of project status will include 180 manzanas of vegetables under cultivation by 204 farm families. An additional 180 tons of fresh produce will be exported.

D. Summary Findings

Based on the analysis contained herein, the Project is deemed technically, financially, socially, and economically sound. Thus, the Mission recommends that a grant be authorized to the Government of Honduras in an amount not to exceed \$1,700,000.

E. Project Issues

The Agro-Industrial Export Promotion PRP was reviewed and approved by the DAEC on November 28, 1975.

The following represents the issues raised by the approval cable (see Annex B).

(A) Small/Farmer Rural Poor Objective - See Part II, B, 3, b of P.P.

(B) Project Design

1. See part III, D 1 and 2

2. See part II B 3 b

3. See part III A 1 b and c, 2 b and c

(C) Replicability

See part III C 3

(D) Technical Feasibility

See III A 1 c, III A 2 a, See II A 2

(E) The major issue to be treated in this part of the paper relates to item "E" of the DAEC cable (STATE 017960) dated January 24, 1976 which discusses the "Export Incentives Law".

It should be emphasized at the outset that the GOH places a high priority on export development and although an export incentives law has not yet been promulgated, the GOH has continued to give priority attention to the enactment of such a law. Cited as one of the principal reasons which has contributed to the delay in the passage of a law, is that there is still insufficient experience and knowledge about the contents which such a document should encompass

The Mission has carefully analyzed the relationship and weighed the importance of such a law with reference to the project objectives. In making this analysis, the Mission gave due consideration to the linkages directly related to the groups participating in this project, i.e., the cooperatives and asentamientos, and, whether or not such a law would be necessary to attain the objectives of this project. While the GOH and the Mission consider the enactment of an export incentives law of prime importance, both do not believe that the passage of such legislation at this time is needed for the success of this project. This is predicated on the premises that the project is demonstrative by design, and that the experiences gained from this project would serve to provide more information about additional aspects of what should be included in the export incentives law. In particular, it would provide the information and incentives needed for the

legislation that would directly link the small farmers to the export process.

In view of the above, the Mission does not consider the passage of the law as a condition precedent to the signing of the ProAg.

The Mission is continuing discussions with the GOH about setting a target date for passage of the law. Present indications are that a law will be promulgated when the export finance and incentives law technical assistance is completed, revision by the GOH (MOE) is finalized, and consensus on the stipulations of the law is reached by the Council of Ministers.

(F) Project Costs

Project has been completely recosted in response to DAEC's concern over technical assistance mix, and now includes extensive GOH funding.

(G) DFCE (DGFT) Capacity

See part II B 3

PART II: PROJECT BACKGROUND AND DETAILED DESCRIPTION

A. Background

1. Agricultural Sector Assessment

The Honduran economy is basically an agricultural one. Some 70 percent of the population is located in rural areas or population clusters of less than 1,000 people. Two-thirds of the population work in agriculture. Most A.I.D. activities in Honduras are aimed at helping the poor majority of the population who dominate the rural scene.

In 1973, USAID/Honduras prepared an assessment of the Agricultural Sector. According to the Assessment, much of which remains valid today, the limited internal demand for agricultural products seriously impedes the growth of the agriculture sector. This finding is confirmed by the results of the second national agriculture sector model derived as part of the agriculture sector analysis. With the highly skewed income distribution, the majority of the population is able to include in their diet only the basic necessities, primarily corn, rice and beans. Yet this majority also earns its income from agricultural products. The paradox in this situation is that the lack of demand for agricultural products limits producer incomes and the lack of incomes is partially the result of insufficient demand. The only apparent escape from this desperate circle is to obtain access to export markets. By increasing the market for agricultural products through exports, more income can be generated domestically. A large part of increased income can be expected to result in increased demand for agricultural products in light of the traditionally high income elasticity of demand for more and better food.

The sensitivity of the agricultural sector to demand constraints was demonstrated in a recent analysis conducted by the Honduran Agricultural Sector Analysis Group. The effect of increased exports was estimated by varying the demand constraints of the linear programming model. By making slightly less conservative estimates of the expected export demand for selected produce in 1977 (primarily citrus and vegetables), the value-added for the agricultural sector was increased 19 percent over estimates based on traditional growth rates for agricultural produce. When these exports were freed of all demand constraints in export markets, an unlikely but interesting possibility, value-added was doubled before resource availabilities constrained production. This result is even higher if more domestic value-added is obtained by increasing local processing.

In addition to the limited internal market for agricultural products, the Assessment also disclosed serious institutional weaknesses and other serious constraints (land tenure and farm size, trained manpower and credit) which bear heavily on the low productivity and income of small farmers and rural laborers.

2. Central American Experience

Recent agricultural sector studies in Central America have confirmed that access to export markets of small farmer produce is feasible and can lead to significant small farmer income improvement. ROCAP and ICAITI evaluations 1/ highlight the feasibility of producing non-traditional crops for export to U.S. markets. The Heller Report 2/ finds that the establishment or expansion of industrial processing activities in the Central American setting promises, with appropriate implementation, to be an apt and effective mechanism for directly benefiting the small farmer and rural poor. Experience under previously financed activities suggests that such projects can generate substantial direct benefits to the small farmer suppliers of raw materials. There are also important potential employment benefits to the landless and unemployed because the cultivation of fruits and vegetables suitable for processing or direct exportation is inherently a labor intensive activity.

3. An Approach to Agro-Industrial Export Promotion Projects

Experience has shown that while the potential development benefits of agro-industrial projects are significant, the successful export of such products is difficult, at best. In some cases limited access to export markets precludes exports, in other cases a market can be found but reliable, continuing sources of agricultural raw materials can not be assured. The success of an export expansion project would, therefore, appear to rest in large measure on the degree to which the project takes into account all important constraints, i.e., the application of a systems or holistic approach to the design and execution of the project.

The systems approach to agro-industry export development refers to an analysis of all the elements involved in the export of a single farm product -- including farm suppliers, farmers, storage operators, processors, transport groups and wholesalers in the foreign market who are involved in a commodity flow from initial domestic inputs to the final consumer abroad. The approach can be utilized to identify and correct deficiencies that exist in the three major elements in the commodity flow: (a) production, (b) processing and (c) marketing.

Without the required inputs for the producer (small farmer) of technical assistance, credit, and firm sales contracts (at attractive prices) the incentive and wherewithal for non-traditional farming do not exist. Thus, at the producer level it is critically important that the following be considered:

1/ La Producción y Exportación de Productos Agrícolas No-Tradicionales en Centraomérica, ICAITI, August 1971 and 1973.

Memoria del Seminario de Exportación de Frutas y Legumbres Frescas, Abril, 1970. (ROCAP-USAID/Honduras).

2/ The Heller Report - Agro-Business Evaluation - Small Farmer Participation, March, 1976.

- evaluate producer capability to cultivate a particular crop and identify the type of technical assistance required.
- assess financing requirements for production credit and identify credit sources.
- identify buyers who will do business on a contract basis at a pre-established price.

The analysis of the processing element should consider production capacities and the ability to meet export standards including:

- economic feasibility, i.e. the relation between crop production in the area and processing capacity of plant, availability of labor, and transportation.
- quality control capabilities.
- knowledge of labeling and packaging requirements.

The marketing analysis should consider the export markets, transportation alternatives, and level of marketing expertise required. These factors should be scrutinized from the following perspectives:

- analysis of market demand trends and seasonalities, competitive profile, product quality standards, and historic pricing trends.
- type and availability of transportation service required and freight costs.
- logical market entry i.e., consumer, institutional or industrial and strategy for implementation.

The General System of Preferences list will be taken into consideration in the investigation of export market opportunities. Selection of commodities included in this list would tend to assist penetration of U.S. markets because they represent a demand not adequately supplied by U.S. producers.

Permeating the analysis of the three basic elements (production, processing and marketing) of the commodity flow is the influence of governmental and private sector support systems. The provision of credit, technical assistance, export licenses and incentives in a timely fashion can make the difference between success and failure of the projects. An assessment must therefore be made of the following items:

- the capability of supporting agencies from both a budgetary and staffing perspective.
- the image and credibility of key public and private sector institutions among small farmers and processors.

--the incentives and disincentives associated with the various policies and operating procedures of key institutions.

This project will attempt to institutionalize a systems approach to agro-industry export development in Honduras.

4. Agro-Industrial Export Promotion in Honduras

This project, which is described in detail in the next section, builds upon recent experience in Central America and upon a previous Export Promotion project in Honduras which developed a market information system, a capacity to participate in trade fairs and a general increase in awareness of the importance of the Honduran export sector. (See annex B of the Agro-Industrial Export Promotion PRP for an in-depth evaluation). It also builds on, is consistent with and to an extent, will be integrated with ongoing and planned A.I.D. programs in the Honduran agricultural sector.

B. Detailed Description

1. Goal

The goal of this project is to increase the incomes of small farmers. This will be achieved by expanding the demand for small farmer production. The project will permit the exportation of non-traditional crops and food products which will allow small farmers to diversify into higher-valued crops, and thereby earn higher incomes.

2. Purpose

The project purpose is to develop a GOH capacity to set in motion agribusiness export projects which will directly integrate small farmers into the development process. End-of-project status will see the institutionalization of a systems approach to agribusiness project development, directed and coordinated by a project management group established within the General Directorate of Foreign Trade (GDFT) of the Ministry of Economy and the expansion of agro-industrial exports whose raw materials are produced by small farmers.

3. Outputs and Inputs

The dual nature of the project purpose reflects a project design which combines institution building with an action program. The activities have been designed in such a way as to be mutually reinforcing and to firmly establish a systems approach to agribusiness development within the GOH.

The institution building activities will: (a) increase the capacity of the Project Management Group (PMG) within the Ministry of Economy to identify and develop agri-business projects; and (b) assist the PMG as required to coordinate all public and private sector participants in agribusiness projects.

The action program will consist of two demonstration agribusiness projects which represent the major agribusiness export prototypes: processed vegetables and fresh fruits and vegetables. The processed vegetable demonstration project will increase tomato production by small farmers and the export of tomato paste and other tomato-based products to the U. S. The fresh fruits and vegetable demonstration project will increase the production and export of fresh produce. While the demonstration projects will contribute directly to increasing small farmer incomes and Honduran exports in the short-run, they will also provide a focus for the institutionalization of the systems approach to agribusiness development by providing a workshop for the implementation of such project. Coordinating mechanisms will be developed, tested and refined.

The demonstration projects have been identified and developed during the PP development process. The processed vegetables project is ready for implementation and will expand production at both the growing and processing levels. Farm groups have been identified and a processing plant is

currently operating with excess capacity. The fresh fruits and vegetables project is more complex and will require additional feasibility studies before crop production and packing plant operations can be expanded significantly. The feasibility studies will be undertaken during the first year of the project. The capacity to identify and set in motion additional agribusiness projects will be developed to consolidate the systems approach and experience gained in the demonstration project activities. The project components will be discussed in the following order:

- a. Institutionalization (training and coordination).
- b. Demonstration projects.
- c. New Project Development Process.

a. Institutionalization (Training and Coordination)

The Project Management Group (PMG) will be the focal point of GOH institutions participating in this project. It will be responsible for the collection and dissemination of marketing information, the coordination of all public and private sector participants in the demonstration agribusiness projects, and the identification and development of future agribusiness projects (discussed in detail below under New Project Development Process). The PMG through the Directorate General of Foreign Trade (DGFT) will be the executing agency for this project and will be in charge of channeling all A.I.D. financed project inputs to the demonstration projects.

The DGFT of the Ministry of Economy is composed of four departments: the Department of Export Promotion; the Department of Export Policy; the Department of Export Information and the Project Management Group. It is responsible for promoting the growth and diversification of Honduran exports. The Project Management Group currently has a staff of five persons (four economists and one secretary). Initially the staff will be increased by two professionals (upon the authorization of this project). One position will be filled by an agricultural economist who will direct PMG activities; the other position will be filled by an agronomist who will enhance the technical capability of the PMG. (For a thorough description of the PMG's and DGFT's structure and functions, the reader is referred to the Implementation Plan).

To increase the capacity of the PMG to carry out its responsibilities, the project will provide long-term technical assistance and extensive training. One long-term advisor with experience in agribusiness will be the counterpart to the head of the PMG and will assist in all aspects of project implementation.

Marketing expertise will be gained through three formal training programs. Four masters degree programs in business with specialization in agribusiness marketing, will be made available to PMG (at least two), and other GOH agency personnel.

One member of the PMG will attend the 9 month USDA agribusiness seminar which begins in October, 1976. This has been financed with project development funds, thus insuring the return of the participant before the implementation stage of the fresh fruits and vegetables demonstration project.

Two marketing internships for PMG personnel will be established with a multinational agribusiness corporation currently operating in both Honduras and the United States to impart first-hand knowledge of marketing in the United States. Finally, an in-country seminar will be arranged through the World Trade Institute to explain the various procedures and standards which must be taken into consideration when marketing Honduran agro-industrial products in the United States (e.g. transportation and credit procedures and packaging, labeling and sanitary restrictions).

Given the emphasis of this project on the systems approach to agribusiness development and the importance of coordination of all participants in such ventures, a special agribusiness seminar will be developed and presented to members of all participating organizations in the demonstration projects soon after project authorization. Basic principles of management by objectives and the systems approach will be imparted in the context of specially tailored agribusiness case studies. Examples of Honduran and other Central American agribusiness projects will be explored to determine the critical factors which caused their success or failure. Recent USAID experience with similar seminars presented by INCAE has been very favorable in terms of their positive impact on project implementation.

While all seminar participants will be sensitized to the importance of coordination, the PMG will be responsible for overall coordination of the demonstration and future agribusiness projects. It is anticipated that the basic coordinating mechanism will be the inter-agency agreement which the GOH has been using with success under the Agricultural Sector Loan. The inter-agency agreement specifies the responsibilities of each public and private institution in detail and is signed by all parties. For example, the processed vegetables demonstration project would require agreement among the PMG (to provide marketing studies, in addition to its coordinating and facilitating functions); the Ministry of Natural Resources (to provide extension agents); the National Development Bank (to make available production and investment credit); and the processing plant (to buy all acceptable produce at a pre-established price).

Once the inter-agency agreement has been signed, an evaluation committee, composed of all parties to the inter-agency agreement and chaired by the PMG, will hold weekly or semi-monthly sessions to resolve implementation problems as they surface. By this means, the PMG will see that implementation is proceeding effectively, i.e., that production credit is being provided at the right time and in the right amount, that technical assistance is available to explain new production procedures at critical times during the crop cycle, that foreign technical assistance for the processing/packing facilities arrives on time and that necessary marketing arrangements have been made.

The formal training devoted to the institutionalization of the systems approach to agribusiness in the PMG will be put to use and strengthened through the PMG's management of the demonstration projects. The demonstration projects provide the opportunity to test and refine marketing and coordination concepts in the real world.

The following represents a cost summary for the Training & Coordination component:

GOH/AID INPUTSCOST SUMMARY (\$000)AID INPUTS

<u>Technical Assistance:</u>		150
Agribusines Advisor	150	
<u>Participant Training:</u>		40
(4) Master's Degree-Agribusines	20	
(2) Marketing Internships	20	
<u>Other Costs:</u>		60
(3) In-country Agribusines Seminars	60	—
SUB-TOTAL		<u>250</u>

GOH INPUTS

<u>Salaries, Adminin. Costs</u> <u>(PMG)</u>		40
Participant Training (salaries, etc.)		75
SUB-TOTAL		<u>115</u>
TOTAL		<u><u>365</u></u>

b. Demonstration Agribusiness Export Projects

Two demonstration projects which represent the major agribusiness export prototypes have been designed as models for agribusiness development: processed vegetables and fresh fruits and vegetables. The projects were also selected on the basis of the following criteria:

- direct and measurable benefits to target groups,
- existing export markets for selected products,
- consistency with GOH Agricultural Sector Plan,
- availability of technical assistance (AID, GOH, Private Sector),
- replicability, and
- consistency with other USAID programs.

Each demonstration project will identify and address deficiencies that exist in the three major elements in the commodity flow: Production, Processing/Packing, Marketing.

The objective of the demonstration projects is three-fold: (1) to provide a learning experience based on the design and implementation of actual commercial enterprises, (2) to demonstrate that small farmers can be integrated successfully into agribusiness projects and (3) to establish a solid basis for Honduran entry into export markets with agro-industrial products.

The product management group (PMG) of the General Directorate of Foreign Trade of the Ministry of Economy will be responsible for the planning, implementation, and evaluation of the demonstration project -- in coordination with participating government agencies such as the Ministry of Natural Resources (MNR), the National Agrarian Institute (INA), the National Development Bank (BNF), and the National Investment Corporation (CONADI).

The demonstration projects will be integrated to an extent with the proposed Small Farmer Technologies project which will make available expertise in farm planning. Agricultural credit to be provided in support of the project will come from funds established in the BNF pursuant to AID Agricultural Sector and Small Farmer Technology programs.

i. Processed Vegetables

This demonstration project involves the following elements:

- tomato production by small farmers (primarily Agrarian Reform groups in the Comayagua Valley);

- processing/canning of tomato products by the Mejores Alimentos, S.A. plant (MA).
- export sales to the U.S. institutional market by Mejores Alimentos.

The following GOH institutions will have an active role in the sub-project :

- BNF: to provide production credit
- MNR: to provide agricultural extension services (5 full time agronomists)
- INA: to promote participation in tomato production by Agrarian Reform groups.
- CONADI: principal owner of Mejores Alimentos, S.A.
- PMG: to coordinate all aspects of the project (production, packing, marketing).

This demonstration project will focus on the production, processing, and marketing of tomato products in the U.S. institutional and consumer markets. Entailed in this project's design are the following factors. The production of tomatoes within reasonable yield parameters, using contract farming procedures; the processing of a product which meets U.S. health and quality standards; and the preparation of formal marketing plans in order to forecast anticipated export sales and to insure equitable prices for small farmers.

Phase I - The following elements will be included in the processed vegetable demonstration project in its first phase:

- Small farmer tomato production
- Increased production of tomato paste
- Marketing of tomato paste in U.S. institutional market.
- Test production and marketing of whole peeled tomatoes.

For the 1976-77 processing season Mejores Alimentos has estimated that its raw material requirements will be approximately 20,000 tons of tomato. Based on average yields of 20 tons/manzana , a minimum of 1,000 manzanas must be available for tomato cultivation. Mejores Alimentos' plantations will cultivate 675 mzs. in 1976-77, and the remaining 325 manzanas will be cultivated by Agrarian Reform groups in the Comayagua Valley. Ten Agrarian Reform groups will be involved in the tomato project in the first phase. These ten groups currently have under cultivation (primarily in corn and tomatoes) approximately 2,200 mzs. which are farmed by 292 families.

Although the selected groups have experience in tomato farming, they have little experience with the Mejores Alimentos selected variety (Italian Plum). In order to effectively carry out this program, foreign technicians will be provided through the PMG to work directly with the project and to devise training programs for Natural Resources extension personnel.

Technicians will be recruited, on both a long term and a short term basis, who have extensive training and experience in the areas of entomology, plant pathology, soil fertilization and nutrition, herbicide utilization, and irrigation techniques. Farm planning will be integrated with the provision of specialized technical assistance. In addition, two tomato production internships will be provided to MNR extension agents for advanced training.

Contractual agreements will be utilized by Mejores Alimentos as the primary incentive to increase small farmer tomato production. Prices have been estimated at \$50/ton or approximately \$1,000 per manzana (average yield of 20 tons/manzana). This price level will provide an average of \$200/mz. gross profit to the farmer which compares to an average of \$35/mz and \$47/mz for corn and beans (See economic analysis). Labor will constitute a significant part of production costs so that wage income will also increase for the farm group members.

Production credit and investment credit, as appropriate, will be disbursed from the BNF to the Agrarian Reform groups in accordance with the policies and procedures of the Bank's cooperative lending operations.

Mejores Alimentos will utilize the tomatoes for the production of tomato paste and whole peeled tomatoes. While tomato paste production will simply be increased as a result of new supply sources, whole peeled tomatoes represent a new departure for Mejores Alimentos. Accordingly, during the start-up of tomato processing, quality control technical assistance will be made available on a short-term basis to Mejores Alimentos through World Trade Institute (WTI) consultants.

WTI will also be responsible for the marketing plans - which have been developed as "how to do" guides, providing direction and instruction in every phase of the marketing flow (from production to final sale). The final sale of the Mejores Alimentos tomato products will be conducted in the New York area. Short term (1-2 weeks) advisors will be made available during this period in such fields as quality control, transportation and packaging.

Phase II -The second phase of the processed food demonstration project will involve the following elements:

- Increase in tomato acreage
- Normal production of tomato paste
- Expanded production of whole peeled tomatoes

- Test marketing of pizza sauce
- Expansion of sales areas in U.S.

Phase II will be the second year of experience for all participants and it is expected that the following patterns will have been established.

- Production forecasts/requirements developed jointly by MNR and Mejores Alimentos.
- Production credit available to some farmers on a priority basis from the BNF, based on previous years loan repayment trends.
- Progress in agronomic problem identification and resolution by project financed technical assistance and MNR outreach personnel.
- Sales forecasting information being developed by PMG for export market.
- Coordinating mechanisms in use.

The tomato cultivation area will be increased by 500 manzanas. This additional acreage will be available from both Mejores Alimentos plantations and the Agrarian Reform groups in the Comayaqua Valley. The expanded cultivation will be achieved either by internal expansion from the original groups, participation by new groups or a combination of both. It is anticipated that during the last two years of the sub-project the small farmers will readily augment their participation in the tomato program as a result of profitable harvest prices, demonstrated value of technical assistance, and credit availability.

Mejores Alimentos will have gained a thorough experience in tomato processing for the U.S. market. Thus, the plant will be capable of increasing its processing tonnage, given the anticipated increase in raw materials supply. This additional production will be apportioned among three products: paste, whole peeled tomatoes, and pizza sauce.

Production of Tomato Paste and whole peeled tomatoes will have been established during Phase II. while pizza sauce will be a Phase II test concept. Approximately 2,000 tons (98,000 cases) of paste, 1,000 tons (50,000 cases) of whole peeled tomatoes, and 10 tons (500 cases) of pizza sauce will be sold. The customer base established in the original two products will provide the entreé for pizza sauce.

Phase II will also be the period for expansion of market coverage in the U.S. Based on 1976-77 experience, PMG and Mejores Alimentos will cover at minimum two more markets in the eastern U.S. It is anticipated that the new market trials will be coordinated by the PMG, given its two

years of experience in the project. Each selected market will be allocated proportionate quantities of product, if possible.

