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FINAL REPORT

"AGRO-INDUSTRIAL DEVELOPMENT
PROJECT IN EL SALVADOR"

Contract # OTR-C-1382
Work Order # 7

Submitted To:

Rural Development Division
Agency for International Development

Submitted By:

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PART I: INTRODUCTION

The purpose of this study was to review a project for Agro-Industrial Development in El Salvador as proposed by the AID Mission in a Project Identification Document (PID-519-0191). This project would provide funds to a national level banking institution for subloans through intermediate credit institutions for:

- Labor intensive fruit and vegetable production, processing and marketing primarily for export;
- Small scale agro-industrial enterprises with emphasis on clothing, panela, food products, and leather products; and
- Integrated production and processing of products primarily for local consumption, for example, African palm oil, i.e., stressing import substitution.

AID requested Development Associates, Inc., (DA) to undertake a review of this project under the provisions of Contract Number AID/otr-C-1382, Work Order Number 7. Two staff members, Dr. Cornelius Zondag and Mr. Theodore Cook, arrived in El Salvador on October 26, 1977, to undertake the research and prepare a final report scheduled for completion on December 16, 1977. The research had been largely completed, when Dr. Zondag was required to return to the United States for urgent medical attention. Mr. Cook remained in El Salvador until December 11, 1977, to complete the research. Meanwhile, AID modified the Work Order to extend the termination date until February 15, 1978, and to allow sufficient time for the prepa-

ration of the final report at DA's headquarters in Arlington, Virginia.

The work order called for the DA staff members to determine the feasibility of the project as proposed in the PID. Essentially, this involved an analysis to determine whether the credit mechanism proposed by the Mission would achieve the objectives of strengthening agro-industrial development in the three areas of the subloans In exploring this question, the DA staff members worked closely with the AID Mission, reviewed the PID, the Mission's agricultural assessment, the development assistance program, and the GOES five-year plan; analyzed economic data from various U.S. and Salvadoran sources; interviewed U.S. and local economists; visited ongoing agro-industries; and interviewed businessmen engaged in and knowledgeable about agro-industries. As may be noted from the list in Appendix 1, approximately one hundred people were contacted by the consultants during their stay in El Salvador. Additional people in AID/W, the World Bank, and the Inter-American Development Bank had been consulted prior to the consultants' departure for El Salvador. The particular focus of the analysis and interviews was to determine the need for and the utility of an AID loan which would make credit available as the device to stimulate the growth and development of the three types of agro- industries cited above, with a substantial emphasis on reducing unemployment and under-employment in the rural areas.

The general conclusion of this analysis is that the development of agro-industry in El Salvador is not hampered to any great extent by lack of credit and consequently the project as proposed in the PID

was found to be of low relative priority, particularly at this time when El Salvador is experiencing a windfall in foreign exchange earnings due to high coffee prices. The sections of the report that follow will elaborate and document this conclusion for the three types of agro-industrial activities. The research further indicated that agro-industrial development in El Salvador suffers more from shortages of raw materials, limited markets, and lack of management know-how than from lack of credit. Although not required by the Work Order, Development Associates will show how a program of technical assistance or other alternatives might be helpful in working toward the desirable goal of creating more work opportunities for the rural poor.

The terms of reference in the Work Order were developed on the assumption that the findings would be positive. They called, therefore, for the development and analysis of data that would advance the approval of the project. The nature of the findings has made it necessary to depart significantly from the outline in the Work Order. In the body of the report we address ourselves, as suggested by the Mission's Chief of Rural Development, to the documentation of our findings that credit is not the key problem affecting the growth of agro-industry. We also focus on various alternatives that AID might wish to consider in dealing with the problems in question.

PART II: PROJECT DESCRIPTION AND RATIONALE

A. Rationale for the Project

It is our understanding that one of AID's main reasons for selecting this project was it would address one of El Salvador's principal problems, namely a high degree of unemployment and underemployment which now prevails in the rural areas of the country. However, it is our belief that the project contemplates more than just generating more personal income through the creation of additional jobs. The project would contribute to a further effort to reduce the ever increasing polarization between the urban and the rural sectors, as is later explained in Part III. As to the more specific rationale for selecting the agro-industry component, the PID and the agricultural sector assessment draw attention to the following factors:

1. The position of agro-industry in the marketing chain for small farm products is important. One fifth of the value of all small farm production passes to the agro-industrial sector for processing before it can be marketed, and another third passes for partial processing.
2. Agro-industry in El Salvador is on the average almost twice as labor-intensive as all other industries. As noted in the table below, agro-industries are heavy users of labor:

Table 1

EMPLOYMENT, VALUE ADDED, AND NUMBER OF PLANTS FOR MEDIUM AND LARGE SCALE AGRO INDUSTRIES BY SUBSECTOR

Subsector	No. of Plants	Value Added ¢ 000	% of all Manuf. Value Added	No. of Workers	% to Total Industrial Employment
Fishing	9	6,491	1.77	994	1.81 %
Food Processing	1,337	59,486	16.24	14,423	26.35
Coffee & Misc.	55	9,601	2.62	1,294	2.36
Drinks	27	19,583	5.34	1,516	2.77
Tobacco	109	15,896	4.34	1,339	2.44
Textiles	127	103,364	28.23	10,981	20.06
Clothing Products	127	10,246	2.79	3,218	5.88
Leather (Not Shoes)	24	3,381	0.92	672	1.22
Leather Shoes	94	11,148	3.04	2,002	3.65
Wood Products	54	1,017	0.27	578	1.05
Wood Furniture	60	5,078	1.38	1,509	2.75
Agro-industry Sub-Total	2,023	245,741	67.13	38,810	70.92
All Manufacturing	2,660	366,086	100.00 %	54,725	100.00 %

SOURCE: 1977 Agricultural Sector Assessment

3. The small-scale industries with the highest return and greatest potential for expanding profits are the same industries which would generate the most employment for unskilled rural workers. That is to say, the smaller scale agro-industries could be expanded without compromising profitability.

4. The stimulation of agro-industrial output would directly expand the demand for small farm products by strengthening the already existing backward linkages to the target group farmers and to the landless laborers.

5. Agro-industry might cater to new markets which would increase the production of certain labor-intensive crops now plagued by marketing problems. This is particularly true with respect to vegetable production. Vegetables can be produced in El Salvador only during the dry season because of the weather conditions, whereas they can be grown year-round in Guatemala's climate. As a result, instead of purchasing locally grown produce, the major vegetable buyers prefer to import from Guatemala even during the rest of the year. However, since the production season in El Salvador coincides with winter in the United States, labor intensive vegetable crops might be produced for export with the proper development of packing, shipping, and processing of agro-industries products.

In providing the above rationale for the project, the PID does not minimize the problems involved in this approach. It states that although agro-industries would offer many benefits, their development has been hindered by several important constraints. The first of the constraints is a lack of credit availability - - a conclusion not shared by the consultants who believe that other factors to be discussed below are more important. The second constraint has been the creation of a supply-demand cycle reinforced by government policies giving preference to grain crops so as to minimize the need for imports. Price supports, credit, research, and technical assistance are available for basic grains, but no comparable quantitative aid is given for other types of crops.

Furthermore, poor farmers like to grow basic grains, such as corn and sorghum, for several reasons. They are crops they know how to handle. They provide for their subsistence needs as well as storage of the excess in case there should be a crop failure. Trying of new crops represents a risk which they feel they cannot take without having some outside assistance. However, these people are not resisting a change per se. They are suspicious and resist change because they are responsible for insuring the survival of their families.

B. Priority and Relevance of the Project

1. Project Purpose

As mentioned earlier, the purpose of this project was to expand labor-intensive agro-industries by providing additional credit and technical services. The Project Identification Document (PID) anticipated that:

- The number and quality of the country's agro-industrial establishments would be vastly increased;
- The target group would benefit by finding a more ready market for its crops as well as by crop diversification, as producers and agro-industries get into financially more remunerative crops;
- The rural work force would find more employment opportunities in agro-industry enterprises at higher wages;
- Productivity at the national level would increase; and
- Consumption of agro-industry based products would gradually grow because of increased efficiency and lower prices to the consumer.

Thus, this project, to the extent that it was feasible, would contribute significantly to the aims and objectives of the Mission and Government of El Salvador.

2. Project Contribution to the Agricultural Sector Goal

The Mission's Sector/Program Goal is defined as the programming level beyond the project purpose, i.e., the next higher objective to which the project is intended to contribute. In El Salvador the Mission's Sector Goal is defined as increasing production, productivity and income and employment of the target group.

The proposed project, as designed, was expected to contribute both directly and indirectly to this goal in more than one way. First of all, by expanding the market for agricultural processing industry, it was perceived as being able indirectly to force the farmer to produce more crops and crops of a better quality to meet standards required by agro industry. In other words, the project, if workable, was slated to increase the productivity of small farms.

In a more direct way the project was expected to create more employment opportunities in the rural areas through filling the jobs created by these new or expanded agro-industries. It was believed this was also likely to