Phase III - The third phase of the processed foods demonstration project will involve the following elements:

- Improvement in tomato yields/acre.
- Normal production of tomato paste and whole peeled tomatoes.
- Test marketing of consumer pack via private labeling.
- Expanded production of pizza sauce.
- Sales negotiations in Honduras.

The final stage of this sub-project will emphasize the marketing aspects that were introduced and tested during the first 2 years. With the stabilization of the supply situation at 1,500 manzanas the plant will have a solid base from which to fully implement the export marketing strategy. This strategy will be directed at the following objectives:

- Consolidation of the institutional sales effort with established customers.
- Expansion of sales of the new product (pizza sauce)
- Test marketing of consumer products (private label)
- Host sales convention in Honduras for U.S. institutional and private label distributors.

During Phase III, 4,000 tons (198,000 cases) of paste and whole peeled tomatoes will be sold in the U.S. institutional market. At this sales level Mejores Alimentos will be able to service all established customers in two or three major markets, and also expand the pizza sauce business. Based on the assumption that the institutional business will be established by Phase III, the new thrust for Mejores Alimentos will be in the consumer area. The PMG and Mejores Alimentos will negotiate a contract with one or two American supermarket chains for trial shipments of tomato paste and whole peeled tomatoes. Initially, the test quantities will be limited to 5-10 tons or 600-1,200 cases.

By the completion of the sub-project, the Agrarian Reform farmer participation will represent (40%) of Mejores Alimentos raw materials supply. Given this situation, it is anticipated that prices received by the farmers will reflect the improved sales trends of the Mejores Alimentos plant.

At the end of Phase III, PMG and Mejores Alimentos will have gained 4 years of experience (including pre-project activities) in the export

business. As a means of evaluating their marketing success, beyond the test of sales data, a sales convention may be held in Honduras. This event would serve a two-fold purpose. It is anticipated that new business would be generated by such a convention and that this event would signal the formal recognition of the success of Mejores Alimentos and Honduras in the export business.

The following represents a cost summary for this demonstration project:

GOH/AID INPUTS: Processed Vegetables
Cost Summary (\$000)

AID INPUTS

<u>Technical Assistance:</u>	\$ 215
Tomato Agricultural Specialist (36 mm)	\$ 150
Tomato Processing/Canning Expert (3 mm)	\$ 15
Marketing Guides (2)	\$ 50
<u>Participant Training:</u>	\$ 20
Tomato Agricultural Internships (2) (6 months maximum)	\$ 20
Sub-Total	\$ 235

GOH INPUTS

Salaries, Administrative Costs - (MNR, INA, PMG)	150
Production Credit (BNF)	455
Harvest Purchase (CONADI)	1,575
Participant Training (MNR) (Salaries)	10
Sub-Total	\$2,190
Total	\$2,425

ii. Fresh Fruits and Vegetables

This demonstration project consists of the following elements:

- feasibility studies at both crop production and packing plant levels;
- development of the ownership/operation model for the full-scale packing plant;
- production of fresh produce by small farmers (Agrarian Reform Groups);
- selection and packing of fresh produce;
- transportation and marketing in US or Europe; and
- coordination of all aspects of project by PMG (feasibility studies, production, packing and marketing).

Among all agribusiness enterprises, the marketing of fresh produce carries the highest risk along with perhaps the greatest profitability potential. The success of this demonstration project is contingent upon three critical factors:

- the ability of small farmers to produce exportable produce;
- the packing company's ability to properly select and pack the produce; and
- a low cost, marketing/transportation network.

Through the careful selection of crops, the use of required technical assistance including farm plans, and the implementation of proven marketing strategies, risks to the small farmers will be minimized to the extent possible.

Phase I: Feasibility Studies

The first phase of the fresh fruits and vegetables demonstration project will be devoted to feasibility studies at the crop production and packing plant levels. Marketing feasibility studies have already been done (see technical analysis) and have resulted in the selection of seven crops (okra, green beans, tomatoes, cucumbers, summer squash, asparagus and strawberries) which merit further analysis. A preliminary agronomic study is already underway or completed in five agricultural areas (Comayagua, Quimistan, La Florida, La Esperanza and Siguatepeque). Full scale feasibility studies will be carried out in three areas selected on the basis of: (1) the preliminary agronomic study; (2) the availability of irrigation; (3) the availability of low cost transportation; (4) the presence of small farms, and (5) a large potential expansion area.

The three full-scale studies will determine the feasibility of establishing a fresh produce export industry and will include the following subjects: (see Annex G for detailed terms of reference)

1. overall financial feasibility;
2. socio-economic baseline data and projections of project impact on target group;
3. water management requirements;
4. horticultural data and first generation technological packages based on trial plantings;
5. economic feasibility at farm level; and
6. engineering and financial feasibility of packing facilities.

These studies will provide both the basis for the implementation stage of this demonstration project and the development of future agribusiness projects.

Phase II- The second phase of the fresh fruits and vegetables demonstration project will include the following:

- selection of the production area,
- determination of the ownership-operation model and final design of the packing facility,
- field experiments of the best performing crops,
- construction of an interim packing shed, and
- test marketing in the U.S.

During Phase II the best performing crops will be cultivated on experimental plots of 3-5 manzanas per crop using agrarian reform groups in the selected growing areas. All harvested produce will be purchased from the small farmers by the packing plant at fair market price, with exportable grades receiving a premium price. For a thorough description of the experimental phase the reader is referred to the Technical Analysis Section III A. During this phase maximum yields of 8,500-15,000 pound per crop are expected. Therefore, for this initial harvest, only an interim packing operation will be required. Essentially, this will be a field operation involving extensive hand labor in the sorting, washing, icing, packing and loading of the produce. The ownership/operation model and final design of the full-scale packing facility will also be determined at this time.

While the long term management/ownership of the packing facility (the Empresa) is expected to be vested in a cooperative of producers, the mech-

anism for financing start-up costs has not yet been determined. Several alternatives will be explored; (1) the establishment of a legal corporation by CONADI which would manage and finance the operation for the first four years and gradually transfer ownership to the producers' cooperative; (2) the establishment of a legal corporation by the producers' cooperative itself with financing from the BNF; (3) the establishment of a legal corporation by the MNR; or (4) some other combination.

The marketing of the harvest will be handled by PATSA (refer to Technical Analysis for description of PATSA). All exportable grade produce will be shipped to the U.S. and the balance sold in the domestic market.

Phase III - The third phase of the fresh fruits and vegetables demonstration project will include the following:

- expansion of acreage for selected crops (assume 3 crops);
- completion of packing plant construction and installation of equipment;
- shipment of produce to U.S.

If the Comayaqua Valley is selected, MNR has chosen three Agrarian Reform groups to expand production. Structurally, these groups are comprised of 204 families and they cultivate approximately 800 manzanas. For a detailed description of this potential target group the reader is referred to the Social Analysis Section. It should be noted here that the MNR chose these groups because of the availability of irrigated land.

Contractual agreements will be arranged between the agrarian reform farm and the packing company (henceforth referred to as the Empresa) at least six weeks before the planting season. Prices will be based on historical price trends and anticipated future market behavior in the U.S. The actual producer contracts will specify the following conditions:

- pricing structure by produce grade or class,
- area for cultivation (number manzanas),
- agreement to sell all exportable produce to the packing plant,
- quality guidelines for exportable produce,
- required technological package and credit obligations.

Critical GOH inputs during the production stage will be provided by the MNR extension agents who will be directed and trained by the project-supplied experts in each crop. Farm planning technical assistance will be integrated with the specialized assistance. The BNF will provide production and investment credit as appropriate. In addition, six internships will be provided to MNR agronomists for specialized crop production training.

During this phase 30-50 manzanas per crop will be cultivated with an expected average yield of 400,000 lbs. per crop. Upon harvesting, the crops will be put through the newly constructed packing system to determine the quality of the produce, and to evaluate the adequacy of the packing procedures in the Honduran environment.

A.I.D.'s participation in the organization of the packing plant will be the financing of the following:

- purchase and installation of packing equipment,
- provision of fixed operating expenses during first year of operation,
- provision of technical assistance for packing plant management (3 years).

The final step in the production-harvest packing cycle will be transporting and marketing of the produce. As a means of insuring the marketing aspect of the project, PATSA will participate in this last segment of the commodity flow by purchasing produce packed by the Empresa. PATSA was selected for this project because of its successful venture in the Choluteca melon project (see Technical Analysis) and its parent firm's long-standing experience in the transportation/marketing of fresh produce.

Phase IV - The fourth phase of the fresh fruits and vegetables demonstration project involves the following:

- increase in acreage for all three crops (60-100 m² per crop),
- expanded tonnage for export (800,000 lbs/crop),

The last phase of the demonstration project will essentially be a consolidation of the previous years' efforts. Problems in small farmer adjustment to the increased acreage should be minimal due to the experience and close working relationship that the agrarian reform groups will have had with the field extension personnel during the first two years.

The following represents a cost summary for this demonstration project:

GOH/AID INPUTS
FRESH FRUITS AND VEGETABLES DEMONSTRATION PROJECT
COST SUMMARY (\$ 000)

AID Inputs

<u>Technical Assistance:</u>	\$ 850
Feasibility Studies	\$ 200
Agricultural Research Services (24 mm)	100
Agricultural Specialists (3) (24 mm each)	300

Packing Plant Advisor (36 mm)	\$ 150		
Marketing Guides (7)	100		
<u>Participant Training:</u>			\$ 60
Agricultural Internships (6) (6 mos. maximum)	60		
<u>Commodities:</u>			195
Interim Packing Shed	15		
Equipment & Machinery	100		
Fixed Operating Expenses	80		
Sub-Total			<u>\$ 1,105</u>
<u>GOH Inputs</u>			
Salaries, Admin. Costs (MNR, INA, PMG)			170
Production Credit (BNF)			220
Harvest Purchase (GOH)			675
Participant Training (MNR) (salaries)			30
Commodities			<u>140</u>
	AID/GOH	Sub-Total	<u>\$1,235</u>
		Total	2,340

c. New Product Development Process

The institutionalization of a systems approach to the identification and development of future agribusiness export projects will take place within the Project Management Group, and through the development of the capabilities of other institutions.

The capacity of the PMG to replicate the demonstration projects, i.e., to identify, develop and implement, or promote new agribusiness projects, will depend upon the extent to which a new product development process is integrated into the operations of the PMG. This integration will be accomplished through training and technical assistance (discussed above in Training Coordination) and the experience gained during the development of the fresh fruits and vegetables demonstration project.

To initiate the new project development process, the PMG will analyze the data generated by the feasibility studies carried out under the fresh fruits and vegetables demonstration project and, if necessary, compile additional information to complement the original studies. A special fund of \$120,000 will be provided for this purpose in the third year of the project. AID will provide 50% of the funds (\$60,000) and the GOH the other 50%. The following and subsequent years will see all of the costs borne by the GOH. This information will provide a perspective into the following areas:

- investigation of specific export market opportunities;
- evaluation of Honduran capability;
- elaboration of cost/price analysis and capital investment requirements via feasibility studies;
- identification of project participants (public and private sector) and evaluation of their capabilities;
- identification of appropriate technical assistance sources (production-processing-marketing).

The next step will be the preparation of basic project identification reports (BPI) which will clearly define the opportunities, participants, and suggested implementation plans. These reports will be then utilized for formal project presentations to concerned/appropriate parties.

The new project identification process can be graphically demonstrated:

STAGE 1. Analysis of Background Information

In reference to the opportunity in question, the following information should be completed and analyzed.

1) Analysis of Relevant Export Market Data:

- Market Profile, e.g. products, varieties, grades, size of market (domestic and foreign) per capita consumption trends, seasonality of demand;
- Competitive Evaluation, ie. domestic supply, foreign competition, market, shares;
- Critical Characteristics, e.g. Mediterranean Fruit Fly quarantine, specific coloration/size requirements, specialized distributors, etc.

2) Honduran Strawberry Production Capability: (Small Farmers)

- Producing Regions-Description, e.g. climatic situation, soil fertility, irrigation constraints, access roads;
- Technical Aspects of Cultivation, e.g. agronomic, mechanization, expected yields and harvest periods;
- Costs of Production;
- Reliability of Supply (market interaction).

3) Cost/Price Analysis, and Capital Investment Requirements:

- Preliminary analysis based on in-country examples or similar areas in Central America, compared to benchmark U.S. costs;
- Formal feasibility study that would embark on the areas of: capital investment requirements, costing profile (plant), expected profitabilities and cash flow (pro-forma financial projections), and environmental considerations;
- Anticipated contractual agreements and impact on plant operations.

4) Proposed Project Participants:

Small Farmers-Producers

- Socio-Economic analysis, e.g. identification of groups, perceived benefits of project, motivation, traditional constraints;

- Access to credit sources;
- Interface with cooperating agencies, i.e. MNR, INA, BNF, etc.

Productos Congelados, S. A.

- Current financial status and five year projections/outlook;
- Technological capability and adaptation required;
- Capacity-utilization levels;
- Management, strengths and weaknesses.

GOH Participants (sample list):

- BNF (Evaluate capacity to provide assistance to the client group);
- MNR (Required assistance, staffing requirements).

5) Required Technical Assistance:

Production : SIATSA-MNR (R&D Capability)
 MNR (extension service)
 BNF (credit source)
 Productos Congelados (Possible credit and seed source).

Processing : NONE
 Experienced personnel in fruit freezing operations.

Marketing : PMG-market studies (sub-contracted), and establishment of sales contacts in U. S. or Europe, and formulation marketing plans. CCT (local shipping company).

In each element of Stage 1, the PMG will have the option to sub-contract with the above mentioned TA organizations or others such as WTI, if required.

STAGES 2/3 BPI Reports and Presentation

Utilizing as a base the information and analyses from Stage 1, a formal report will be prepared for internal evaluation (MOE) and other involved GOH institutions' critique. Once cleared through all proper channels, the report will be formally presented to the participating groups, including both producers and processors.

Also as mentioned in Stage 1, the full feasibility study could be initiated at this stage of project development, depending upon knowledge of production-markets requirements, and willingness of processor to assure equitable prices to producers. Obviously, at this point the project could be

rejected by either participating group-based upon available information.

STAGE 4. Action

If the project reaches this stage of development, the PMG will apply its knowledge and experience gained through training, technical assistance and the demonstration projects to the implementation of a new agribusiness project. This of course, will also indicate achievement of end of project status for the institution building activities of the Agro-Industrial Export Development Project.

PART III. PROJECT ANALYSIS

A. Technical Analysis

1. Processed Vegetables

a. Agribusiness Model - Mejores Alimentos, S.A. The agribusiness model which was utilized as an example of a food processing company and which will play an instrumental role in one demonstration project is the Mejores Alimentos company, which is located in the Comayagua Valley. Mejores Alimentos processes and sells the following products: tomato paste, ketchup, tomato sauces, citrus juices and tropical nectars. Annual sales are \$2.3 million, with a capital investment of \$1.8 million. For a discussion of Mejores Alimentos' role the reader is referred to the Economic Analysis Section.

History

Mejores Alimentos was incorporated in 1971 by a Honduran entrepreneur. Equipment was purchased and installed in a plant in Comayagua. In the same year, Mejores Alimentos incorporated a farming subsidiary, Agrícola de Honduras in the Comayagua Valley, which is Honduras' main tomato producing region. Agrícola's role was to supply Mejores Alimentos' raw product needs through two channels; first on its own landholdings of 600 manzanas, and second by contracting with small independent producers in the surrounding area. However, the supply situation has never been adequate, due in large part to plant-farmer misunderstanding and distrust. Still Mejores Alimentos sought entry into regional markets through arrangements with a distribution company which had over 10,000 retail accounts in Central America.

Mejores Alimentos tomato processing operation consists of three main sections: pulping, concentration, and canning. The entire tomato system has a capacity of absorbing about 12 metric tons per hour. In the peak season (January to April) the plant operates 20 hours a day, 6 days a week. Thus, while the plant is in operation, a steady supply of tomatoes is needed to ensure efficient production.

The production of non-tomato products involves washing, hand-selecting and squeezing. The tropical juices are collected, centrifuged, pasteurized, and canned. Mejores Alimentos' supply of citrus juices is imported from the U.S. or Argentina and is also processed in a similar fashion. The juice operation primarily was used to span the gap between tomato production seasons and to expand the company's product line.

Mejores Alimentos packs three product lines for the Central America consumer market and two lines for the industrial export market. Consumer tomato items account for 46 percent of sales; industrial tomato paste, 16 percent; deciduous fruit nectars, 26 percent; and tropical fruit nectars, 12 percent. Demand for the consumer product lines, under the "Naturas" label exists in Guatemala, Honduras, and Nicaragua. Except for bottled ketchup, all products were sold in small 5 1/2 oz. sizes, so that the low unit prices put these items within reach of Central America's lower income groups.

The Central American market for tomato products, **about** \$20 million annually, is highly competitive. Also, although the entire market

can absorb 25,000 metric tons, the five existing tomato processors in Central America have a processing capacity of about 50,000 metric tons. Nevertheless tomato products have been responsible for nearly all of such profits as have been earned. Thus, in spite of the tomato products profitability the competitive realities have forced Mejores Alimentos' management to look outside of Central America for possible marketing opportunities.

Continued Operating Problems

Mejores Alimentos has been financially strained since its inception. Start-up problems at Agrícola and contracting difficulties with independent producers had caused raw materials shortages which prevented Mejores Alimentos from operating at profitable volume levels during its first three years. Furthermore, Mejores Alimentos efforts to encourage tomato production among small farmers had not been successful. The few contracts that were secured did not work as anticipated. Mejores Alimentos had to compete with local fresh markets for the farmer's production.

During the summer months, fresh market prices were about 25 percent below those offered by Mejores Alimentos and contract farmers brought their produce to the plant. However, in the spring, before tomatoes became abundant the fresh market price was equivalent to about 50 percent more than that offered by Mejores Alimentos, so farmers preferred to deliver to the fresh market. Complicating the situation was the unfamiliarity of most contract producers with credit. The loans extended by Mejores Alimentos for various inputs were often spent for other purposes, and thus were unsuccessful in causing increased yields. The contract price offered by Mejores Alimentos was only profitable to the farmer at yield levels significantly higher than those he typically achieved. Most contract producers did not seem to grasp the relationship between the Mejores Alimentos' announced buying price, increased yields, and the need to use modern production methods to obtain them.

Re-Organization

Inability to develop more fully its supply sources created additional problems for Mejores Alimentos. The optimistic projections for 1975 were not achieved, and Mejores Alimentos was once again in financial difficulty. By the end of July 1975, Mejores Alimentos' accumulated loss approached \$900,000.

Threatened with bankruptcy, Mejores Alimentos had to be re-organized. CONADI contributed \$750,000 in return for a controlling (50%) interest in Mejores Alimentos. CABEI contributed \$75,000 for a 5 percent interest, and the original owner's interest was recapitalized at \$675,000 and 45 percent of the equity. Re-organization had to be accomplished rapidly during September and October of 1975 so that Agrícola and independent tomato producers could be assured of Mejores Alimentos' continued existence as a market for their tomatoes.

Both the public and private sector in Honduras agreed that Mejores Alimentos should not fall into bankruptcy. Their reasons were based on the following: Mejores Alimentos' importance as an exporter and

producer of import-substitutable products; the economic impact of the firm in the depressed Comayagua Valley; existence of all the individual requirements for a profitable business; and the company's efforts in attempting to draw small producers into increased commercial food production.

b. Technical Synopsis and Costing of Inputs. This demonstration project involves the production, processing/canning and export sales of tomato products. Each of the above components in the process will receive the required technical assistance inputs in order to assure successful project implementation. In addition to the direct technical inputs, participant training programs will be utilized to complement the in-service training of the Natural Resources extension agents. Illustrative three year flow of activities is outlined in Annex I, this chart provides a concise view of the planned demonstration project implementation.

i) Pre-Project Phase. During the pre-project period several steps have been taken to build a base for the planned export program of the Ministry of Economy. Under the current GDFT/USAID Export Promotion Program, financing (\$60,000) was made available to contract with the World Trade Institute to provide the following:

- export market studies for fruit and vegetables (fresh and processed);
- a survey of Honduran food processing plants (feasibility and capability for export development);
- short-term training in export promotion for GDFT personnel.

In January 1976, Mejores Alimentos announced its participation in the Comayagua tomato expansion plan. This program was designed by the GOH in order to increase the production of tomatoes for processing and the domestic market. Through the joint participation of MNR, INA, BNF, and Mejores Alimentos, it was anticipated that the Agrarian Reform farms in the Comayagua Valley would be the direct beneficiaries of the program. Given this new development the Ministry of Economy proposed a marketing plan that would involve the company's major product line, i.e., tomato products. The Ministry of Economy proposal was based on the following objectives:

- the desire to increase Honduran exports in non-traditional product areas;
- the desire to provide small farmers with incentives to produce high value/labor intensive crops.

Thus the Comayagua Valley combination of tomato producers (Agrarian Reform farmers) and a tomato processor (Mejores Alimentos) was consistent with the MOE's objectives. Mejores Alimentos' management quickly agreed to the proposal given the fact that the plant was continually facing supply shortages; and also because of a desire to enter potentially lucrative export markets. Marketing plans were prepared and Mejores Alimentos was provided with technical assistance in the production of tomato paste for the U.S. market. General consensus was that an adequate market penetration could be achieved with minimal trial shipments to the institutional market.

The World Trade Institute identified the U.S. institutional market as one which provides direct access for Honduran products. This

decision was based on detailed market analyses which were the foundation for marketing guides on tomato products. The marketing guides cover the following information in detail for tomato paste and whole peeled tomatoes (See Annex H for detailed table of contents):

- Product Development (quality and standards)
- Package and Label Development
- Trial/Demonstration Project (Product, Label, Package)
- Production Guidelines (Q.C. Procedures, Production Procedures)
- Sampling Procedures (U.S. and Honduran)
- Distribution Strategies
- Import Procedures

To insure that an advantageous linkage occurs between Honduras and the institutional market, WTI will provide exposure to various institutional distributors and assistance in all sales negotiations in New York. It is expected that representatives from Mejores Alimentos and the PMG will be involved in the final pricing discussions during September 1976 in New York.

ii) Technical Objectives and Strategies

Production - Given that the Mejores Alimentos plant is a reliable purchaser of processing grade tomatoes, the key element becomes the efficient production of tomatoes by the target group, i.e., small farmers. Historically, the Comayagua Valley farmers (large and small) have cultivated tomatoes, either fresh or processing grades, for domestic consumption, and the basic cultivation techniques are understood. Traditionally, this production has not been horticulturally sound due to the lack of market requirements (coloration, size, etc.) and technical assistance. Thus, results in terms of yields and product quality are well below comparable climatological and socioeconomic areas (e.g. in Mexico and Dominican Republic). Therefore, the objective is to achieve the desired horticultural results by persuading small farmers to adopt modern cultivation techniques.

The technical strategy that will be followed will be based on providing agriculture extension services to small farmers through the technical team comprised of four Natural Resources agronomists and a long-term advisor financed by AID.

The above agricultural outreach will be accomplished through the following methods:

- * - Complete agronomic assessment of involved producer groups landholdings (focus on soil nutrition/irrigation availability)
- Demonstration plantings at selected sites (in-field seminars at each stage of cultivation)

* Soil analyses can be made at Mejores Alimentos quality control laboratory which is equipped with an atomic absorption spectrophotometry unit (1 of 3 in Honduras).

- Design of recommended technological package (regional agricultural inputs);
- Formulation of required materials lists (for Natural Resources and National Development Bank usage);
- Training programs for agricultural machinery utilization;
- Training programs for irrigation utilization;
- Overall problem solving via frequent field visits.

Additional assistance will be available to the Comayagua tomato producers through the Small Farmer Technologies project. One of the outputs of the above project will be the development of effective farm systems planning. Therefore, technical assistance for farm planning systems (including the design of relevant technological packages) will also be focused on in this project through the Small Farmer Technology program.

The success of the technical team, as measured by improved small farmer production, will depend to a large extent on the inputs of the Natural Resources team members. Therefore, to improve the MNR staff capabilities, the advisor will emphasize in-service training in agricultural management throughout the program period. This training system will only facilitate the development of the MNR staff, but will enhance their role and credibility in the eyes of their constituency, the small farmers.

Included in this sub-project are interrelated training activities designed to strengthen institutional capabilities in tomato production. Two senior agronomists (field staff) will participate in specialized six-month internships which are described in the following Technical Assistance summary. This training program will commence as of January 1977.

Processing

As was documented in the Mejores Alimentos case study, the plant has the processing equipment, financial base, and management expertise required to process tomato products for the export market. USAID's input will be the continuation of short term technical assistance, in the areas of product formulation and quality control, during the start-up of each new product, i.e., whole peeled tomatoes and pizza sauce. Based upon client satisfaction (Mejores Alimentos/GDFT) the assistance will continue to be provided by WTI.

From a quality control perspective, the whole peeled product will be packed at the peak of the Jan.-April harvest season (Feb.), when the best quality product is available, while the paste will not be packed until March. The above production scheduling will also permit the plant to continue operations on its regular machinery without significant down-time for cleanouts, canning line adjustments, etc.

Pizza sauce was selected as the third product for the following reasons. The disposal of the residue from the processing of the principal tomato products (ketchup, paste, and sauce) is a major problem for Mejores Alimentos. However, pizza sauce can be produced, through custom-made

recipes, from this waste product. The second benefit that is gained by producing pizza sauce is profitability. There is a definite market for this product, in both the institutional and industrial market segments, and the processing cost is minimal, or better yet a cost savings.

Marketing

The marketing strategy is basic and straightforward: the Honduran processor/exporter should try to maximize control over exports by exerting an influence over as many functions of exporting, up to and including the satisfaction of the end user. This direct selling method can be best implemented on a least cost basis in the institutional market.

Prices for the new pack of U.S. domestic tomato products are set during July (after the entrance of the California pack, which account for 85 percent of all processed tomatoes). Therefore, the Mejores Alimentos products should enter the market approximately one to two months after the new prices are set, in order for the prices to reach a point of equilibrium between the buyer and seller, and old pack versus new pack. During the two months time period, prices will be monitored on a weekly basis in order to determine the competitive status of domestic and imported products. Because of the critical role the California pack plays in tomato products pricing, the Mejores Alimentos market entry during all phases of the program will be in August or September.

Mejores Alimentos and the PMG will enter the U.S. institutional market through the implementation of WTI's recommended marketing plan, which was especially designed for Mejores Alimentos processing capability. These plans or marketing guides will be the working document for the elaboration of annual marketing plans. Furthermore, the PMG will have access to basic marketing information, prepared by WTI, for long range marketing planning. For example, as part of the current contract WTI has furnished the PMG with export potential information on processed green beans and peas.

iii) Costing of Technical Inputs. In each phase of the processed vegetable demonstration project, USAID will provide the required inputs for technical assistance. Overall \$235,000 will be allocated in the following areas:

Technical Assistance and Training

<u>PRODUCTION</u>	<u>INPUT TYPE</u>	<u>COST(\$000)</u>	<u>OBJECTIVES/STRATEGIES</u>
TA (1.t.)	Tomato Ag. Specialist (36 mm)	\$150	<ol style="list-style-type: none"> 1. Extensive field experience and entomological background. Also, soil/fertilizer research capability would be desirable. 2. Would provide direction/management of crop production and in-service training to Natural Resources extension agents.

<u>PRODUCTION</u>	<u>INPUT TYPE</u>	<u>COST</u>	<u>OBJECTIVES/STRATEGIES</u>
Participant Training	Agricultural Internships (2) (6 mos. minimum)	\$ 20	<ol style="list-style-type: none"> 1. Theoretical and practical experiences in tomato production (both processing and table varieties) through especially designed internships at universities such as: Univ. of California (Davis), Univ. of Florida (Gainesville), LSU, Texas A & M, Inst. Tecnológico de Monterrey. 2. Candidates selected from Natural Resources personnel, with minimum educational requirement of agronomist diploma.
<u>PROCESSING</u>			
TA (s.t.)	Tomato processing/canning expert (3 mm)	\$ 15	<ol style="list-style-type: none"> 1. Food technologist or production manager with extensive experience in the tomato processing business. 2. Provide direction and management of canning and quality control procedures for new product lines.
<u>MARKETING</u>			
TA (s.t.)	Marketing guides (3)	\$ 50	<ol style="list-style-type: none"> 1. Basic and detailed marketing information guides for the processing and marketing of pizza sauce and green beans or peas. Source: World Trade Institute. 2. Assistance in U.S. with initial sales contracts, customs, procedures, and other common practices.
			<u>TOTAL: \$235</u>

c. Appropriateness of Technology (Production & Processing)

Production

The agricultural profile of the Comayagua Valley has been identified as being excellent for tomato horticulture. Extensive investigations have been made in the region by a three-man team from Purdue University's Department of Horticulture. This short term technical assistance (started in March 1975), is an integral part of Mejores Alimentos' crop improvement and diversification program for its plantations. According to Purdue reports

the development prospects for the valley and therefore Mejores Alimentos are excellent. Thus, in a succinct fashion the following summary is provided as evidence that the technological implications of the demonstration project are appropriate ^{3/} (this information constitutes a summary of three extensive reports).

Mejores Alimentos Long Range Plans

"Mejores Alimentos in the long run should consider increasing its acreage gradually to a level which will permit maximum utilization of factory capacity. Working with independent producers should be initiated immediately to provide an avenue to achieve greater production for factory use. In the long run, a large proportion of independently produced fruit will be essential to a normal factory production. Further, working with independent producers (both large and small) is good business and socially constructive. Production increases in the immediate future can be brought about by improvements in yield per manzana. Improvement in tomato management is a never ending process. Every effort must be expanded to develop more and more tomato growing expertise, and to educate the labor force to achieve the best possible growing conditions and requirements. Research should be continued to provide a base for continued improvement and additional crops should be considered to allow for diversification of factory operations. Top management should expect favorable results, given that a good amount of progress has been made since September 1973 in the areas of row spacing, plant population, disease control, fertilizer placement, procurement of correct field equipment, and data collection/evaluation."

Conclusions on Mejores Alimentos

"In comparing the Comayagua area with other areas visited throughout Central and South America we feel optimistic that this area has all the requirements to be competitive in production of tomatoes for processing. It is very similar in terms of physical and natural resources to the Azuan area in the Dominican Republic. That area has developed as an important tomato processing area within the past five years.

It is most important that competent individuals with knowledge of this crop be employed to oversee field operations.* Cooperative work with SIATSA (local agricultural research firm) should be continued to provide the research expertise in solving future problems. We cannot help but be optimistic that with the proper human element this industry can grow rapidly and become competitive in the current world market for processed foods."

Processing

In regard to processing the Mejores Alimentos plant has been inspected by WTI food processing technicians and classified as a sound production enter-

^{3/} Evaluation of the Potential of the Comayagua area for Processing Tomato Production, April 1975, by Dr. E.C. Tighlelaar for Purdue University.

* Mr. T. Waki has been hired since this report was published, he has 20 years of experience in tomato and strawberry production.

prise. Specifically, the WTI advisor reported the following: 4/
(summarized)

"technically both from a machine and personnel view, worthwhile enterprise capable of producing high quality goods at modern production rates. Unique in having its own can making equipment, which is a factor in lowering the cost of packaging materials. The plant is well maintained, clean, well managed - power, steam, waste disposal and raw material sources are adequate."

Also preliminary investigations, 5/ indicate that a full scale expansion into product lines such as green beans or peas could be accomplished with moderate capital investment requirements, and further, that test market quantities can be produced with existing equipment. To summarize, the following information has been provided to the PMG by the WTI: 6/

Mejores Alimentos Plant Profile

Adequate steam, electricity, waste disposal and floor space; has all the capability for expansion into a multi-line plant operation.

The present production line as constituted, with certain minor additions and modifications, could produce variations of the present products, e.g., crushed pineapple and tomato juice. With moderate modification and some addition they could increase the varieties of vegetables which this factory could can, such as canned peas and green beans, instead of buying sophisticated equipment in the initial stages of the proposed project. The processing could be done with hand labor for the operations of inspection, cutting, filling, brining, and packing. In order not to interfere with the tomato canning season, a demonstration program for green beans and peas should begin and can begin prior to the onset of the tomato harvest. Using hand labor, it is estimated that a maximum of twenty (20) metric tons per day could be processed, which is well in excess of the quantities visualized for a demonstration project.

Presently there exists modern on-line quality control equipment as well as procedures at the Best Foods Factory. The suggestion for the demonstration projects is to apply, with minor changes, the present quality control system to the requirements and specifications of each product for the U.S.A. market.

4 / Honduran Food Processing Survey, D. Casper (WTI) November 1976.

5 / D. Casper (WTI), report on Mejores Alimentos visit, June 1976.

6 / WTI, Preliminary report on Mejores Alimentos product expansion capabilities (June 1976).

2. Fresh Fruits and Vegetables

a. Agribusiness Model - PATSA and the Choluteca Melon Program

The model which was utilized as an example of fresh produce agribusiness was the 1975-76 cantaloupe/watermelon project developed by the PATSA company, a subsidiary of United Brands. PATSA is a Delaware (United States) trading corporation authorized to do business throughout Central America. The company's stated objective is to develop "an opportunity" in Central America for the production of labor-intensive crops. This will be done by providing local growers with technical and agricultural assistance in association with the governments of Central America and designated agencies. The export of melons from Honduras to the northern United States (during the winter months) was the first major endeavor by PATSA in Central America. PATSA's prime objective was to overcome production and marketing constraints for non-traditional crops through a combination of technical assistance and close coordination with government agencies.

Due to the fact that the majority of the producers were small farmers with limited or no experience in melon cultivations, the company provided some technical assistance to them. As a by-product of assisting the small farmers, PATSA also trained the regional **Natural Resources** agronomists in melon cultivation and harvest.

The program was highly successful in terms of systematizing producer-processor contracts. PATSA purchased all production that met prior established quality standards, and paid the producers twice a week. Prices were set well in advance of the actual planting operations and non-exportable production was retained by the farmers for domestic market sales. Further, the guaranteed prices were set at premium levels thus providing definite incentives for small farmers.

Finally, PATSA assumed full responsibility for the packing, transportation and U. S. marketing of the melons. During the harvest period 156 refrigerated trailer containers (40,000 lb. capacity) consisting of 94 cantaloupe and 62 watermelon trailers were shipped to Eastern and Midwestern markets in the United States. All involved parties considered the first years results to be extremely promising. Although not all producers made a profit this year, the vast majority were satisfied with the program's structure and pricing incentives. For further elaboration of the PATSA program the reader is referred to the Economic Analysis Section.

PATSA - Future Planning and Critique

PATSA

The company was extremely pleased with its pilot project's success among small farmers, even though informally it indicated that it suffered a loss of \$95,000 for the first year. PATSA's objectives are to limit its operations to the marketing of products in the United States and Europe.

Therefore, PATSA's management feels that it is imperative that the GOH increase its role in the production/packing functions of the program. In order to achieve these objectives, in 1976-77 PATSA will implement the following activities:

- direct technical assistance to the farmers will be provided primarily by MNR extension agents, with some company assistance and direction;
- GOH representatives from MNR, INA, and BNF will be trained in all aspects of the packing operation, and begin to assume some managerial control of the facility.

Current plans are to turn the plant over to the GOH in three years, when management training has been completed. With this new GOH input, the program will be expanded twofold next season. As an additional incentive to these expansion plans PATSA has announced price increases, 3 months prior to planting, of \$1.00 per box (25-30% increase) for exportable grades.

GOH Participating Agencies

PATSA's operations in Choluteca were carried out with the cooperation and assistance of the following GOH institutions:

- Banco Nacional de Fomento - provided production credit to small farmers.
- Instituto Nacional Agrario- supplied land for packing plant, and promoted project with Agrarian Reform groups.
- Ministerio de Recursos Naturales - provided counterpart extension agents to PATSA agronomists and technicians.

Each agency (BNF, INA, MNR) was highly satisfied with the program results. For example, the BNF's repayment level exceeded all traditional patterns. Further, in the vast majority of cases the producers were able to repay prior year loans. Consequently, this year the Choluteca project has been earmarked for priority credit financing by the BNF.

From INA's and MNR's standpoint the project allowed them to provide services to their primary constituency, small farmers. In conjunction with the basic extension/promotion activities, INA and MNR personnel received limited training in sophisticated agribusiness operations.

The Producers

Field trips and extensive discussions with all concerned parties have indicated that the melon program was a definite success for the small farmers in the Choluteca region. The following information confirms the favorable impact achieved by the program:

1. For many producers, the profit earned in the program enabled them to partially repay or retire previous years debt.

2. A cash flow of \$461,500 was generated in the Cholulteca region during the January-April period - traditionally a period of high seasonal unemployment.

3. The technological expertise imparted to the small farmers has set the stage for the rapid diffusion of contract farming - a movement which obviously is stimulated by clearly attainable financial rewards.

b. Technical Synopsis and Costing of Inputs

This project is structured around the production, packing, and marketing of fresh produce. The provision of all required technical assistance and participant training inputs will be made in order to successfully implement the project.

An illustrative three year flow of activities is outlined in Annex J, this chart provides a concise view of the planned demonstration project implementation.

(i) Pre-Project Phase

During this phase, two steps were taken toward full scale implementation of this project. First, the World Trade Institute (WTI) was supplied with a preliminary list of suggested export crops for the Comayagua Valley. This list, compiled by MNR, included 16 crops that were considered feasible from a cultivation and exportation point of view. From this list WTI selected eight crops as having definite market demand potential in the United States during the winter months. The GDFT then requested that WTI prepare export potential analyses on the eight crops: tomatoes, strawberries, asparagus, green beans, cucumbers, okra, mangoes, and cantaloupe.

Second, basic agronomic studies were completed by SIATSA, Servicios para la Investigación Agrícola Tropical, S.A., in five agricultural areas. SIATSA is an agricultural research, consulting and development firm with extensive tropical agriculture experience throughout Central America. The primary objective of these studies was to ascertain the feasibility of cultivating the selected crops on a preliminary basis. In terms of the Comayagua Valley study, which was the first one completed, the findings were that the above crops were feasible on an agronomic basis.

(ii) Technical Objectives and Strategies Production

Farmers in the five selected areas (Comayagua, Quimistan, La Florida, La Esperanza, and Siguatepeque) have some experience in growing fresh produce (in limited quantities) for the domestic market. Therefore, planned cash crop farming will not be a substantial change from current practices in these regions. The PATSA melon experience and ICAITI reports substantiate the fact that small farmers can and will utilize new technologies when provided with the proper assistance, and more important, attractive and discernible economic benefits. For a more elaborate treatment of this behavior the reader is referred to the Social and Economic Analysis.

Given the above favorable conditions, full scale feasibility studies will be utilized in order to clearly identify all critical factors, and provide the required planning for the establishment of an efficient fresh produce program. These studies, as previously described, will be carried out in the three most optimal regions, and will provide the basis for the implementation of this demonstration project. For detailed terms of reference see Annex G.

The technical objective will be to improve and/or innovate small farmer production of selected fruits and vegetables. In order to accomplish this goal, long term advisors (one per crop) will be contracted. USAID/Honduras agricultural staff and agribusiness firms in Central America have confirmed the existence of specific crop expertise and concurrently expressed doubts as to the availability of multi-crop experts; thus the need for individual crop experts.

The assistance strategy will again involve the formation of a technical team, consisting of at minimum 1 MNR agronomist per crop and the advisor. The design of all implementation methodology (outreach activities), in-service training, and agricultural internships will be similar in scope and operation to the tomato program. Long term advisors will be contracted by September 1978 and six senior agronomists (field staff, 2 per crop) will be in training over a 18 month period.

The preliminary research (Phases I and II) will be done by a research firm with tropical agriculture experience, in conjunction with the local MNR staff. The experimental phases will consist of crop, variety, and agronomic trials. Horticulturists, soils and nutrition experts, entomologists, and post-harvest specialists will be involved in the first phase. In addition, specialists in water-management will be consulted. Each crop will require minimal cultivation areas to accommodate variety trials, fertilizer trials and plots for pathological and entomological investigations. The plots will be overseen by a research expert who will reside in the Valley during the course of the experiment. Also, the experiments will be visited regularly by the firm's senior staff.

Processing

During Phase I and II only rudimentary packing equipment will be necessary for the limited produce yields. Thus, the long range packing facility will not go into full operation until December 1978, i.e., during Phase III. However, beginning in early 1978, the following actions must be taken:

- GDFT will order all long-lead equipment components (February).
- The Empresa will initiate and complete the engineering and design studies required for plant construction (April).

Supervision of this packing operation will be the responsibility of the Empresa's management, with the assistance of the long term advisor. The advisor will be required to initiate an operations plan and begin training of his counterparts upon arrival. Next he will assist in development of the required reporting systems between the producer groups, PATSA and the parent company institution. It is critical to the success of this project that the flow of information to all concerned parties be sufficient and of good quality. Overall, the primary role of the long-term advisor will be two-fold: first, assist in the establishment of a financially viable operation through the application of efficient management techniques in the areas of cost control, pricing, materials procurement and labor relations. Second, to fully train the Honduran counterparts, in order to maximize efficient plant management.

Marketing

The last stage of the production-harvest cycle involves marketing and the project will utilize the services of PATSA in this function. PATSA will purchase the crops from the packing plant and the produce will be shipped to foreign markets. Through its relationships with PATSA the packing operation and the small farmers will have an established buyer, thereby ensuring the transportation and marketing of their produce.

The critical factors that were evaluated in the decision to utilize the services of PATSA were the following:

- Lack of efficient and reliable transportation company in Honduras;
- GOH/PMG's lack of marketing expertise;
- Need to insure the project's success in initial critical years, as a means of guaranteeing the purchase and sale of the campesino production;
- The flexibility demonstrated by PATSA in terms of GOH participation in the marketing process.

The linkage with PATSA is especially critical not only in terms of program viability, but also in regard to credibility among all participants. Previous PATSA performance in terms of pricing guarantees and technical assistance to GOH institutions has established the company as a welcome addition to the Honduran agricultural sector.

In each phase of the fresh fruits and vegetables demonstration project, USAID will provide the required inputs for technical assistance.

Overall, \$1,105,000 will be allocated in the following areas:

<u>PRODUCTION</u>	<u>INPUT TYPE</u>	<u>COST(\$000)</u>	<u>OBJECTIVES/STRATEGIES</u>
TA (1.t.)	Agricultural Specialists (3) 24 mm each.	300	1. Extensive field experience and entomological background.

<u>PRODUCTION</u>	<u>INPUT TYPE</u>	<u>COST(\$000)</u>	<u>OBJECTIVES/STRATEGIES</u>
			Also, soil/fertilizer research capability would be desirable. 2. Would provide direction/management of crop production and in-service training to MNR extension agents.
TA (1.t)	Agricultural Research Services (24 mm)	100	1. Conduct investigations and provide recommendations in the areas of: production, post-harvest, processing, and general agronomic requirements, in selected regions.
TA (s.t.)	Feasibility Studies	200	1. Full scale studies to determine the feasibility of establishing fresh produce in the selected regions.
Participant Training	Agricultural Specialists (6) (6 mos. minimum)	60	1. Theoretical and practical experiences in tomato production (both processing and table varieties) through especially designed internship at universities such as: Univ. of Calif. (Davis), Univ. of Florida (Gainesville), LSU, Texas A & M, Inst. Tecnológico de Monterrey.
<u>PROCESSING</u>			
TA (1.t)	Packing shed manager (36 mm)	150	1. Experienced produce packing plant manager preferably in Latin America. 1. Provide direction and management of packing plant, and relevant managerial training to GOH counterpart.
Commodities	Equipment required for plant operation	115	1. Provide the equipment required for operation of and permanent packing plant.
	Operating expenses fund	80	2. Provide first year working capital.

<u>PRODUCTION</u>	<u>INPUT TYPE</u>	<u>COST (\$000)</u>	<u>OBJECTIVES/STRATEGIES</u>
<u>MARKETING</u>			
TA (s.t.)	Marketing guides (7)	100	1. Basic and detailed information for the marketing of fresh produce in the U.S. market. Will include the following products: strawberries, asparagus, cucumbers, okra, tomatoes, green beans, summer squash.
	TOTAL	<u>1,105</u>	

c. Appropriateness of Technology

Production

The regions under consideration represent the principal fresh vegetable producing zones of Honduras. However, in terms of the selected crops, there is limited local experience or not any whatsoever for produce such as okra or asparagus. Consequently, the basic applied research (Phases I and II) that will be undertaken in the Valley will provide a reliable base for the efficient cultivation of the new cash crops.

This agronomic experimentation will be done at 3 sites: on an asentamiento, on a small farmers holdings, and at the Natural Resources agricultural center. The above locations were selected in order to utilize representative environments and human resources. Given that the winter months (United States) are the target marketing period, two plantings will be scheduled (e.g. early October) with harvest objectives for January to April. For specific information concerning planting calendars please refer to Annex K. According to the SIATSA investigation 7/ cucumbers, green beans, okra, and tomatoes are well suited to dry season conditions in the five regions, and are complementary to the regular production/ vegetative cycle due to the following factors:

- with the high fertilization levels required for horticultural crops, the residual effect contributes to overall nutritional improvement in the soil;
- requirement of intensive labor is very appropriate during the dry season, which is normally a period of high unemployment;
- the above crops are land intensive, thus avoiding irrigation constraints and the need for extensive cultivation areas.

Processing

Based on PATSA's Choluteca experience and the advisor's tech-

7/ Basic Agronomic Study: The Potential for Growing Vegetables for Export in the Comayagua Valley, June 1976.

nical expertise the operation of the required packing facility is considered feasible.

However, the PMG and USAID will attempt to ensure the long term viability of the packing company (EMPRESA) by including organizations such as CONADI in the program. The participation of CONADI, through the EMPRESA, would be advantageous because of CONADI's special capabilities. CONADI's inclusion is considered worthwhile due to its following organizational strengths:

- highest concentration of managerial talent in Honduras;
- extremely broad political/financial credibility throughout the government and private sector;
- demonstrated capability to manage new and innovative projects*
- legal charter to develop new business, which once viable, are divested to private investors groups.

In light of the above discussion it would be both reasonable and appropriate for CONADI to establish the management team for this fresh produce agribusiness project.

The mechanism for the evolution of plant management and ownership will be a cooperative of producers groups which will assume complete control of the plant within 5 years. As designed, the Empresa's management team will operate the plant during the project's three years with the technical input of the long term advisor.

During the fourth phase the cooperative will begin to participate on a counterpart basis and secure management training. In regard to the cooperative itself, it will be formed through the normal process of development, organization and incorporation as a legal entity.

Marketing

From a marketing perspective, PATSA** has at its disposal three critical resources that are imperative for this demonstration projects successful implementation. These key elements are management experience and expertise in fresh produce projects; access to and understanding of refrigerated transportation systems; and an extensive marketing network in the United States market. Therefore, the selection of the marketing component is both logical and relevant to the Honduran situation.

* In the agribusiness sector alone CONADI is involved in sesame seed processing, and African Palm Oil projects, both high risk-high profit opportunities.

** PATSA currently is operating two major projects in Panama and Nicaragua (public and private investment) which involve both fresh and frozen produce marketing.

3. Environmental Considerations

The agricultural activities which will be engaged in as part of this project will have a positive overall impact on the environment in the sense that productive utilization of land and water resources will result.

Cropping systems of cultivated vegetables such as tomatoes and cucumbers, will normally take place on slopes of 15° or less, or on flat lands. In cases where beds are made for vegetables, the areas will be contoured to provide for appropriate water retention and drainage, and to minimize erosion. Thus, the cropping systems that will be utilized in the Project are conducive to providing adequate environmental protection.

The use of fertilizers will not have any detrimental effect upon the environment. On the contrary, it is estimated that the residual effect of the high fertilization levels will contribute to an overall nutritional improvement in the soil.

The use of pesticides (insecticides and fungicides) do not constitute a threat to the physical environment in that the chemicals that will be used will meet all EPA requirements. Furthermore, the technical assistance provided in the Project is expected to assure that any toxic materials are adequately labeled and packaged, and that adequate instructions and warnings are given to users to provide safeguards or to health.

Therefore, undesirable effects resulting from the proposed activities are likely to be minimal.

B. Financial Analysis and Plan

1. Project Funding

This project is three-year grant funded, calling for USAID to finance \$1,700,000 for technical assistance, commodities and participant training; while the Government of Honduras (GOH) will furnish \$3,600,000 for technical assistance, agricultural credit, commodities, and salaries for participants. The total cost of the project will be \$5,300,000 with AID supplying 32% and the GOH 68%.

The GOH/USAID inputs to the project will be allocated as follows: (US\$000)

	<u>A I D</u>	<u>G O H</u>
Technical Assistance	1215	360
Participant Training	180	115
Commodities	195	140
Project Development Fund	60	60
Production Credit	-	675
Harvest Purchase	-	2250
Contingency/Inflation	50	-
	<u>1700</u>	<u>3600</u>

2. Institutional Profile

The Project involves five GOH institutions/agencies (MNR, INA, MOE, CONADI, and BNF) that will provide an assortment of project funding and staff support. Each entity's five year budget and/or financial forecasts were evaluated in terms of its financial/budgetary management, past and present. Further, each agency's budget requirements for the next three years were analyzed in respect to all anticipated programming needs (both AID and other projects). Based upon these extensive discussions and investigations, USAID/Honduras is confident that all participants will meet their counterpart funding and support obligations.

Special note should be made of the BNF's and CONADI's participation. Under the demonstration projects, the BNF will provide \$675,000 production credit to small farmers in the target group. These funds will be made available pursuant to BNF/AID Agricultural Sector and Small Farmer Technology programs.

CONADI's role is a major factor in the program, with this institution providing \$1,575,000 (as managing owners of Mejores Alimentos), and up to a possible \$2,250,000 (contingent upon its participation in the fresh fruits and vegetables project). CONADI's capital structure is one of the strongest factors in the Honduran economy with over L.21 million or \$10.5 million invested in various programs and projects in diverse sectors of the national financial community. In light of these financial resources, USAID feels that CONADI/Mejores Alimentos can meet its Project obligations in a timely fashion.

3. Financial Plan/Budget Tables

The Project is divided into three activities:

- training and coordination;
- demonstration projects;
- new project development process.

Outlined in the following tables are the contributions by unit for each activity.

a. SUMMARY FINANCIAL PLAN (US\$000)

I. <u>AID INPUTS</u>	<u>TRAINING & COORDINATION</u>	<u>DEMONSTRATION PROJECTS</u>		<u>NEW PROJECT DEVELOPMENT</u>	<u>TOTAL</u>
		<u>Processed</u>	<u>Fresh</u>		
Technical Assistance	150	215	650		1,015
Feasibility Studies	-	-	200		200
Participant Training	100	20	60		180
Project Development Fund	-	-	-	60	60
Commodities			195		195
Contingency/Inflation		25	25		50
TOTAL AID	250	260	1,130	60	1,700
II. <u>GOH INPUTS</u>					
TA-Salaries, Admin. Costs (MNR, INA, MOE)	40	150	170		360
Production Credit (BNF)	-	455	220		675
Harvest Purchase	-	1575	675		2,250
Project Development Fund (MOE)	-	(CONADI)	-	60	60
Participant Training (salaries, etc.)	75	10	30	-	115
Commodities	-	-	140	-	140
TOTAL GOH	115	2,190	1,235	60	3,600
GOH/AID TOTAL:	365	2,450	2,365	120	5,300/

b. Detailed Financial Plan (\$000)(i) Institutionalization (Training and Coordination)AID INPUTS

<u>Technical Assistance:</u>		
Advisor to Ministry of Economy (GDFT/PMG)		\$ 150
<u>Participant Training:</u>		\$ 100
Masters degree in Agribusiness Administration (4)	20	
Mktng Internships (2)	20	
Agribusiness seminars (3)	60	
	<u>Total AID Inputs</u>	<u>\$ 250</u>

GOH INPUTS

Salaries, Administrative Costs, etc. (PMG)		\$ 40
<u>Participant Training:</u> (Salaries)		\$ 75
	<u>Total GOH Inputs:</u>	<u>\$ 115</u>
	<u>Total AID/GOH Inputs:</u>	<u>\$ 365</u>

(ii) Demonstration ProjectsAID INPUTS

<u>Processed Vegetables</u>		<u>Fresh Fruits and Vegetables</u>
<u>Technical Assistance:</u>		
Tomato Ag. Specialist (36 mm)	\$ 150	Agricultural Pro- duction Special- ists (3) (24 mm each) 300
Tomato processing/ canning specialist (3 mm)	15	Agricultural Re- search (24 mm) 100
Marketing guides	50	Packing Plant Manager (36 mm) 150
		Marketing guides 100
<u>Participant Training</u>		
Agricultural Intern- ships tomatoes (2), 6 mm each	20	Agriculture In- ternships 2/crop (6) (6 mm each) 60

<u>Commodities:</u>		Equipment for pack- 195 ing plant and/yr. working capital
<u>Contingency/Inflation</u>	25	25
<u>Sub-Totals</u>	\$260	\$1,130
Total AID Input:	<u>\$1,390</u>	

GOH INPUTS

	<u>Processed Vegetables</u>		<u>Fresh Fruits and Vegetables</u>
MNR	<u>Technical Assistance:</u>		
	Staff of 5 agronomists \$80	Staff of 4	\$ 90
	Administrative Costs 15		16
	<u>Participant Training:</u>		
	Salary for 2 parti- 10	6 participants	30
	cipants for 6 months		
	Total MNR \$105		\$ 136
	<u>Ministry of Economy</u> <u>(DGFT/PMG)</u>		
	Salaries and Admi- nistrative Costs 40		
	<u>National Agrarian</u> <u>Institute (INA)</u>		
	<u>Salaries</u>		
	2 Promotors (half yr.) 15	1 promotor	9
	<u>National Development</u> <u>Bank (BNF)</u>		
	Production Credit 455		220
	<u>National Development</u> <u>Corporation (CONADI)</u>		
	Harvest Purchase 1575		675*
	<u>Commodities</u>		140*
	(land, construction of packing plant, purchase of office equipment/vehicle and 50% of yr.3 working capital)		
	Total CONADI \$ 1575		\$ 815*
	GOH Sub-Totals \$ 2190		1,235
	Total GOH Input:		<u>\$ 3,425</u>
	Total AID/GOH Inputs:		<u>\$ 4,815</u>

* Source of funding : GOH or private investment

(iii) New Project Development Process (\$ 000)AID INPUTS

Project Development Fund (Yr.3)	\$ 60
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GOH INPUTS

Project Development Fund (Yr 3)	\$ 60
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Total AID/GOH Inputs:	<u>\$120</u>
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c.

COSTING OF PROJECT OUTPUTS/INPUTS(US \$ 000's) New Rev.

Project No. 522-0120

Title: Agro-Industrial Export Development

PROJECT INPUTS	PROJECT OUTPUTS (\$ 000)		
	* 1	* 2	TOTAL
<u>AID Appropriated:</u>			
Technical Assistance	150	1,065	1,215
Participant Training	100	80	180
Commodities		195	195
Project Development Fund	60		60
Contingency/Inflation	25	25	50
<u>GOH:</u>			
Technical Assistance (MNR, DGFT, INA)		360	360
Production Credit (BNF)		675	675
Harvest Purchase		2,250	2,250
Participant Training (salaries)	75	40	115
Commodities		140	140
Project Development Fund	60		60
TOTAL	470	4,830	5,300

*1 Institutionalization of Project Management Group

*2 Implementation of Demonstration Projects

d.

SUMMARY COST ESTIMATE AND FINANCIAL PLAN

(US \$ 000)

AGRO-INDUSTRIAL EXPORT DEVELOPMENT

SOURCE USE:	AID		GOH		TOTAL
	FX	LC	FX	LC	
Technical Assistance	1,215			360	1,575
Participant Training	180			115	295
Commodities	180	15		140	335
Project Development Fund		60		60	120
Production Credit				675	675
Harvest Purchase				2,250	2,250
Contingency/Inflation Factor	50				50
TOTAL	1,625	75		3,600	5,300

C. Social Analysis

1. Intended Beneficiaries - General Characteristics

The target group for this project comprises the poor farm families of the West-Central region of Honduras, which consists of the Comayagua Valley and surrounding mountainous areas. According to the 1974 Census, more than 75% of the population in this region is rural. The median rural income is \$250 per family per year.

In terms of demographic characteristics, there are 9666 families (48,331 persons) living in the region. Of these, there are 19,830 (40%) persons in the economically active category. Four out of every five of these persons work in primary agricultural activities. This agricultural labor force is characterized by a low educational level. More than half (58.5%) have no schooling at all, and 28.7% have only 1-3 years of schooling.

The target group for the tomato demonstration project consists of 10 Agrarian Reform farms with 292 member families. If the Comayagua Valley is selected for the fresh vegetables project, three asentamientos with 204 member families will be benefited.*

These 13 Agrarian Reform farms constitute the total of such farms in the Comayagua Valley. The project's benefits will eventually spread to additional small farmers in the Valley, which in 1975 totalled 3,319 families. Eventually, the spread effects of the project through use of its agro-industrial model will reach more significant numbers of Agrarian Reform and independent small farms in other parts of the country.

2. Agricultural Characteristics of the Target Area

a. Land Tenure and Farm Size

The initial target area for the project is the flat valley lands, with 46,365 manzanas, of which 40 percent or 18,546 are irrigable, given the current irrigation system. Only 10 percent of the farm lands are actually connected by secondary canals to the irrigation system, but current plans are to add an additional 30 percent by December 1977.

Of the 2,620 farms in the region, 63.5 percent are minifundios (0.10 to 7.13 mzs.). The average size of the minifundio is 2.98 mzs. Small farms ranging from 7.13 to 71.5 mzs. account for 31.3 percent of this total, averaging 21.32 mzs. in size. Medium and large farms occupy 50 percent of the valley land, while minifundios and small farms occupy 11 and 39 percent, respectively.

At present, there are 496 families on the 13 asentamientos in the Comayagua Valley who farm 3,000 mzs. of land. Of this total, 625 mzs. will be devoted to tomato growing and about 180 to fresh vegetable production. More than half of this land is currently irrigated, and the rest

* As an integral part of the feasibility studies for other potential areas, social analyses will be carried out in these areas.

will be irrigated by 1977 with the completion of work on installation of minimum technology (pumps) and secondary irrigation canals. This work is in process under the supervision of the MNR with financing being provided by the BNF.

b. Crop Production and Marketing Patterns

The crops grown in this area are basic grains and some vegetables (tomatoes, potatoes, onions, lettuce). Most of the small farmers grow small amounts of vegetables for the internal market. Up to now, the intensive modernized cultivation of tomatoes has been done by three private contract farmers and by Agrícola de Honduras, a subsidiary of Mejores Alimentos that works 600+ mzs. of land intensively. The marketing of vegetable crops follow two patterns. Raw material for tomato paste and other tomato products is delivered directly to the processing plant at fixed contract prices, by Agrícola de Honduras and through contract farmers. The small farmers do not farm by contract with the plant. Sometimes their tomatoes are sold to the plant and sometimes on the national market, depending on price fluctuations in the national market. All the other vegetables are sold on the national market. The tomato production of the small farmers is marketed through a chain of intermediaries or brokers. The tomato broker typically owns a vehicle to transport tomatoes and has a ready supply of credit during the growing season. The small farmer usually sells his crop to the broker just after the plants have flowered. From past experience with the commodity market, the broker calculates the price he can offer per hectare, and purchases the entire crop of the small farmer in advance. He takes delivery of the tomatoes as they ripen and sells them. Profits or losses realized on the sales are his. The price fluctuations at the time of marketing set the risk involved for the broker. Brokers typically take losses or break even two out of three years, but recoup their losses in the third year. The broker's control of the market is based on his control of risk capital, and ready access to local transportation, which allows him to engage in three and four year profit planning. Due to subsistence exigencies, the small farmer cannot afford to take the losses brought about by price fluctuation that brokers typically absorb. In addition, the small size of his farm and the uncertain land tenure characteristics often make it difficult for him to receive credit directly. From the small farmer's standpoint, the current marketing for tomatoes limits much of his potential profit; however, this does eliminate much of the marketing risk to the farmer. The marketing pattern for vegetables is similar to the brokerage pattern of tomato marketing. Indeed, many brokers deal in tomatoes and other vegetables. Contract farming of tomatoes and fresh vegetables by small farmers which will be introduced in this project, will be an alternative to the brokers. It will reduce the variability in price and decrease the risk involved in commodity farming by providing an attractive basic price for the crop.

The supply of tomatoes to the processing plant fluctuates according to the conditions of the national market. Prices range from 1.5 to 11 cents a pound. The standard price at the packing plant is 2.5 cents a pound. When the national market price rises above that, the supply of tomatoes to the plant drops off sharply. Vegetable prices are even more variable. This is an advantage for the farmer even though it does create

a potential problem for the plant, which may not be able to buy sufficient quantity of tomatoes for efficient processing at certain times during the season.

c. Organizational Structure of Production Units

There are three types of production units in the target area. One type is individual small units in the minifundio and small farm category, which are usually family subsistence units. The second type is the large commercial farm. The third type is the asentamiento or Agrarian Reform farm. This third type will be considered in some detail, as it is the principal organization through which innovations will be channeled.

In juridical terms, the two organizational patterns of the asentamientos are, agricultural multiple service cooperatives, and "empresas asociativas de transformación y servicios" (associational enterprises for production and services). In the Comayagua Valley the cooperatives are the older pattern. The cooperatives are credit and marketing associations that are beginning to produce crops as a unit. The "empresas" are organizational units that organize all aspects of credit, production, and distribution collectively. While the cooperatives de facto have parcelled out land among their members, the "empresas" are farming theirs as units.

There are two "empresas" and eight cooperatives among the asentamientos in the Comayagua Valley. The remaining 15 asentamientos are pre-cooperatives, without the formal legal status of cooperatives. Contracts for vegetable and tomato production will be made with pre-cooperatives as well as cooperatives and "empresas". The differences between them will affect the delivery of technical assistance and promotional activities of the project. Cooperatives and "empresas" have had at least three or four years of experience in the production of crops and have had relationships with the BANAFOM. The pre-cooperatives will require more assistance from INA promoters and the MNR resources to establish internal patterns of organization, and greater amounts of agricultural technical assistance.

3. Benefits and the Spread Effect

The benefits for the target group involved in the tomato and fresh vegetable demonstration project are: (a) ready access to credit; (b) technical assistance to enable the most efficient use of the credit; and (c) the probability of substantial profits resulting from diversifying out of basic grains made possible through access to the international export markets. The myth that traditional small farmers have some target level of income and have no desire to obtain more, has long been exploded. Like anyone else, they will consider the effort (cost) of obtaining extra income in relation to the satisfaction (benefits) that income gives. If there is a high probability that the potential benefits outweigh the costs, then they will be interested in making efforts to obtain the extra income. The higher the level of profitability of the innovation and the lower its variability, the greater will be the chance of a relevant innovation being adopted.

(Wharton 1968). The economic analysis in this project paper clearly demonstrates the benefits in higher cash income to be obtained by project participants.

The key in the spread of the innovations to be introduced by this project is the demonstration by the first participating farmer groups of the profitability of the improved technology and marketing arrangements. The demonstration effects created by the success of the first growing season are essential to the success of this project. The evaluation of profitability and dependability of the contract farming of fresh vegetables and tomatoes by most of the asentamientos in the Comayagua Valley, will depend on profits obtained in the first growing season. The spread of contract farming will depend, in large part, on this evaluation carried out by the beneficiaries. Additional spread effects can be expected by replication of the demonstration projects in other parts of the country.

There are no major socio-cultural changes implied by this project that would be impediments to the diffusion of the project from the initial target group to all the small farmers of the Comayagua Valley. Farmers have either first-hand experience or acquaintance with tomato growing, and to a lesser extent with fresh vegetables. The current low level of tomato production is a result of the price fluctuations of tomato on the national market and the difficulties of obtaining timely credit and timely technical assistance for production inputs, and not to socio-cultural factors.

4. Social Impediments to Project Feasibility

There are no significant changes in values, social organization, or motivation of the small farmers that are required for this project. The existing pattern of broker marketing bears many organizational similarities to the contract farming that will be the basis of the relationship between producers and the processing plant. The pattern of contracting for the tomato long before harvest at fixed prices is an integral element in broker contracting and the contracts that will be made in this project. However, this project will have two essential ingredients that are lacking from the traditional broker-producer relationship, i.e., technical assistance will be provided and the price of tomatoes to the farmer will be more stable and therefore more favorable. Care will be taken to distinguish the contract farming in this project from the traditional broker pattern, to assure target groups cooperation. This will be done by emphasizing the provision of technical assistance and credit, in contrast to the present contract procedures.

The existing marketing structure will most likely be altered by this project. This, however, does not imply changes in the beneficiaries' social organization, but it will for the brokers who do not constitute part of the target group. The most likely source of resistance to this project will be the tomato brokers, whose economic interest will be severely threatened when their producers make contracts with the processing plant.

The possibility of project benefits being diverted by another group has been eliminated by the direct relationship of the target group to

project inputs. Medium and large tomato farmers will not qualify for the technical assistance in this project. However, they will benefit from the direct link to the international export market through the Mejores Alimentos processing plant. The plant will continue to purchase tomatoes from small, medium, and large farmers. If the export market and production capacity of the plant were limited, there would exist a strong possibility that medium-to-large farmers would take the lion's share of the benefits resulting from improved export procedures. The fact is that the potential production capacity of the plant is sufficient to accommodate the products of intensive tomato growing from the entire valley. The capacity of the fresh vegetable plant will be equally ample, and will include only small farmers from the beginning.

5. Role of Women

The processing plant employs women primarily for the processing of foods. At the present time, 90 percent of the employees of the processing plant are women. The expanded volume of production will increase the number of women being employed and thus directly benefit women in the Valley.

The women in asentamientos and small farms will benefit from the higher incomes provided by the tomato and fresh vegetable production. Women will benefit more directly because there is a traditional pattern of employment of women's labor on vegetable plots. By their participation in this project, the economic and social status of the women who produce fresh vegetables on their garden plots will increase.

D. Economic Analysis

The economic justification for the project is based on: (a) increased incomes and labor requirements to be generated by the setting of assured prices for small farmer production and the development of new and expanded markets for that production; (b) the stimulation and development of small farmer agricultural diversification (from traditional low value crops such as corn, beans, and sorghum, which have limited market expansion potential, into higher value fresh and processed vegetables); (c) the application of technological production plans to small farmer cultivation activities, including appropriate mixes of seed, fertilizer, pesticides, and fungicides, etc., which will produce higher quality-value products with higher yields per manzana; (d) the possibility of double-cropping on some of the targeted small farmer-asentamiento plots, to include a harvest of a traditional crop as well as of vegetables; (e) the foreign exchange earnings to be produced by the sale of the processed and fresh-packed vegetable production; and (f) the beneficial stimulative rural development impact the project will have on the immediate areas of its focus through the increased demands for locally available services and materials.

While additional projects of either the processed or packing-house type are not contemplated within this program, successful execution of the demonstration projects should also stimulate the development of similar proposals for other areas of the country. These projects are expected, therefore, to serve as models for future replication in other areas. Benefits from such replication potential, however, cannot be calculated.

1. Fresh Vegetable Marketing

a. Review of PATSA - Choluteca Operation

The 1975-1976 PATSA-Choluteca cantaloupe and watermelon packing and marketing operation produced total net revenues for the producer groups of \$67,958.96, as detailed below. The PATSA program was developed principally with the participation of 22 agrarian reform groups, and 30 independent small farmer producers of the Choluteca area. (Subsequently, 14 additional independent producers delivered and sold produce to the packing plant; however, production cost data is not available for those producers.)

TABLE III.1
SUMMARY OF CANTALOUPE-WATERMELON OPERATIONS
(US\$)

<u>Producers</u>	<u>B.N.F. Loans *</u>	<u>Payment to Producers</u>	<u>Net Revenues</u>
22 Agrarian Reform Groups	\$ 112,375.27	\$ 164,904.87	\$ 52,529.60
30 Independents	81,998.20	97,427.56	15,429.36
	<u>\$ 194,373.47</u>	<u>\$ 262,332.43</u>	<u>\$ 67,958.96</u>

* Crop production loans from the Banco Nacional de Fomento to qualifying small farmers covered all costs of material and labor inputs. The amount of the loan is therefore equivalent to the cost of production.

Within the PATSA program, of the total of 52 producers (individuals/groups), 4 experienced complete losses: 2 asentamientos, 1 cooperative, and 1 independent.

The areas programmed for production of each fruit and the results obtained are as follows:

	<u>Programmed</u>	<u>Actually Planted</u>	<u>Harvested (%)</u>
Cantaloupe	572 mzs.	506 mzs.	425 mzs. (84%)
Watermelon	<u>249 mzs.</u>	<u>255 mzs.</u>	<u>181 mzs. (71%)</u>
	821 mzs.	761 mzs.	606 mzs. (80%)

Exportable production and yield data for the program are as follows:

<u>Producer</u>	<u>CANTALOUPE</u>			<u>WATERMELON</u>		
	<u>Manzanas Harvested</u>	<u>Boxes</u>	<u>Yield/Mz.</u>	<u>Manzanas Harvested</u>	<u>Boxes</u>	<u>Yield/Mz.</u>
10 Cooperatives	128	26,750	209	20	1,796	90
12 Asentamientos	137	15,959	116	26	2,704	104
30 Independents	<u>160</u>	<u>15,757</u>	<u>98</u>	<u>135</u>	<u>22,498</u>	<u>167</u>
	425	58,466	138	181	26,998	149

Exportable yields per manzana achieved compared relatively favorably with production projections (e.g. for melons, 138 boxes/manzana versus 168 projected, or 82 percent of planned production.)

Of the total area harvested, cooperatives accounted for 24 percent, asentamientos for 27 percent, and the independents for 49 percent.

Work-job generation effects of the program were substantial with the program estimated to have created employment for approximately 4,500 farm workers for a six month production and packing period (Oct. '75 through April '76).

Additional income to producers generated by the program, for which data is not available, was derived from individual sales in local markets of non-exportable grade cantaloupes and watermelons, and from family consumption of production.

Overall, from the standpoint of the small farmer-producer the program qualifies as a success. Net income received from sales of exportable quality produce per unit cultivated exceeded the likely average return from alternate traditional crops such as corn, beans, and sorghum. On a per manzana basis, the PATSA programs generated an average of \$89.30. Assuming local sales and on-farm consumption of produce grown under the program at 15 percent of the total sold to PATSA gives a per manzana value of \$105.00. Data developed for the Ag Sector Loan indicated net income per

manzana of corn, beans, and sorghum planted with intermediate technology at \$35, \$47 and \$54 respectively. Many small farmer participants harvested less than was programmed due to factors such as differences in organizational quality between cooperatives and asentamientos and the degree to which technical production plans were followed with respect to fertilizer or herbicide applications; however, yields per manzana are expected to increase appreciably in second and subsequent plantings.

For PATSA itself, as manager of the packing house and marketing operation, the operation did not produce a profit but was nonetheless considered successful in that it demonstrated the feasibility of contract buying from small producers/groups for packing and delivery to external markets, and the receptivity of the U.S. market to quality Honduran melons. Financial data on PATSA's operations were not available as this report was prepared; however, a loss of \$95,000 was apparently recorded. PATSA's management identified among factors responsible for the loss, the shipment of containers less than full or mixed between cantaloupes and watermelons resulting in higher transport costs and lower wholesaler purchase prices, and the sale of the produce to "terminal centers" instead of directly to institutional buyers such as supermarkets with a resulting lower sale price achieved by PATSA. Changes in management and marketing strategies as appropriate in view of these experiences should result in profitable operations.

2. Proposed Project - Fresh Fruits and Vegetables Packing/Marketing Comayagua Valley

a. Crop Production Costs

Fully detailed production cost schedules for the crops contemplated have not been developed given the lack of prior Honduran experiences in the tentatively selected crops. Reliable estimates of costs involved have been prepared, however, on the basis of certain data available from studies by the Ministry of Natural Resources and from the basic agronomic study done by SIATSA. Costs of production for potential export crops are presented below: (Cost information on strawberries and asparagus not available at present time)

<u>Vegetable</u>	<u>Cost (\$ per manzana)</u>
Cucumbers	350 - 400
Green Beans (pole)	800
Okra	800
Tomatoes	800
Summer Squash	400 - 500

Firm data on crop yields will be established during the experimental phase with the testing of varieties and various technology combinations. With the exception of cucumbers, none of the above crops have been produced for commercial exportation in Honduras. However, conservative estimates of local yields of these crops can be developed by assuming 50 percent of average U.S. yield figures.* Such a calculation also provides for

* This "rule of thumb" was suggested by SIATSA and derived from their experiences.

the fact that yields of exportable produce will be substantially less than total yield, especially until experiences of culture and pest control are acquired. The yield figures are: (Not available for strawberries and asparaqus).

<u>Item</u>	<u>Lbs. Yield/Manzana</u>
Cucumbers	12,000
Green Beans (pole)	10,000
Okra	8,500
Tomatoes	15,000
Summer Squash	10,000

Final decisions on which crops should be produced for export marketing cannot be made at this time given the substantial lead time between preparation of this document and the initiation of the phase actually involving complete packing plant operations. Market conditions, as well as experimental results, will determine which crops present the most favorable prospects for exportation. Currently, of the products identified above, the Project Committee believes that cucumbers, tomatoes, and okra will be targeted for production: the first two because they are crops already grown by farmers in the area, and the latter because it is a labor intensive crop with a high profit potential.

On a per unit basis, given yield estimates presented above, the costs to producers are as follows. (Formula is = Yield/Ma. + lbs./unit; Production Cost + Units/Ma.)

<u>Item</u>	<u>Cost/Unit</u>
Cucumbers (55 lbs. container)	\$1.83
Okra (14 lbs. 1/2 bushel)	\$1.32
Tomatoes (30 lbs. box)	\$1.60

b. Returns to Producers

Prices to be paid to producers for export quality production in any of the above crops will be negotiated between the packing plant management and the producers, prior to initiation of crop plantings. Those prices will be influenced by prevailing market price data and actual operating and overhead expenses of the packing plant (which have not yet been developed in detail for each specific crop - see below). Additionally, a policy on pricing for the packing plant will be developed concerning the percentage of profitability from operations to be retained by the plant for profit and capitalization purposes. In any case, the potential profit margin between producer costs and export market prices, as described below in Part 4 of this section, is sufficient to allow an ample price incentive to be given to the small farmer producer and a significant percentage to be retained by the packing plant. The small farmer producer will benefit from both since the project contemplates the eventual turnover of plant ownership to a producer cooperative organization to be formed in the area.

As production for export expands, the problem of disposition of product which does not meet export standards increases. During initial phases, the domestic market can absorb these commodities to benefit low-income consumers. In a relatively short time, however, prices for lower grade produce would rapidly drop to the point where it is uneconomical to harvest and deliver such product to even close-by domestic markets. This is a constantly recurring problem in virtually any agricultural commodity. Resolution of the problem varies from returning unmarketable product to the soil, to preservation of perishable produce for future markets, to conversion in new forms such as juices, purees, sections, and other processed forms, including frozen foods.

The immediate solution to the problem in Honduras is perceived to be, "Quality control begins in the fields", with the objective of technical assistance to produce as high a proportion of export quality produce as possible. Then, second grade, but sound fruit will be marketed locally until prices drop to the point where harvest and transport costs dictate a decision to "plow under" crop residues. Consultants and GOH technical personnel will continue the search for alternative product processing, packaging and conversion possibilities to achieve the widest possible market penetration.

3. Marketing Operations - Cost Data

Pricing models for various exportable fruits and vegetables developed by the World Trade Institute as a technical assistance activity under the overall Export Development Project No.522-15-290-053.1 will be used during commencement of operations under this project. Model data for cucumbers, okra, and tomatoes are presented here. Displayed are figures for the target average wholesale price for the particular item with which the Honduran product must compete. Additionally, that figure is disaggregated to show its component elements until the FOB price in Honduras has been reached.

a. Cucumbers (55 lbs. carton; December)

<u>Function</u>	<u>Cost</u>
Average Wholesale Price	\$ 15.50
Importer-Wholesale Commission	1.66
F.O.B. Landed Boston	13.84
Inland Freight, New York/Boston	.29
F.O.B. Landed, New York	13.55
Customs Duty	1.21
Customs Clearance	.10
C.I.F. New York	12.24
Ocean Freight	2.55
Marine Insurance	.02
F.O.B. Puerto Cortés, Honduras	9.67

b. Okra (1/2 bushel - 14 lbs.; March)

<u>Function</u>	<u>Cost</u>
Average Wholesale Price	\$ 11.20
Importer-Wholesaler Commission	1.20
F.O.B. Landed Boston	10.00
Inland Freight, New York/Boston	.14
F.O.B. Landed, New York	9.86
Customs Duty	1.84
Customs Clearance	.10
C.I.F. New York	7.92
Ocean Freight	.55
Marine Insurance	.01
F.B.O. Puerto Cortés, Honduras	7.36

c. Tomatoes (30 lbs. carton; February)

<u>Function</u>	<u>Cost</u>
Average Wholesale Price	\$ 10.50
Importer or Wholesale Commission	1.12
F.O.B. Landed Boston	9.38
Inland Freight, New York/Boston	.29

F.O.B. Landed New York	\$ 9.09
Customs Duty	.45
Customs Clearance	.10
C.I.F. New York	8.54
Ocean Freight	1.40
Marine Insurance	.02
F.O.B. Puerto Cortés, Honduras	7.12

d. From these F.O.B. figures, costs of inland transport, handling and other charges must be subtracted to arrive at an average base cost per product/container shipped from the plant gate. (costs per container are estimates based on actual charges for 55 pound container of melons).

<u>ITEM</u>	<u>CUCUMBERS</u>	<u>OKRA</u>	<u>TOMATOES</u>
Export Duties	.02	.02	.02
Railroad Loading	.11	.03	.06
Transloading	.05	.02	.03
Inland Freight	.63	.31	.40
Container Maintenance/ Repair	.04	.04	.04
	<u>.85 (est.)</u>	<u>.42 (est.)</u>	<u>.55 (est.)</u>
F.O.B. Puerto Cortés	9.67	7.36	7.12
-Plant to Port Charges (est.)	<u>-.85</u>	<u>-.42</u>	<u>-.55</u>
	<u>\$8.82/carton</u>	<u>\$6.94/ 1/2 bushel</u>	<u>\$6.57/carton</u>

e. From these figures must also be subtracted the commission to be received by PATSA for performing the marketing intermediary function in purchasing the produce from the packing plant and arranging for entry and sale of it to U.S. wholesalers. The amount of the PATSA commission can be estimated only grossly at this time as it will be subject to negotiations and based on considerations such as the volume of each item to be exported.

Exportation of production in the first crop year (Sept. '76 - March '77) is not planned as a firm target in this project. Exporting of production will definitely take place in the following crop year. As a conservative estimate and allowing for fluctuations in shipping and other fees listed above, a 15 percent commission fee per unit is assumed. This brings the possible sales price by the plant to \$7.67 per carton of cucumbers, \$6.03 per 1/2 bushel of okra, and \$5.79 per carton of tomatoes.

4. Fresh Vegetable Packing Plant Operation

Calculation of Break-even Volume for Comayagua Packing Plant

a. Initial Investment Costs Required

The following are estimated required costs to set up the proposed fresh vegetable and fruit packing plant. It is assumed that these items will be financed through the contributions of AID and GOH entities.

1) <u>Main Plant Building and Land</u>		
Estimate based on actual costs of basic model of Choluteca plant, with adjustments for increased capacity.		\$ 80,000
2) <u>Equipment</u>		
Basically same technological equipment as Choluteca operation, but with additional individual pieces necessary to handle three or more different vegetables/fruits, and an allowance for price increases.		\$ 85,000
3) <u>Miscellaneous</u>		\$ 20,000
Office equipment-furnishings	\$ 3,000	
Vehicle	\$10,000	
Tools-Spare Parts	2,000	
Miscellaneous	5,000	
4) Inflation Factors - Equipment (10%)		\$ 8,500
5) Contingency and Unforseen-Equipment		<u>\$ 6,500</u>
Total Initial Investment Costs		\$ 200,000

b. Estimation of Annual Operating Costs

1) "Fixed" Costs

i. <u>Salaries-Benefits-Health Ins.-Social Welfare</u>		\$ 30,000
Manager	\$10,000	
Assistant Manager-Controller	6,000	
Foreman	4,500	
Secretary	3,000	
Accountant (part time)	3,500	
Other (Maintenance; janitor, etc.)	3,000	
ii. Travel Costs (Comayagua-Puerto Cortés-Tegucigalpa, etc.)	2,000	2,000
iii. Office Supplies-Materials	1,000	1,000
iv. Depreciation:		
-Fixed facilities		
\$ 60,000 x $\frac{1}{20 \text{ yrs. useful life}}$	=	3,000

- Equipment and Other

$$\$ 120,000 \times \frac{1}{7 \text{ yrs. useful life}} = 17,000$$

v. Public Utilities

- electricity; telephone 3,000

vi. Insurance 4,000

vii. Technical Assistance Contracts 15,000
(Production-packing T.A.; Laboratory testing; representation in Tegucigalpa)

viii. Miscellaneous 5,000
Total \$80,000

c. Variable Costs

(All costs listed below are based on Choluteca plant actual costs for melon-cantaloupe packing, with adjustments (increases) where deemed necessary)

1) Packing-Materials (boxes, ice, labels, other)
Cost per box/bushel = \$ 0.95

2) Packing-Labor

(Receiving, washing, sorting, grading, packing, labeling, icing, loading, etc.) \$ 0.45

3) Interest on Working Capital Loans

Assume Plant obtains average 3 month loans to pay producers until full payment received from marketer. Assume average price to producers until full payment received from marketer. Assume average price to producer for quantities of 3 different vegetables, per container, is: cucumbers \$3.66; okra \$2.64; tomatoes \$3.20. Assuming equal volume

purchases, average is \$3.17. 1/

$$\$ 3.17 \times 1/4 \times 12\% = \$.09/\text{unit} \quad \$ 0.09 \text{ unit}$$

- 4) Fuel, electricity, water, other supporting supplies/materials 0.05 unit
- 5) Unforeseen 0.16 unit

Summary = Total Variable Costs per Unit

- Packing: Materials	\$ 0.95
- Packing: Labor	0.45
- Interest on Working Capital	0.09
- Variable-Supplies	0.05
- Unforeseen	0.16
Total	<u>\$ 1.70</u>

1/ As noted earlier, pricing policies have not been established. The decision on how to apportion shares of the expected margin between producer costs and marketer price for the small farmer and packing plant operation is a difficult one, and must be set only after further study of production costs and market-transportation costs prior to the actual initiation of operations. For the purpose of this exercise, it is assumed that contract prices from the plant to the producer will represent a 100% profit per unit for the small farmer. The basis for the calculation of average unit price to producers is:

	<u>Cucumbers</u>	<u>Okra</u>	<u>Tomatoes</u>
Production Unit Cost	1.83	1.32	1.60
100% mark-up	1.83	1.32	1.60
Total Plant Purchase Price (Average Price/Unit)	<u>\$3.66</u> (\$3.17)	<u>2.64</u>	<u>3.20</u>
Prices to Marketer	\$7.67	6.03	5.79
Gross margin	\$4.01	3.39	2.59
Average margin	\$3.33		

d. Calculation of Specific Break Even Point

The formula, $Quantity = \frac{Fixed\ Costs}{Margin-Variable\ Costs}$ ($Q = \frac{F}{M-V}$)*

can be used to calculate break-even volume, after M has been set by policy decision, now that Fixed Costs and Variable costs have been estimated. For example if for one reason or another after considering factors such as producer costs, market prices prevailing in the U.S., local harvest potentials, need to repay loans, desires to establish a retained earnings account to provide for future growth from internal cash sources, etc, the Packing Plant gross margin was set at \$3.33 (and assuming an average value of unit containers of produce of \$3.17; see paragraph (c) under Variable Costs, above), the break-even volume point would be:

$$Q = \frac{\$ 80,000}{\$ 3.33 - \$ 1.70} = 49,000 \text{ units (49,080)}$$

At this volume, the Plant's total income would be just equal to total costs, as shown in the following Pro-forma Profit and Loss Statement:

<u>Packing Plant</u>		
<u>Pro-Forma Profit and Loss Statement</u>		
Sales :	49,000 units x \$ 6.50	= \$ 319,020
Less :	Cost of Produce Purchased 49,000 units x 3.17	<u>155,584</u>
Equals:	Gross Margin on Sales	= \$ 163,436
Less :	Operating Costs	
	Fixed Portion	\$ 80,000
	Variable Portion 49,000 x \$ 1.70	<u>\$ 83,436</u>
		<u>\$ 163,436</u>
Net Income		-0-

* To determine break-even:

M= the amount of "margin" per unit

TC= Total Operating Costs

F= the total amount of "fixed" costs

TR= Total Revenues

V= the variable costs per unit

Q= Volume, in units

Also, TR and TC can be expressed as follows:

$$TR=MQ, \text{ and } TC= F + VQ$$

At the break-even point TR must be equal to TC so that

$$TR=TC$$

$$MQ = VQ = F, \text{ and}$$

$$MQ= F + VQ$$

$$(M-V) Q = F$$

Solving for Q, gives break-even formula= $Q = \frac{F}{M-V}$

*Phase II of Project

TABLE III

FRESH VEGETABLE PACKING PLANT
 Illustrative Cash Flow Projections
 (US\$ 000)

YEAR	1*	2	3	4	5	6	7	8	9	10
Sources:										
Gross Revenues from Sales	96	223	319	354	394	438	486	540	600	667
A.I.D.										
Plant Equipment, Contingency: 100% of 1st year Overhead	180	-	-	-	-	-	-	-	-	-
CONADI										
Buildings-grounds; vehicle-office equipment; 50% of 2nd year overhead	100	40	-	-	-	-	-	-	-	-
TOTAL SOURCES	376	263	319	354	394	438	486	540	600	667
Applications:										
Operating Costs (including working capital interest)	105	138	163	168	173	179	184	190	196	102
Investment Costs	280	-	-	-	-	-	40	-	-	-
Costs of Ag. Produce (\$3.17 average per unit)	47	109	155	163	172	181	190	200	211	222
TOTAL APPLICATION	432	247	318	331	345	360	414	390	407	424
Cash Surplus from Operations	(-56)	16	1	23	49	78	72	150	193	243
Divided to Cooperative members	-	-	-	-	-	39	36	75	97	122
Cumulative Cash Surplus	(-56)	(-40)	(-39)	(-16)	33	72	108	183	279	400
Assumptions:										
1. Plant operates at 30% of est. break even volume in year 1: 70% in year 2: 100% in year 3	3. Additional Equipment to handle expanded operations (or replace old equipment) purchased in year 7.					6. Profit-sharing with small farmers (up to 50% of yearly profits) begins after Plant ownership-management transferred totally to cooperative group in year 5.				
2. Unit Sales increase by 10% year.	4. Operating Cost increase by 3% year.									
	5. Cost of Produce increase by 5% year.									

These calculations show that with a margin of 3.33 per unit, the packing plant will break even at a total volume of 49,000 "average" units. Volume (or margins) in excess of this figure will result in profits for the plant.

The break-even point can be similarly calculated for possible alternative margins (M), as shown below:

<u>Margin (M)</u>	<u>Break-Even (# of Units)</u>
\$ 2.50	100,000
2.75	76,190
3.33	49,000
3.50	44,444
3.75	39,024
4.00	34,783

Table III - Contains illustrative, pro-forma cash flow projections for the proposed packing plant. Under the given main assumptions of a phased initiation of operations over a three year period, a 10% annual increase in packing house volume of operations after break-even is reached, and a 50% sharing of profits with the cooperative membership which will be the owners of the plant, the projections suggest the feasibility of the proposal. A complete set of projections in greater detail will be prepared on the operation subsequent to consideration of this paper. Those projections are expected to fully confirm the projected profitability of the plant, especially given the conservative nature under which this break-even analysis and tentative cash flow projection were prepared.

In any review and consideration of these data, it is important to note that the demand in the target market (the U.S. - New York area - initially; other areas such as Europe possibly later) is not likely to be a constraint. The volumes that this plant and project could generate even under the most optimistic of assumptions, will not have a major effect on the market. Production levels are not likely to pose a constraint either since the project at break-even will not require production from more than 180 manzanas. Even a doubling or, subsequently, a tripling of areas programmed for cultivation will not pose a major barrier to operations. Sufficient cultivable areas exist in the Comayagua valley at present or are scheduled to be developed to satisfy the most optimistic estimates of production requirements.

Maintaining and increasing the profitability of the plant will require business decisions on the following critical factors: a) the crop(s) to be produced and markets to be targeted; b) the distribution of revenue shares between the producers - the plant - and the marketing agent, and c) regular administration and operation of the plant. Regarding (a), the management of the plant will be receiving advice from entities experienced in these matters (PATSA-WTI) on crops, timing and markets; regarding (b) and (c), the management of the plant, with appropriate technical assistance, will bring a conservative, business approach to the negotiations on prices-charges, etc. Once the project has reached operational break-even, demonstrated

the successful utilization of technology packages/contract farming, and gained market acceptance, the expansion of activity above the 10%/year (projected) in the Cash Flow table will be attainable.

5. Reliability of Supply

The project proposes experimental crop production in the first year to familiarize farmers with required techniques and to develop information on the desirability of plant varieties, etc. Complete packing plant operations are not to commence until the following harvest period (Jan.-March '79). Current plans call for selection of at least three agrarian reform groups to work with the packing plant during the project period. These groups presently farm a substantial amount of irrigated land (555 manzanas) and have the potential to irrigate an additional 500 manzanas.

Comparing projected yield data of the selected crops with the number of manzanas expected to be available, shows that an adequate base for crop production exists:

	<u>Cucumbers</u>	<u>Okra</u>	<u>Tomatoes</u>
Exportable Yield per manzana (from SIATSA data)	218/mzs. (55 lbs.boxes)	607/mzs. (14 lb.bushels)	500 (30 lb.boxes)
Assumed minimum No. of manzanas to be targeted for cultivation by 4th phase of Project (33% of current irrigated area)	60 mzs.	60 mzs.	60 mzs.
Units to be harvested (target)	13,080	36,420	30,000
Sub-Total	79,500		
Less 33% for production targets not met	<u>26,235</u>		
Total units available and packed for Export by end of 3rd year of operation. (67%)	53,265		

These figures show that a minimum of 180 manzanas must be programmed for production to achieve operational break-even under the current assumptions. If the required number of irrigated manzanas cannot be made available from the three agrarian reform groups currently identified as initial participants in the project (an unlikely occurrence), additional asentamientos or cooperatives will be brought into the initial stages of planning and implementation to enable the break-even goal to be met.

6. Summary

Although the above exercise demonstrates the break-even point

for profitability of the packing plant at a certain number of containers of vegetables processed, in actual experience the prices paid for each vegetable or fruit will have to be set independently. Actual margins set on an individual vegetable are certain to vary from those set for other vegetables. A comparison of the assumed margins presented above with the costs of production per unit indicates that a larger potential margin exists on the sale of cucumbers than on okra or tomatoes. The significance of these variations to the packing plant can be summarized as follows:

- they enable the plant's management to program, with the producers, a variety of crops.
- they provide the plant with the flexibility to negotiate profitable or break-even prices to the marketer, contingent upon production/marketing conditions.

In the latter case, the Plant's decision to enter such agreements where expected profitability is less than optimal would be reasonable if, for example, insufficient production of other, higher margin crops was expected and where the market for the lower margin crop was more predictable. In all cases, of course, the main concern will be to cover operating expenses and generate some (at least) revenues to defray fixed expenses.

Additionally, the fixed overhead and variable costs outlined above for the packing plant were prepared conservatively, in that after the first or second year of operation, requirements for contracted technical assistance could diminish, and that if yields per area cultivated increase over projections (which may readily occur after local farmers become familiarized with the planting techniques and standards required), the variable costs per item packed will be reduced. Overall profitability, therefore, will probably be enhanced.

The illustrative presentation set forth above has been developed with very conservative assumptions as a means of demonstrating the feasibility of the concept. On a relatively modest volume basis, the packing plant is expected to be a viable operation providing the opportunity for small farmers to achieve substantial benefits from their labors. With substantially increased volume and maintaining the basic assumptions established above, the profitability of the plant can be increased significantly. Targeting operations for larger volume, whether of the indicated crops or additional crops, is not likely to confront constraints initially either in terms of production, plant capacity, local distribution/transportation capabilities, or market absorptive capacity (assuming primary market is the U.S., and possibly Europe). Therefore, once the initial phases of field testing and exporting of modest amounts have been completed successfully, a decision can be made to target higher levels of operations to achieve earlier, and increased, profitability for the plant.

7. Summary of Price-Profit Implications - All Levels

The following table presents estimated data on the distribution

of revenue benefits of all the plant and producer levels under assumptions stated earlier.

TABLE III.3

REVENUE SHARES - PACKING PLANT (\$)
(Per Unit Container)

	<u>Cucumbers</u>	<u>Okra</u>	<u>Tomatoes</u>
1. Sales price per unit at plant to marketer	\$ 7.67	\$ 6.03	\$ 5.79
2. Prices paid to Producers	\$ 3.66	2.64	3.20
3. Plant Margin (Gross)	\$ 4.01	3.39	2.59
4. Cost of Production/Unit (Small Farmers)	\$ 1.83	1.32	1.60
a. Farmer Profit	\$ 1.83	1.32	1.60
b. Return on Investment or Production Inputs	100%	100%	100%
5. Comparison with returns on Traditional crops with new technology levels.	<u>Corn</u>	<u>Beans</u> (Per Manzana)	<u>Sorghum</u>
a. Cost of Production	\$ 104	\$ 91	\$ 78
b. Farmer Profit	35	47	54
c. Return on Investment	33%	51%	70%
	<u>Cucumbers</u>	<u>Okra</u> (Per Manzana)	<u>Tomatoes</u>
d. Cost of Production	\$ 400	\$ 800	\$ 800
e. Farmer Profit	\$ 400	\$ 800	\$ 800
f. Return on Total Investment	100%	100%	100%

Even more important than the return on investment figures are the increases in total net income per manzana possible with cultivation of the selected non-traditional crops illustrated (i.e. compare lines 5 (e) and 5 (b)).

The gross margins derived by the plant from the indicated sales of individual vegetables shown above translates into a composite figure equal to the amount of margin required by the plant for break-even operations as shown in the following:

	<u>Cucumber</u>	<u>Okra</u>	<u>Tomatoes</u>
Plant Margins (Gross)	\$ 4.01	\$ 3.39	\$ 2.59
Volume (Units) 67% of Production Target	<u>8,760</u>	<u>24,400</u>	<u>20,100</u>
Sub-Totals	\$35,128	\$82,716	\$52,059
TOTAL =	\$169,903		

(Total Revenues required to meet both fixed and variable operating expenses (cf. Part 4, above) = \$ 163,436 at break-even point.

The very conservatively indicated price structure (from the packing house point of view) is also expected to be adequate for the marketer's operations. Total commission to be paid is:

	<u>Cucumbers</u>	<u>Okra</u>	<u>Tomatoes</u>
Price to Plant (equal to: F.O.B. Puerto Cortés charge, minus Plant to Port transport charges, les 15%)	\$ 7.67	\$6.67	\$ 5.79
Actual Commission Margin/Unit	\$ 1.15	\$.91	\$.78
Volume (units)	<u>8,760</u>	<u>24,400</u>	<u>20,100</u>
Sub-Totals	10,074	22,204	15,678
TOTAL =	\$47,956		

Net profitability for the marketer is difficult to project with confidence, due to the numerous factors involved, (for example, wholesale price fluctuations) and the marketer will bear this risk. On the other hand, increased production yields will mean greater profitability potential (assuming price stability in the export market) as packing production increases could be handled without significant additional manpower or administrative personnel expenses. As this will not be the only revenue generating activity of the proposed marketing agent, PATSA, fixed overhead expenses will not have to be borne exclusively by this operation and therefore, the total projected commission should be reasonably accurate.

Also, to the extent the prices in the export market are higher than expected at the time negotiated prices are set, or savings in any of the intermediate freight or commission charges can be realized, the marketer's

profit will be increased.

8. Employment Generation

Reliable data are not available on the amount of days of labor required for each of the proposed crops. However, reasonably accurate estimates of labor required per manzana would be:

Cucumbers:	65
Okra :	90
Tomatoes :	90

On the basis of the number of manzanas of each crop likely to be under cultivation as the plant reaches break-even, the numbers of days of labor to be generated are as follows:

<u>Crop</u>	<u>Area (Mas.)</u>	<u>Days of Labor</u>
Cucumbers	60	3,900
Tomatoes	60	5,400
Okra	60	5,400
Total		<u>14,700</u>

Additional labor generation will also be produced by the packing plant operations itself. Again, accurate data on the number of days of labor will be developed by the study to be done on the plant following the signing of the Project Agreement.

Nonetheless, the following estimate appears reasonable.

Packing Plant - Labor Requirements

	<u>Days labor/year</u>
Full-time (220 days/year) (staff of 5)	1100
Part-time: Average of 30-40 over a four month Peak Operating period (assume 10 hr. shift - plant in operation average of 6 day weeks)	2880 - 3840
Total	<u>3980 - 4940</u>

It is probable that a significant portion of the plant part-time labor requirements will be filled by women.

9. Rural Development Impact

When the plant reaches the targeted level of operations in the fourth phase, about \$300,000 the equivalent of 600,000 Lempiras will be put into circulation in the region through the local purchase of goods and services. Of that amount fully two-thirds or more will purchase goods and

services produced within the area itself, including the targeted vegetables and items such as boxes, crates, ice for the packing plant; the other third of purchasing services and items (fertilizer, seeds, etc.) will be procured most likely from Tegucigalpa. The roughly \$200,000 injected into the Comayagua Valley will have a multiplier effect on the local economy, although the net effect cannot be estimated at this time.

10. Foreign Exchange Impact

The foreign exchange benefits produced by the packing plant will be substantial. Assuming an average value of \$8.00 per carton/bushel of vegetables as the F.O.B. Puerto Cortés price ($= 9.67 + 7.36 + 7.12$), at the break-even point of operations the plant should be earning \$392,000 ($\$8 \times 49,000$) in foreign exchange. That level should be sustained at a minimum, and most probably increased yearly. Net foreign exchange earned in the first year, given the requirements for equipment purchases (estimated at \$85,000 and to be procured, most probably, from the U.S.), is also significant at approximately \$307,000. Subsequently, the net benefits should be nearly equal to the total earned, since no imported elements, other than possible equipment replacement, is expected.

Processed Vegetables Marketing (Tomatoes)1. Marketing Data

The primary competition for any foreign processor entering the United States processed tomato market is the United States tomato processing industry itself. Of all tomato and tomato products sold in the United States in 1975, domestic production accounted for 96%, while imported products held a 4% market share, representing \$20,783,715 in 1975. Because of the United States processor's domination of this market, the foreign processor has to initially market his product competitively in both quality and price.

In 1975, California produced 85% of all processed tomatoes. The current freight costs by rail from California to New York are \$2.62 per cwt. or 2.6 cents per pound, versus \$70 per ton or 3.5 cents per pound via sea freight from Honduras to New York. As the New York area is the target market for this activity, the difference in freight costs of approximately 1 cent per pound is negligible vis-a-vis Honduran/California competition. However, the cost of transportation from Honduras to New York is 14% lower than its leading Mediterranean competitors of tomato products, i.e., Italy, Portugal and Spain.

a. Pricing ModelsTomato Paste (26% to 28% Concentrate)

As of May 30, 1976 the prevailing wholesale price per case (# 10 institutional cans) of tomato paste was \$12.25. To this must be added freight costs California-New York at 2.6 cents per pound (1 case=41 lbs.) for a total price to the purchaser of \$13.31/per case. Honduran products, to be competitive, must meet this figure. Presented below are the costs to be incurred by the plant in shipping-transporting Honduran tomato products to the New York market.

Tomato Paste (Case of # 10 Institutional cans)*

<u>Function</u>	<u>Cost \$</u>
Packing Plant Price	9.96
Inland Freight	0.45 (est.)
<u>FOB, Puerto Cortés</u>	10.41
Ocean Freight	1.43
Marine Insurance	0.04
<u>CIF, New York</u>	Sub-Total \$ 11.88
Customs Duties	1.41
Freight Forwarding	0.01
<u>Landed Cost, New York Total</u>	\$ 13.30

* Some data in table are estimates to be confirmed.

Whole Peeled Tomatoes

Also as May 30, 1976 the prevailing wholesale price for a case of whole peeled tomatoes was \$8.25 with freight charges to New York of \$1.07 for a total purchaser price of \$9.32. Calculation of the competitive Honduran price for this product follows:

Whole Peeled Tomatoes (Case of # 10 Institutional Cans)

<u>Function</u>	<u>Cost \$</u>
Packing Plant Price	6.58
Inland Freight	0.45 (est.)
<u>FOB, Puerto Cortés</u>	<u>7.03</u>
Ocean Freight	1.40
Marine Insurance	0.03 (est.)
<u>CIF, New York</u>	<u>8.85</u>
Customs Duties	0.84 (est.)
Freight Forwarding	9.01
<u>Landed Cost, New York</u>	<u>9.31</u>

Thus, assuming the above prices, the maximum prices (per case) the processing plant can expect to set for the # 10 institutional size cans is \$9.96 for tomato paste, and \$6.58 for whole peeled tomatoes. For the project to be feasible, these prices must cover the costs of production for the small farmer producer, and of processing for the processing plant, as well as an adequate profit margin for each.

Pizza Sauce

A pricing model for pizza sauce will be developed for this project by the World Trade Institute before the end of September 1976.

b. Mejores Alimentos Operations **

An evaluation of the processing plant's estimated cost structure can be achieved through direct comparison with standard California tomato processing costs. This comparison is inherently valid due to California's domination of the U. S. processing tomato industry.

** The cost breakdowns are based on plant management's estimates and WTI information. This absence of firm costs reflects the lack of processing experience with the planned product pack (# 10 cans) and products (whole peeled, pizza sauce); thus costing must be developed during the initial phase of the project.

<u>(Basis - 6 Pack # 10 Cans)</u>	<u>Mejores Alimentos</u>	<u>Typical California Processor</u>
Raw Tomatoes	\$ 5.13	\$ 5.63
Processing and Container	2.89	4.30
Processor's marketing/dis- tribution expense	0.80	1.84
Total Cost	<u>\$ 8.82</u>	<u>\$11.77</u>
Target Price	9.96	12.25
Profit	1.14 (13%)	0.48 (4%)

The processing plant's model cost structure for a case of # 10 cans of tomato paste concentrate can also be demonstrated on a percentage basis, as shown below:

<u>(Basis - 6 Pack # 10 Cans)</u>	<u>(% Selling Price)</u>	
	<u>Mejores Alimentos</u>	<u>Typical California Processor</u>
Raw Tomatoes	52	46
Processing and Container	29	35
Processor's marketing/dis- tribution expense	8	15
Profit	<u>11</u>	<u>4</u>
	<u>100</u>	<u>100</u>

As clearly indicated (on preliminary basis) by the above costing models, Mejores Alimentos' tomato paste production is competitive with the California cost structure.

Specific model cost structures for whole peeled tomatoes and pizza sauce are being developed. For the whole peeled tomatoes, a lesser ratio of raw to finished product is required, thus a more favorable raw material cost is anticipated. Processing, packaging, and other costs are expected to be similar to those for the tomato paste. In light of the above preliminary costing, the plant's operations are expected to be both profitable and competitive in the export market.

2. Small Farmer Production Costs-Revenues

As described in part I, the cost of production per manzana for fresh table tomatoes was calculated at \$800. Although the variety of tomatoes used to supply the processing plant will be different from those to be cultivated for the fresh packing operation, the costs of cultivation-production are not expected to vary significantly. Production yield data, however, will be significantly higher resulting from factors such as increased individual yield potential of the variety itself and the acceptability of nearly the total yield as processable raw material.

Yields per manzana are expected to average 40,000 lbs. (higher yields, 50 to 60,000 lbs. are seen as possible over time). Contract prices for the 1976 crop have already been set by the processing plant at \$50 per ton. Farmers and asentamientos entering into such agreements will receive a potential gross return of \$1,000 per manzana cultivated. Assuming an average yield, a net return of \$200 per manzana will be realized. Such yields and net income figures compare favorably with income per manzana on traditional crops of corn, beans, and sorghum of \$35, \$47, and \$54 respectively.

The area (manzanas) targeted for asentamiento -small farmer production of tomatoes during the first, second, and third years of the project is 325 Mz., 625 Mz., and 625 Mz. respectively. Therefore, total estimated net income benefits which will accrue to small farmers are \$65,000, \$125,000, and \$125,000 in the first, second, and third years as shown below.

Processed Tomato Production

Small Farmer Production-Benefits

(US - Per Manzana)

<u>Year</u>	<u>Cost of Production</u>	<u>Yield</u>	<u>Contract Price</u>	<u>Net Income</u>	<u>Areas to be Cultivated</u>	<u>Total Estimated Income</u>
1	\$800	40,000 lb.	\$50/ton	200	325	\$ 65,000
2	\$800	40,000 lb.	\$50/ton	\$200	625	\$125,000
3	\$800	40,000 lb.	\$50/ton	\$200	625	\$125,000

3. Employment Generation

Assuming an estimated 90 days of labor are required per each manzana of tomatoes, cultivated, employment generation effects for small farmers are as follows:

<u>Year</u>	<u>Small Farmers</u>	
	<u>Area Cultivated (mz.)</u>	<u>Days-Labor Required</u>
1	325	29,250
2	625	56,250
3	625	56,250

The project will also have an incremental labor generation impact through the employment of individuals to work on expanded areas of company owned land and in the processing plant itself as shown below.

<u>Company Plantations</u>		
<u>Year</u>	<u>Area Cultivated (mz.)</u>	<u>Days-Labor Required</u>
1	675	60,750
2	875	78,750
3	875	78,750

Plant Operations

Average Number of Production
Line Employees over Peak
Cycle (Jan-April)1976-77: 300

Estimated Additional Employees
required to meet target
volumes:

1977-1978	50
1978-1979	50
Cumulative Requirements:	<u>400</u>

<u>Peak Period*</u>	<u>No. of Employees</u>	<u>Days-Labor/Year</u>
1976 - 77	300	28,800
1977 - 78	350	33,600
1978 - 79	400	38,400

4. Local Economic Impact

By year 3, the Mejores Alimentos export operations will be circulating approximately \$870,000 or L.1,740,000 in the Comayagua Valley through the purchase of raw materials and wage payments.

The processing plant has targeted 1,500 manzanas for tomato cultivation in Phases II and III. 625 of these manzanas will be cultivated by small farmers-asentamientos. Based on yield and cost calculations described above, the plant will return to producers an average of \$1,000 per manzana

* Based on 4 months, 10 hr. shift, 6 day week. (Average wage to processing employees is approximately \$3.25/day).

of tomatoes harvested, or a total of \$625,000. Of this amount, 20% or \$125,000 will be net profit for the farmers.

The increased area of plant-owned land to be brought under cultivation (875 manzanas) will generate employment and income estimated at about \$118,000 (875 Mz. x 90 days labor/mz. x \$1.50 wage/day).

In addition, by Phase III, the plant wage structure (production line labor) will have reached a level of \$125,000 (38,400 Days x 3.25 wage/day).

5. Foreign Exchange Impact

The proposed expansion of processing plant operations will generate significant foreign exchange earnings. Considering only the targeted production of tomato paste and whole peeled tomatoes * for the third year of the project, the following calculation shows benefits expected.

Phase III Target Levels

Whole Peeled Tomatoes, 2,000 tons (= to 100,000 cases at \$7.03/case-FOB price)	\$ 703,000
Tomato Paste, 2,000 tons (= to 97,600 cases at \$10.41/case-FOB Price)	<u>\$ 1,016,016</u>
TOTAL	\$ 1,719,016

* Cost and pricing data is not yet available for pizza sauce.

IV. IMPLEMENTATION ARRANGEMENTS

A. Administrative Arrangements of the GOH

1. Ministry of Economy

Overall GOH responsibility for the coordination and administration of this project lies with the Ministry of Economy, and in particular with the General Directorate of Foreign Trade (GDFT), which is the office responsible for promoting the growth and diversification of Honduras exports. Its functions and services are diverse and are performed mainly by four Departments: Export Promotion, Export Policy, Project Management and Export Information.

The following is a description of the functions and services provided by each of the four departments:

a. Department of Export Promotion

- i) Provides technical assistance for the promotion and marketing of products with export potential;
- ii) Sponsors courses, seminars and conferences on export techniques and other topics related to foreign commerce for the purpose of training personnel of export companies on governmental institutions that are working in the area of foreign trade;
- iii) Acts as a liaison between domestic export companies and foreign importers in order to facilitate commercial transactions;
- iv) Provides assistance for organizing, promoting and participating in national and international fairs and expositions; and
- v) Coordinates visits of foreign buyers who are interested in Honduran products.

b. Department of Export Policy

- i) Analyzes the treatment given to Honduran producers in foreign countries (allotments, import licenses, foreign exchange restrictions, customs duties, surcharges, differential internal taxes, etc.) and recommends measures applicable to the imports of those countries based on the principle of international reciprocity;
- ii) Administers import quotas;

- iii) Authorizes import and export permits;
- iv) Provides assistance concerning the Generalized System of Preferences (GSP); and
- v) Administers the Register of Importers and Exporters, a legal instrument by which imports and exports are regulated.

c. Project Management Group

- i) Does studies on food products, agricultural raw materials, fuels and lubricants;
- ii) Provides technical assistance to national producers in the following areas:
 - Farm and agricultural products of greatest foreign demand.
 - Quoting of international prices.
 - National and international plant and vegetable sanitary restrictions.
- iii) Conducts and coordinates activities with all other public and private institutions that are interested in promoting productivity in the agricultural products sector that have export potential.
- iv) Compiles world-wide statistics to determine which are the major producing and consuming areas of primary products and identify the flows of world trade in order to assess the relationships or differences between the supply and demand of these products.

d. Department of Export Information

The Department of Export Information specializes in the obtaining and processing available information on prices, products, regulations, transportation, financial sources and other information directly related to export.

The following functions of the Department are geared primarily to exporters:

i) Prices

The Department produces publications on selling prices of various products in different international markets.

ii) Marketing

The Department's Library has on hand numerous marketing studies on specific products, as well as pamphlets concerning the current international market situation, and other information related to exports.

iii) Services

The Department makes available information concerning various type of services rendered to exporters in the area of transportation, insurance, customs services, sources of financial assistance for exports and many other services.

iv) Publications

Information Bulletin "HONDU-EXPO", which highlights some of the more important information related to foreign trade and commerce. It is published on a monthly basis and has a national as well as international circulation.

With specific reference to the area of Agro-Industrial exports the GDFT participates through the Minister of Economy or his deputy in the following policy making body:

National Commission for the Development of the Lower Aguan - which supervises the operations of the Government in this geographic area which is receiving priority attention in the application of the Agrarian Reform, and in agricultural development oriented around small farmer cooperatives.

In addition to the organization above, the GDFT works very closely on a bilateral basis to obtain and exchange information on product price behavior in national and international markets, and to provide marketing information to the organizations listed below:

1. The National Coffee Institute
2. The National Cotton Committee
3. Federation of Cattlemen and Farmers
4. The Directorate General of Cooperative Development
5. National Forestry Development Corporation
6. National Investment Corporation

In addition to its overall coordinating responsibilities the GDFT will have direct responsibility for administration of the following project activities:

- a. The provision of external technical assistance to work with the Ministry of Natural Resources agronomists and the campesino cooperatives in each of the product areas selected for development;
- b. The participant training activity, which involves training for its own staff and representatives from other agencies;
- c. The procurement of commodities and equipment needed in the project; and
- d. The design and supervision of all evaluation activities.

The AID Mission has worked with GDFT for the past four years, and feels that it is well qualified to supervise this project and program the required technical assistance. The GDFT is one of the most dynamic dependencies of the GOH with a staff of 40 which includes 28 professionals. It enjoys an excellent reputation, both within the Government and in the private sector, and is able to carry out the required project coordinating functions.

2. Ministry of Natural Resources (MNR) ^{8/}

The Ministry of Natural Resources in addition to promoting campesino participation in the project will provide direct technical assistance in horticulture, entomology and related basic agricultural practices to the target group. To do so it will expand its present professional staff to Comayagua regional agricultural office from 9 to 12. Of the total 8 will concentrate their efforts exclusively in support of this project.

3. National Development Bank (BNF) ^{9/}

The National Development Bank has had its problems in complying with its primary function as an agricultural ^{10/}credit organization. These problems have been completely detailed elsewhere and it is sufficient for the purposes of this paper to state that progress toward the resolution of these problems while somewhat slow, is being made.

^{8/} For a more complete description of the MNR the reader is referred to the Honduras Agriculture Sector Loan Paper Pg. 149.

^{9/} op. cit. pg. 142.

^{10/} Honduras Rural Reconstruction II Project Paper Pg. 70

With regard to this project the Bank will make available \$730,000 for small farmer production credit.

In addition, the Bank will increase the present two-man staff of its Comayagua office by at least one, and preferably two more loan officers to expedite loan processing and approval.

4. The National Agrarian Institute (INA)^{11/}

INA will be responsible for the promotion of the project within its campesino asentamientos, and for identifying geographic regions and groups for future expansion of project activities.

5. National Development Corporation (CONADI)

The National Development Corporation (CONADI) was created by Decree Law No.135 on July 9, 1974 whose objective is to contribute to Honduras' economic development by promoting new industrial enterprises, or the expansion or consolidation of existing ones, as well as to stimulate private investment.

CONADI's organizational structure is made up of a Board of Directors whose main responsibility is that of determining policy. The Board of Directors is headed by a President, who is assisted by six directors. The President of the Board is the current Minister of Economy.

CONADI's activities can be divided into the following:

CONADI Program Beneficiaries

One of CONADI's objectives is to provide financial and technical assistance to the following industries: manufacturing, food, textile, lumber, chemical, mineral (non-metallic), metal (non-ferrous), fishing, mining, and tourism.

Any enterprise seeking CONADI assistance should be structured along the lines of a corporation with 51% Honduran capital.

Financing Program - Pre-Investment

The purpose of this program is to finance Honduran private investors who wish to undertake some industrial activity. Financing includes:

^{11/} op.cit. pg. 145

feasibility studies, engineering design, and marketing studies.

Loan Program for Industrial Equipment

This program is directed to strengthen those industrial enterprises to produce export items, to substitute import commodities, and oriented towards those enterprises that significantly contribute to Honduras' socio-economic development.

Financing will be provided for:

Expansion of installations.

Diversification of product line items.

Construction of industrial buildings.

Acquisition of fixed assets to expand operations.

Guarantee Program

For the purpose of facilitating the obtainment of financial credit from other institutions, CONADI will guarantee such loans provided the requirements are met.

Export Promotion Program

It is CONADI's express desire to collaborate with national investors, by assisting in financing export programs currently being carried out. In this manner it will help to boost production levels and increase foreign exchange earnings.

Investment Program

In addition to CONADI's own investment, CONADI offers Honduran investors its collaboration for investment in new enterprises or expansion of existing industries, and in this way divide the risk possibilities and benefits which may accrue.

B. AID Administrative Arrangements

AID will contract the services of a full-time project advisor for the life of the Project. The advisor will have overall responsibility for arranging AID input to the Project and will assist the GDFT in monitoring implementation and evaluation activities.

Contractors who will provide technical assistance will be obtained from U. S., third country or local sources.

Participant training will be arranged by AID in coordination with the GDFT. Project commodities will be purchased through established AID mechanisms, and customary disbursement procedures will be followed.

C. Implementation Plan

Upon receiving the Grant Authorization, USAID/H will sign a PROAG with the GOH for the Institution Building Activity, and for the Processing subproject of the Demonstration Project Activity. The PROAG will also include funding for the feasibility study of the Fresh Fruits and Vegetable subproject of this latter activity.

When feasibility of this latter subproject is demonstrated, an amendment to the PROAG will be signed, obligating the remaining funds. The feasibility analysis is expected to cost no more than \$250,000, per scope of work in Annex G.

The \$195,000 provided under the project for packing operation will be loaned to "Empresa". Upon achieving legal status, "Empresa" will sign a loan agreement with the BNF to repay the 1st year working capital (\$80,000) plus the undepreciated value of the interim packing shed and the equipment and materials installed in the packing shed (new cost: \$115,000). The terms of and conditions of the repayment will reflect the ability of "Empresa" to amortize the loan and will be approved by USAID/H. The BNF will hold the payments in a special account to be used for financing additional feasibility studies through the New Project Development Fund or to finance start-up costs for projects similar to the Demonstration Projects described in this PP or for other similar purposes as agreed in writing between the DGFT and USAID/H.

The GOH will budget a minimum of \$40,000 annually for the two years following its first contribution to the Project Development Fund for financing additional feasibility studies for future agribusiness report projects.

The following list of events comprises the Implementation Plan:

IMPLEMENTATION PLAN

<u>Description of Activity</u>	<u>Date</u>
1. Receipt of authorization cable	August 1976
2. Sign first year Project Agreement	September 1976
3. Contract long term project advisor	September 1976
4. Establish joint Evaluation Committee	September 1976
5. Contract Agricultural Research Firm (Fresh Produce)	September 1976
6. Plant 7 experimental crops (Fresh Produce)	Sept-Oct. 1976
7. Contract long term tomato TA	September 1976
8. Start Pre-Feasibility Studies in 5 areas (Fresh Produce)	October 1976
9. Collect target group baseline income data (Processed) (Fresh: Feasibility Study)	October 1976
10. Plant tomato crop (1,000 Mz.)	October 1976
11. Completion of Pre-Feasibility Studies (Fresh Produce)	December 1976
12. Marketing intern participant departs (6 months)	December 1976
13. Evaluation Committee Meeting	December 1976
14. Finish Processed Products Marketing Guides (WTI)	December 1976
15. First Quarterly Report	December 1976
16. Start Final Feasibility Studies (3 Areas)	January 1977
17. First tomato intern departs	January 1977
18. Three interns (Fresh Crop) depart	January 1977
19. Post Graduate participant Agribusiness departs	January 1977
20. Harvest fresh produce & begin Post-Harvest Evaluation	February 1977
21. Arrival Tomato Canning Expert	February 1977
22. Test production - 5 tons whole peeled tomatoes	February 1977
23. Production - 500 tons tomato paste	March 1977
24. Finish fresh produce marketing guides (WTI)	March 1977
25. Evaluation Committee Meeting	March 1977
26. Evaluate target group income benefits (Processed)	March 1977
27. Second Quarterly Report	March 1977
28. First marketing intern returns	June 1977
29. Fresh crop participants return (3)	June 1977
30. Tomato participant returns	June 1977
31. First Agribusiness Seminar (In-Country)	June 1977
32. Second group of fresh crop participants depart (3)	June 1977
33. Second tomato participant departs	June 1977
34. Evaluation Committee Meeting	June 1977
35. Third Quarterly Report	June 1977
36. Completion of Final Feasibility Studies	July 1977
37. Contract Agricultural Research Firm (Fresh Produce)	August 1977
38. Sign second year Project Agreement	August 1977
39. Sales negotiations (Processed) in New York	August 1977

<u>Description of Activity</u>	<u>Date</u>
40. Ship tomato paste and whole tomatoes	September 1977
41. Evaluation Committee Meeting	September 1977
42. First year evaluation report	September 1977
43. Plant three selected fresh crops (3-5 Mz. per crop)	Sept-Oct. 1977
44. Plant tomato crop (1,500 Mz.)	October 1977
45. Collect baseline income data for expanded target group (Processed)	October 1977
46. Contract Packing Plant Manager	October 1977
47. Set-Up Interim Packing Shed	December 1977
48. Second tomato intern participant returns	December 1977
49. Second group of participants (Fresh Produce) returns	December 1977
50. Evaluation Committee Meeting	December 1977
51. Fifth Quarterly Report	December 1977
52. Second marketing intern departs	December 1977
53. Second Post Graduate Participant Agribusiness departs	January 1978
54. One container per fresh crop shipped	Jan.-Feb. 1978
55. Order Packing Plant Equipment	February 1978
56. Tomato Canning Expert returns	February 1978
57. Produce whole peeled tomatoes - 1,000 Tons	February 1978
58. Completion of sale of fresh produce in U.S. winter markets	March 1978
59. Evaluate target group income benefits (Processed)	March 1978
60. Produce tomato paste - 2,000 Tons	March 1978
61. Evaluation Committee Meeting	March 1978
62. Sixth Quarterly Report	March 1978
63. Tomato Canning Expert returns	April 1978
64. Produce test pizza sauce - 10 Tons	April 1978
65. Begin design of Packing Plant	April 1978
66. First Post Graduate Agribusiness participant returns	June 1978
67. Second Agribusiness Seminar (In-Country)	June 1978
68. Evaluation Committee Meeting	June 1978
69. Seventh Quarterly Report	June 1978
70. Start Packing Plant construction	June 1978
71. Sign third year Project Agreement	August 1978
72. Contract Long Term Agricultural TA (Fresh Produce)	August 1978
73. Sales negotiations (Processed) New York/Philadelphia/Boston	August 1978
74. Ship paste, whole tomatoes and pizza sauce to the U.S.	September 1978
75. Evaluation Committee Meeting	September 1978
76. Second year evaluation	September 1978
77. Plant three fresh crops (30-50 Mzs. per crop)	Sept-Oct. 1978
78. Plant tomato crop (1,500 Mzs.)	October 1978
79. Collect expanded target group income data (Both Projects)	October 1978

<u>Description of Activity</u>	<u>Date</u>
80. Packing Plant fully equipped & Operational	November 1978
81. Evaluation Committee Meeting	December 1978
82. Ninth Quarterly Report	December 1978
82a. Third Post-Graduate Agribusiness Departs	January 1979
83. Containers per fresh crop shipped	January 1979
84. Tomato Canning Expert returns	February 1979
85. Produce Test Consumer Pack	February 1979
86. Produce whole peeled tomatoes - 2,000 Tons	February 1979
87. Completion/Sale of fresh produce U.S. winter markets	March 1979
88. Produce tomato paste - 2,000 Tons	March 1979
89. Evaluate target group income benefits (Both Projects)	March 1979
90. Evaluation Committee Meeting	March 1979
91. Tenth Quarterly Report	March 1979
92. Produce pizza sauce - 1,000 Tons	April 1979
93. Second marketing intern returns	May 1979
94. Second Post Graduate Agribusiness returns	June 1979
95. World Trade Agribusiness Seminar (In-Country)	June 1979
96. Evaluation Committee Meeting	June 1979
97. Eleventh Quarterly Report	June 1979
98. Cooperative assigns counterpart(s) to Packing Plant	July 1979
99. Sales negotiations in Honduras (Processed)	August 1979
100. Fourth Post-Graduate Agribusiness Departs	August 1979
101. Ship tomato paste, whole tomatoes, and pizza sauce to U.S. markets	September 1979
102. Evaluation Committee Meeting	September 1979
103. Plant three fresh crops (60-100 Mz. per crop)	Sept-Oct. 1979
104. Final Project Evaluation Report (Processed)	October 1979
105. Evaluation Committee Meeting/Quarterly Reports (Fresh)	December 1979
106. Twenty containers per fresh crop shipped	January 1980
107. Completion/Sale of Fresh Produce in U.S.	January 1980
108. Evaluation Committee Meeting	March 1980
109. Final Project Evaluation Report	March 1980
110. Third Post-Graduate Agribusiness returns	June 1980
111. Fourth Post-Graduate Agribusiness returns	February 1981

D. Evaluation Strategy and Plan

1. Evaluation Strategy

Evaluations included in this project will be of two kinds: (a) evaluations of Project impact upon the target group; and (b) evaluations concentrating on performance variables such as targeted outputs and utilization of resources. The evaluations will be expected to allow progress toward targeted outputs to be monitored; to provide adequate and timely information for project control purposes and to assess the direct impact of project activities on the income of the target group.

2. Evaluation Plan

a. Evaluation Committee

Monitoring of progress of the Agro-Industrial project will be the responsibility of a joint committee with members from the following organizations:

- i) Ministry of Economy - chairman
- ii) Ministry of Agriculture
- iii) National Development Bank
- iv) National Agrarian Institute
- v) National Investment Corporation
- vi) USAID, Project Advisor

In addition to constant field trips by the representatives, the committee will meet at a minimum on a quarterly basis to review progress and problems, and issue a quarterly evaluation report. Other meetings and reports will be held on an ad hoc basis as needed. The Evaluation Committee will include but not be limited to the institutions listed above. It will call on representatives from PATSA, Mejores Alimentos, SIATSA and other organizations as circumstances indicate.

b. Evaluation of Targets for Each Activity Under the Project

The Evaluation Committee will have the responsibility for measuring the achievements made toward the target under each of the following activities:

PROCESSED VEGETABLES -INDICATORS

- i) Phase I - October 76 to September 77

1,000 manzanas of tomato crop planted and harvested.

Test market 5 tons of whole peeled tomatoes.
 Test market 500 tons tomato paste.

ii) Phase II - October 77 to September 79

1,500 manzanas of tomato crop planted and harvested.
 Production of 1000 tons of whole peeled tomatoes, 2,000
 tons tomato paste, and 10 tons pizza sauce for test
 market purposes.

iii) Phase III - October 78 to September 79

1,500 manzanas of tomato crop planted and harvested.
 Production of 2,000 tons whole peeled tomatoes; 2,000
 tons tomato paste; and 1,000 tons pizza sauce for U. S.
 consumer market.

FRESH FRUITS AND VEGETABLES

i) Phase I - September 76 to March 77

Experimental production of seven crops. Complete
 feasibility studies of potential demonstration project
 sites, focus on the crop production and packing plant
 requirements.

ii) Phase II - September 77 to March 78

Plant and harvest three crops (3-5 manzanas per crop).
 Production of 40,000 pounds for each crop. Sell produce
 (in U. S. winter market).

iii) Phase III - September 78 to March 79

Plant and harvest 30-50 manzanas for each of three crops.
 Production of 400,000 pounds per crop. Sell production
 in U. S. winter market.

iv) Phase IV - September 79 to March 80

Plant and harvest 60-100 manzanas for each of three crops.
 Production of 800,000 pounds per crop. Sell produce in
 U. S. winter market.

See Implementation Plan, Description of Activity and PPT for
 completion dates of each activity.

c. Evaluation Arrangements

Evaluation will take place on a continuing basis, as an integral part of project management by the Evaluation Committee. Specifically, with the initiation of each new campesino agricultural production area a simple baseline survey will be undertaken to measure present income level. Upon sale of the crop, a second survey will be taken in the same area to measure changes in income and cultural practices in comparison with the data obtained from the first survey.

In addition, the evaluation committee will closely monitor project progress with respect to the achievement of planned project outputs and carefully analyze and detail any anomalies.

The Mission evaluation plan is to submit a Project Appraisal Report (PAR) on this project annually, to commence one year after the first crop is planted. It is anticipated that the PAR will coincide with, and be based upon, the annual report of the evaluation committee.

GLOSSARY OF HONDURAN INSTITUTIONS AND AGENCIES

MOE	Ministerio de Economía Ministry of Economy
DGFT	Dirección General de Comercio Exterior Directorate General of Foreign Trade (office of Ministry of Economy)
PMG	Project Management Group (office of DGFT) (office of Ministry of Economy)
PATSA	Productos Acuaticos y Terrestres, S.A.
SIATSA	Servicios para la Investigación Agrícola Tropical, S.A. Tropical Agriculture Research Services
INA	Instituto Nacional Agrario National Agrarian Institute
MNR	Ministerio de Recursos Naturales Ministry of Natural Resources
BNF	Banco Nacional de Fomento National Development Bank
COCO	Comite Coordinador (del Sector Agrícola) Coordinating Committee (Agricultural Sector)
CONADI	Corporacion Nacional de Inversiones National Investment Corporation

JAN 26, 1976

UNCLASIFIED

CONTROL 733

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 PP RUESTE
 DE RUEHC #7960 0240506
 ZNR UUUUU ZZH
 P 240100Z JAN 76
 FM SECSTATE WASHDC
 TO RUESTE/AMEMBASSY TEGUCIGALPA PRIORITY 6104
 INFO RUESGT/AMEMBASSY GUATEMALA PRIORITY 2617
 BT
 UNCLAS STATE 017960

ANNEX B.

26 JAN 76 15 17

AIDAC

ACTION AID
 INFO 315/DCM
 CITRON

E.O. 11652: N/A

TAGS:

ACTION MS
 Control Card for Reply 846008

SUBJECT: AGRO-INDUSTRIAL EXPORT PRP
 GUATEMALA FOR ROCAP

INFO: D
 AD
 PROG
 RD
 CITRON
 READER

1. THE DAEC CONSIDERED THE SUBJECT PRP ON NOVEMBER 28, 1975. THE PRP IS APPROVED SUBJECT TO THE FOLLOWING GUIDANCE FOR INTENSIVE REVIEW AND THE PREPARATION OF THE PROJECT PAPER.

--A. SMALL FARMER/RURAL POOR OBJECTIVE: THE DAEC VIEWS THE CENTRAL OBJECTIVE OF THE PROJECT TO BE THE MAXIMIZING OF THE PARTICIPATION OF SMALL FARMERS AS SUPPLIERS TO AGRO-INDUSTRIES. EXPORT DEVELOPMENT, AS SUCH, IS NOT A SUFFICIENT PROJECT RATIONALE BUT TO THE EXTENT THAT IT DIRECTLY AND CLEARLY CONTRIBUTES TO THE CENTRAL OBJECTIVE, IT SHOULD BE SUPPORTED.

--B. PROJECT DESIGN:

----(1) IN VIEW OF THE ABOVE, THE PP MUST DEMONSTRATE CLEARLY HOW THE LINK BETWEEN THE PROCESSORS AND SMALL FARMERS WILL BE ESTABLISHED, WITH SPECIAL ATTENTION PAID TO THE BENEFITS THAT WILL ACCRUE TO THE LATTER.

----(2). THE MANNER BY WHICH THE PROJECT WILL PROVIDE ASSISTANCE TO THE SMALL FARMER GROUPS TO ENABLE THEM TO ADEQUATELY SUPPLY PROCESSORS IS NOT CLEARLY DESCRIBED IN THE PRP. THE INTENSIVE REVIEW SHOULD DEVOTE CONSIDERABLE ATTENTION TO DESIGNING THE PROJECT TO MAXIMIZE THE BACKWARD LINKAGE TO SMALL FARMERS. ALTHOUGH THE PROJECT WILL CONCENTRATE ON THE RURAL POOR IN SOME FORM OF ORGANIZED GROUPS SUCH AS COOPERATIVES, "ASENTAMIENTOS" OR "EMPRESAS", AS SUPPLIERS OF RAW MATERIALS, TO THE EXTENT THAT INDIVIDUAL FARMERS ARE INCLUDED, THE PP SHOULD DEMONSTRATE THAT THEY WILL BE SMALL FARMERS.

----(3). IN VIEW OF THE FACT THAT PROCESSING AND MARKETING MAY NOT REPRESENT AS GREAT AN EXPORT CONSTRAINT AS ASSURANCE OF A RELIABLE RAW MATERIALS SUPPLY, THE INTENSIVE REVIEW SHOULD LOOK CLOSELY AT THE TECHNICAL ASSISTANCE MIX PROPOSED AND CONSIDER A CHANGE OF EMPHASIS FROM MARKETING TO PRODUCTION.

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--C. REPLICABILITY: THE INTENSIVE REVIEW SHOULD INCLUDE AN ANALYSIS OF THE NUMBER OF SMALL FARMERS AND OTHER RURAL POOR EXPECTED TO BENEFIT FROM THE PROJECT AND DEMONSTRATE HOW THE PROJECT WILL CAUSE A CONTINUOUS DISPERSION OF BENEFITS AMONG ADDITIONAL MEMBERS OF THE TARGET POPULATION AS OPPOSED TO AN OVER-CONCENTRATION OF BENEFITS WITHIN A LIMITED SUBGROUP.

--D. TECHNICAL FEASIBILITY: THE INTENSIVE REVIEW SHOULD FOCUS ON THE QUESTION OF THE SMALL FARMER'S CAPABILITY TO PRODUCE AND DELIVER ADEQUATE RAW MATERIALS SUPPLIES AS NEEDED IN ACCORDANCE WITH CONTRACTUAL OBLIGATIONS. THE INTENSIVE REVIEW SHOULD LOOK AT SIMILAR ACTIVITIES OF OTHER COUNTRIES COMPETING WITH HONDURAS SUCH AS GUATEMALA'S COOPERATIVE CROP DIVERSIFICATION PROJECT.

--E. EXPORT INCENTIVES LAW: THE INTENSIVE REVIEW SHOULD CAREFULLY ANALYZE THE IMPORTANCE OF THE PROPOSED EXPORT INCENTIVES LAW IN TERMS OF PROJECT OBJECTIVES. THE IMPACT ON THE PROJECT OF DELAYS OR FAILURE IN ENACTING THE LAW SHOULD BE CLEARLY DESCRIBED. FURTHERMORE, THE PP SHOULD DISCUSS WHETHER OR NOT PASSAGE OF THE LAW SHOULD BE A CONDITION PRECEDENT TO SIGNATURE OF THE PROAG OR SHOULD BE HANDLED AS A MAJOR OUTPUT WITH A TARGET DATE FOR PASSAGE.

--F. PROJECT COSTS: PROJECT "OTHER COSTS" CATEGORY SHOULD BE ANALYZED TO DETERMINE ITS PRIORITY AND WHETHER SUBSTITUTE (GOH) FINANCING WOULD BE AVAILABLE. THE PP SHOULD ALSO REFLECT FURTHER ANALYSIS OF "CONTINGENCIES AND INFLATION" FACTOR AND PROVIDE FULL JUSTIFICATION FOR ITS INCLUSION.

--G. DGCE CAPACITY: IN VIEW OF THE HEAVY PROJECT EMPHASIS ON SMALL FARMER ASSISTANCE, THE INTENSIVE REVIEW SHOULD CONSIDER CAREFULLY WHETHER THE DGCE HAS THE CAPACITY TO DO THE JOB EFFECTIVELY.

--H. OTHER SOURCES OF TECHNICAL ASSISTANCE: DURING INTENSIVE REVIEW OTHER SOURCES OF TECHNICAL ASSISTANCE FOR THE PRODUCTION, PROCESSING AND MARKETING ASPECTS OF THE PROJECT SHOULD BE EXPLORED INCLUDING CIPE, CABEI, BNF, AND ITC IN ORDER TO REDUCE THE NEED FOR SO MUCH TA TO BE PROVIDED BY AID, OR TO SUPPLEMENT IT.

2. WE UNDERSTAND THAT INTENSIVE REVIEW WILL BEGIN IMMEDIATELY AND THAT THE MISSION PLANS TO COMPLETE THE PP BY JULY 1976. PLEASE CONFIRM. SISCO
RT

CONSEJO SUPERIOR DE PLANIFICACION ECONOMICA

TEGUCIGALPA, D. C., HONDURAS, C. A.

6 de agosto de 1976

OF. PA/2156

Sr. Martín Dagata
AID/HON
Ciudad.

Señor Dagata:

Como es de su conocimiento, el gobierno de Honduras está orientando sus esfuerzos y recursos hacia el logro de un desarrollo integral, sustancial y sostenido del país, siguiendo las directrices contenidas en el Plan Nacional de Desarrollo 1974-78. Para el logro de los grandes objetivos y metas propuestas en el referido Plan, se está concentrando gran parte de las acciones hacia el desarrollo del Sector Agrícola, que se considera como fundamento para el desarrollo de los demás sectores de la economía.

Como también es de su conocimiento, una de las principales barreras, para el desarrollo del Sector Agrícola es nuestro deficiente sistema de comercialización. Por esta razón, se está trabajando arduamente para mejorar la eficiencia del referido sistema, a la vez que se realizan esfuerzos no solo para diversificar y expandir la producción, sino que también para lograr grados crecientes de industrialización de esa producción agrícola.

Con miras a acelerar el desarrollo de actividades específicas, esta Secretaría Técnica considera de importancia prioritaria el fortalecimiento y adecuación funcional de la Dirección General de Comercio Exterior, dependiente del Ministerio de Economía, así como el suministro de asistencia técnica y financiera directa, para la producción y diversificación agrícola, su industrialización y colocación en los mercados internacionales.

En vista de lo anterior y estando plenamente conscientes de las serias limitaciones de recursos financieros y humanos que sufre Honduras, muy atentamente nos permitimos solicitar que esa prestigiada Agencia proporcione la suma de US\$1.7 millones, en calidad de donación, y que harán posible la ejecución de un proyecto de desarrollo de la agroindustria para exportación.

El proyecto en su conjunto tendrá un costo estimado de US\$5.3 millones, que se invertirán en un plazo de tres años (1977-79), en los subproyectos básicos y en los montos que se detallan en el cuadro adjunto.

La asistencia que proporcione esa Agencia no solo la consideraremos vital para la ejecución del Proyecto, sino que también constituirá un importante factor

de motivación y cohesión entre las personas e instituciones (públicas y privadas) involucradas.

En espera de su amable atención a la presente, le reitero a usted las muestras de mi distinguida consideración,

Atentamente.



Arturo Corleto M.
ARTURO CORLETO M.
Secretario Ejecutivo.

CNF/acr.

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Financiamiento Proyecto de Desarrollo Agroindustria para
Exportación
(Miles de US\$)

SUBPROYECTOS	AID	GOH	Total
I. Reforzamiento Institucional.			
1. Asesoría Técnica al Ministerio de Economía.	150	40	190
2. Entrenamiento al personal del Ministerio de Economía.	100	75	175
Sub-total I	250	115	365
II. Industrialización del Tomate.			
1. Asesoría Técnica al Ministerio de Recursos Naturales.	215	150	365
2. Entrenamiento al personal del Ministerio de Recursos Naturales.	20	10	30
3. Crédito para producción.	-	455	455
4. Compra de materia prima.	-	1,575	1,575
5. Imprevistos/inflación	25	-	25
Sub-total II	260	2,190	2,450
III. Diversificación Agroindustrial.			
1. Asesoría Técnica al Ministerio de Recursos Naturales.	650	170	820
2. Entrenamiento al personal del Ministerio de Recursos Naturales.	60	30	90
3. Estudios factibilidad.	260	60	320
4. Planta empacadora.	195	140	335
5. Crédito para producción.	-	220	220
6. Compra de materia prima	-	675	675
7. Imprevistos/inflación	25	-	25
Sub-total III	1,190	1,295	2,485
GRAN TOTAL -----	1,700	3,600	5,300

DRAFT PROJECT DESCRIPTION FOR PROJECT AGREEMENT

The broad objective of this project is to increase the income and improve the standard of living of small farmers and their families. In fulfilling this objective the purpose is to improve the GOH capacity to identify, promote, and develop agribusiness export projects which directly integrate small farmers into the development process. This project follows and dovetails into a recent project activity (No. 522-190-0531) which has assisted the Ministry of Economy to strengthen the capacity of the General Directorate of Foreign Trade (GDFT) by providing technical assistance to actual and potential exporters.

Two interrelated activities--staffing and training the personnel of the Product Management Group of the General Directorate of Foreign Trade (Ministry of the Economy) and implementing at least one demonstration subproject--will be carried out under the project. In pursuit of the objective described above, this project will directly link the export process to the small farmers in cooperatives, asentamientos or other small farmer groups engaged in producing non-traditional crops for export. The linkage to the small farmer will be provided through the following activities.

A. Staffing and Training Personnel of the Product Management Group (PMG).

The capacity of the PMG to identify and develop new agribusiness projects and therefore to replicate this project's experience, will be increased through training and technical assistance and a project development fund.

The participant training program, an important element in this project, will strengthen and establish a source of agribusiness expertise, both technical and managerial, in key GOH institutions. This program, primarily directed at the GDFT and MNR, will consist of about 160 staff months of training.

The institutionalization of a systems approach to the identification and development of future agribusiness export projects will take place within the Project Management Group, and through the development of the capabilities of other institutions having a role in export projects, whose activities will be coordinated by the PMG. A special fund of \$120,000 will be provided for the initiation of the new product development process in the third year of the project. AID will provide 50% of the funds (\$60,000) and the GOH the other 50%. The following and subsequent years will see all of the costs borne by the GOH.

B. Demonstration Projects

A processed vegetable demonstration project and a feasibility study for a fresh fruits and vegetables activity will be carried out under the project.

The processed vegetable activity will consist of tomato production by small farmers (mostly in asentamientos) in the Comayagua Valley. The processing/canning of tomato products will be carried out by Mejores Alimentos, S. A., as well as exporting the products to the United States institutional market. Ten Agrarian Reform groups will be involved in the tomato project. Technical assistance in efficient tomato cultivation will be provided to the small farmers. By the end of project, 625 manzanas of tomatoes will be under cultivation, and 8,500 tons of tomato products will have been produced and marketed.

The feasibility study will examine the technical, social, economic **and** financial aspects of a fresh fruits and vegetables demonstration project. At least three alternative sites will be considered, at least one of which will be the subject of an in-depth feasibility analysis.

The project will be implemented over a three-year period. Total project costs amount to \$3,235,000 of which \$820,000 will be an AID Grant and \$2,415,000 will be contributed by the GOH.

AID 1020-28 (7-71)
SUPPLEMENT I

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

ANNEX E.

Life of Project:
From FY _____ to FY _____
Total U.S. Funding _____
Date Prepared: _____

Project Title & Number: Agro-Industrial Export Development, 522-0120

(INSTRUCTION: THIS IS AN OPTIONAL
FORM WHICH CAN BE USED AS AN AID
TO ORGANIZING DATA FOR THE PAR
REPORT. IT NEED NOT BE RETAINED
OR SUBMITTED.)

PAGE 1

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Program or Sector Goal: The broader objective to which this project contributes:</p> <p>To increased the incomes of small farmers.</p>	<p>Measures of Goal Achievement:</p> <p>Average income of farmers involved in project increases by 100% by 1979.</p>	<p>Project records.</p>	<p>Assumptions for achieving goal targets:</p> <p>1. U.S. economy recovers from recession.</p>

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PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY _____ to FY _____
Total U.S. Funding _____
Date Prepared: _____

Project Title & Number: Agro-Industrial Export Development - 522-0120

PAGE 2

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Project Purpose:</p> <p>1. To develop GOH capacity to establish agribusiness export projects which will directly integrate small farmers into the development process.</p>	<p>Conditions that will indicate purpose has been achieved: End of project status.</p> <p>1. Coordination mechanisms for Demonstration projects designed and functioning by 1977, refined by 1978:</p> <p> a. inter-agency agreements signed</p> <p> b. evaluation committee meeting and resolving problems</p> <p>2. New Product development process operational by 1979.</p> <p> a. Implementation of one new agribusiness enterprise by end of project</p> <p> b. Project development fund budgeted at \$60,000 per year by GOH at end of project.</p> <p>3. 496 farm families have 805 manzanas under cultivation on a contractual basis by 1979.</p> <p> a. Tomatoes - 625 manzanas</p> <p> b. Other Crops-180 manzanas</p> <p>4. 8,500 tons of processed tomato products exported by 1979.</p> <p>5. 1,800 tons of fresh produce exported by 1979.</p> <p>6. Honduran agro-project products being sold in U.S. market areas.</p>	<p>1. Project Records.</p> <p>2. Project Records</p> <p>3. Project Records</p> <p>4. Project Records</p> <p>5. Project Records</p> <p>6. Project Records</p>	<p>Assumptions for achieving purpose:</p> <p>1. Other GOH Ministries and financial institutions continue to cooperate with the Ministry of Economy</p> <p>Export prices for selected crops remain stable.</p> <p>Target markets do not erect new tariff or quantitative barriers.</p>

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

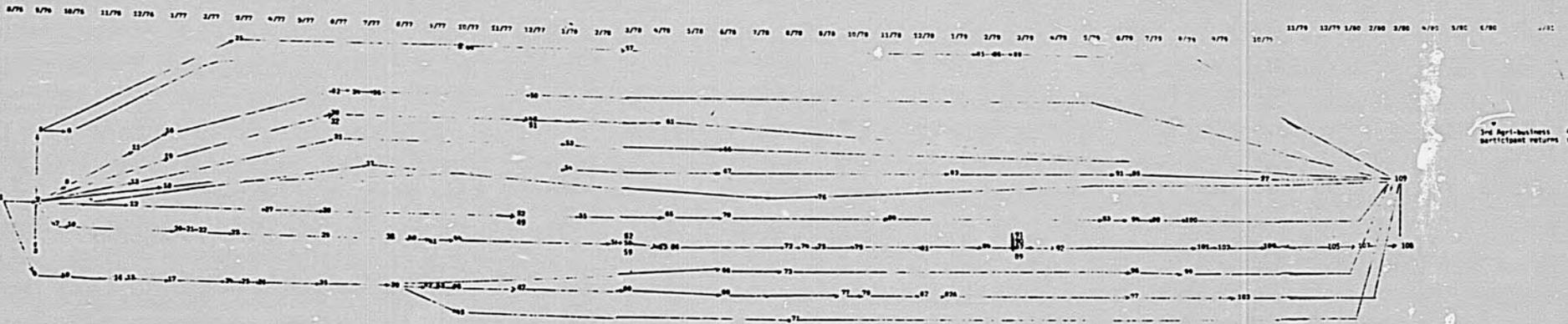
Life of Project: _____
From FY _____ to FY _____
Total U. S. Funding _____
Date Prepared: _____

Project Title & Number: Agro-Industrial Export Development - 522-0120

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Outputs:</p> <p>1. Product Management Group fully staffed and trained.</p> <p>2. Implementation of demonstration projects</p> <p>a. Plans</p> <p>b. Feasibility Studies</p> <p>c. Production Credit</p> <p>d. Production IA, farmers</p> <p>e. Production Trials</p> <p>f. Quality control</p> <p>g. Farmer-Processor contracting system established</p> <p>h. Packing facility in operation</p> <p>i. Baseline data development.</p>	<p>Magnitude of Outputs:</p> <p>1. a. 5 professionals on board in early 1977</p> <p>b. 4 members of PMG and other GOH agency staffs receive masters in business with specialization in agribusiness marketing by 1979.</p> <p>c. 2 agribusiness seminars held in-country.</p> <p> 1 in 1977</p> <p> 1 in 1978</p> <p>d. agribusiness marketing seminar (WTI) held in 1978.</p> <p>e. 2 members of PMG receive marketing internships in U.S.</p> <p>2. a. Three year plan developed during first 6 months in 1977. Yearly operational plans developed before GOH budget cycle.</p> <p>b. Engineering, financial and production feasibility studies completed for fresh project</p> <p>c. Minimum of \$675,000 in loans made annually by 1979.</p> <p> Processed - \$455,000</p> <p> Fresh - \$220,000</p> <p>d. 9 MNR extension agents working full-time .</p> <p>8 MNR extension agents trained in specialized crop production.</p> <p>e. 7 crops tested by 1978</p> <p>f. Output acceptable in U.S. market.</p> <p>g. Farmers deliver produce to plant. Plant buys all acceptable produce at pre-established price.</p> <p>h. Packing plant constructed and equipped by November 1978.</p>	<p>1. Project Records</p> <p>2. Project Records</p> <p>i. Three baseline surveys completed in project area and evaluated.</p>	<p>Assumptions for achieving outputs:</p> <p>1. High caliber staff can be recruited and retained at Civil Service salaries.</p>

NON-INDUSTRIAL EXPORT PROJECT

ANNEX F



3rd April-Business participant returns
4th April-Business participant returns

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Tropical Agriculture Research Services

SERVICIOS PARA LA INVESTIGACION AGRICOLA TROPICAL S.A.
(SIATSA)

TERMS OF REFERENCE FOR A FEASIBILITY STUDY FOR THE ESTABLISHMENT OF AN EXPORT VEGETABLE INDUSTRY IN THE COMAYAGUA VALLEY

OBJECTIVES:

To determine feasibility of establishing an export vegetable industry under irrigation in the Comayagua Valley starting with the fresh market, and later introducing processing plants. The area recommended for the production of vegetables and the capital investment in from farm machinery, irrigation systems, packing plant and processing plants will be planned to achieve the most viable results.

A detailed budget and cash-flow will be prepared for the project including personnel, organizational horticultural, technical and financial requirements. This will serve as a basis for the financing of the project.

SCOPE OF STUDY

The work to be undertaken will include:-

- i) A full study of lands available in the Valley to select the most suitable for irrigated vegetable production.
- ii) The selection of the best site for establishing a packing plant or plants.
- iii) Contacts with local industries and suppliers to assess available services and materials.
- iv) A survey of all existing irrigation installations and plans for their development, with recommendations for requirements for vegetables.
- v) A study of the market potential of the proposed crops including seasons of highest return.
- vi) The design of packing facilities for the various crops and transportation required to move the crops.

- vii) A study of the socio-economic environment in the valley, its capacity to support such an industry and the effect of that industry on it.
- viii) Collection of cost data for preparation of a financial plan.

SEQUENCE OF SURVEY ACTIVITIES

SIATSA would start first to compile data required for a preliminary report giving a broad outline of the project. Also included would be a general plan of lands available, siting of packing facilities and their capacity and estimates of capital expenditure.

DETAILED REQUIREMENTS

If as a result of the preliminary study, it is agreed that a more detailed study should be made, SIATSA will collect the following data and draft the following designs, projections and calculations:-

FINANCE

A. BASIC DATA

1. Availability and cost of staff and labour.
2. Availability and cost of transportation to market.
3. Cost of importation, handling and transportation of equipment, machinery and materials.
4. Cost of power and water-supply.
5. Costs of various other services.

B. CALCULATIONS

1. Budgets of capital expenditure.
2. Budgets of revenue expenditure
3. Cashflow
4. Cost/benefit calculations
5. Draft financial set-up

6. Proposed organization and management of project.

SOCIO-ECONOMIC SITUATION

BASIC DATA

1. A survey of the total number of people on the land selected for vegetable production.
2. An estimate of the labor available for production of vegetables.
3. Incomes per capita of the above people.
4. Traditional patterns of food production.

CALCULATIONS

1. An estimate of the improvement in income effected by the project.
2. An estimate of the changes in traditional patterns of food production brought about by the project.
3. An estimate of the total number of growers and their families to be involved.

WATER MANAGEMENT

BASIC DATA

1. A study of water availability and river flow, soil permeability and drainage.
2. A detailed survey of existing irrigation equipment and constructions.
3. A study of irrigation requirements for vegetables.

CALCULATIONS/DESIGN

1. Water requirements in all areas.
2. Designs for efficient systems of irrigation in the vegetable fields.

HORTICULTURE

A. BASIC DATA

1. Climatic data (including rainfall, sunshine, temperature, humidity

and evapotranspiration).

2. Soil chemical and physical composition.
3. Trials on selected crops.
4. Choice of best varieties of these crops for Comayagua.
5. Investigation of optimal fertilizer programs.
6. Survey of diseases and pests, and testing of methods for their control.
7. Harvesting procedures.
8. Costs of all field activities.

B. CALCULATIONS

1. Field - layout
2. Drainage systems
3. Land preparation (sequence of operations)
4. Cultivation techniques
5. Seasons of production.
6. Organization and manning of extension services.

POST-HARVEST OPERATIONS

1. Optimal storage conditions and storage life of selected crops.
2. A study of existing methods of preparation and packing of selected crops.

CALCULATIONS/DESIGN

1. Methods for storage and transportation.
2. Methods of packing.
3. Design and costs of packing facilities.

A. PROCESSING

1. Methods available for processing of selected crops.
2. Capital investment needed in relation to production.

3. Capacity per unit time of processing equipment.

B. CALCULATIONS/DESIGN

1. Plan for introduction of ancillary processing facilities.
2. Capital investment involved.
3. Harvest programs to fit factory capacity.

REPORTING

A draft final report, in English and Spanish would be submitted for approval within six (6) months of the commencement of field work. The final report would be ready within four (4) weeks of approval of the draft report.

Ten (10) copies in each language would be supplied.

A handwritten signature in black ink, appearing to be 'J. J. J.', located in the lower right quadrant of the page.

SIATSA
La Lima, Honduras
July 18th, 1976

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DEMONSTRATION PROJECT
A STRATEGIC MARKETING PLAN
FOR
HONDURAN PEELED TOMATOES AND TOMATO PASTE

INTRODUCTION

I. PRODUCT DEVELOPMENT: WHAT YOU, THE FOREIGN PROCESSOR AND/OR EXPORTER SHOULD KNOW ABOUT THE QUALITY OF THE PRODUCT FOR THE UNITED STATES MARKET	1
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4. Rodent and Other Natural Contaminant Levels and Tolerances	11
5. Standards of Fill	11
6. United States Department of Agriculture Grades	12

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II. PACKAGE AND LABEL DEVELOPMENT: HOW THE LABEL AND PACKAGE REGULATIONS APPLY TO YOU, THE EXPORTER OF PEELED TOMATOES AND TOMATO PASTE

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PROCESSED VEGETABLES DEMONSTRATION PROJECT: SUMMARY FLOW CHART

<u>PRE-PROJECT</u> June-Sept 76	<u>PHASE I</u> Oct-Sept 77	<u>PHASE II</u> Oct 77-Sept 78	<u>PHASE III</u> Oct 78-Sept 79
1. Completion of Harvest (500 Mzs.) (June)	1. Plant/Harvest Tomato Crop (1,000 Mzs.) (Oct-April) (Ag.Reform groups: 325 mzs.)	1. Plant/Harvest Tomato Crop (1,500 mzs.)(Oct-April)(Ag. Reform groups: 625 mzs.)	1. Plant/Harvest Tomato Crop (1,500 Mzs.)(Oct-April)
2. Production of Test Market Quantities of Tomato Paste 5 tons/250 cases (June)	2. Produce Test Market Quantities of (5 tons/.250 cases Whole Peeled tomatoes	2. Produce Whole Peeled tomatoes (1,000 tons 50,000 cases)(Feb)	2. Produce Whole Peeled tomatoes (2,000 tons) (Feb).
3. Sales negotiations in New York (Sept.)	3. Produce Tomato Paste (500 tons/24,000 cases (March)	3. Produce Tomato Paste (2,000 tons/98,000 cases)(March)	3. Produce Tomato Paste (2,000 tons)(March)
4. Ship Paste to New York (September)	4. Sales Negotiations in New York (August)	4. Produce Test Market Quantities of Pizza Sauce (10 tons/500 cases)(April)	4. Produce Pizza Sauce (1,000 tons)(April)
	5. Ship paste & tomatoes to United States markets (Sept)	5. Sales negotiations in New York, Boston, Philadelphia, etc. (August)	5. Produce Test Market Consumer Pack
		6. Ship paste, tomatoes and sauce to U.S. markets.	6. Sales negotiations in Honduras (August)
			7. Ship paste, tomatoes and sauce to U. S. markets.

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FRESH FRUITS & VEGETABLES DEMONSTRATION PROJECT

SUMMARY FLOW CHART

PHASE I Sept-March 77	PHASE II Sept-March 78	PHASE III Sept-March 79	PHASE IV Sept-March 80
1. Plant/harvest 7 crops (mz. per crop/experimented stage) Sept.	1. Plant/Harvest 7 crops (3-5 mz./crop) Sept.	1. Plant/Harvest 3 crops -Expansion to 3 Agrarian Reform Groups (30-50 mz./crop) Sept.	1. Plant/Harvest 3 crops (60-100 mz./crop. Sept.
2. Initiate/Finish Feasibility Studies on Comayagua Valley and other areas (Oct-July)	2. Production Target 1 container=40,000 lbs.)(Jan.)	2. Production Target=10 containers/crop (400,000/crop) (Jan.)	2.. Production Target=20 containers per product (Jan.)
3. Sell produce on local market, storage test of produce.	3. Set-up interim packing shed. (Dec.)	3. Packing Plant fully equipped and operational. (Nov.)	3. Cooperative-association involvement (full time) (July)
	4. Export Sales (winter market-U.S.) (March)	4. Export Sales (winter market-U.S.)(March)	4. Export Sales (winter market-U.S.)(March)
		5. Export Sales (winter market-U.S.)(March)	

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RECOMMENDED HARVEST PERIODS

The following data compare season of lowest availability on United States market with possible season of production in Honduras:

	Lowest Availability	Planting to harvest (days)	Possible Planting Period	Possible harvesting Period
Cucumbers	December-April	70	October-January	January-April
Green beans	November-April	65	September-February	January-April
Okra	November-February	55	October-November	December-February
Tomatoes	November-February	80	Oct-mid-December	mid-Dec.-April
Summer squash	December-April	56	November-February	mid-Dec.-April

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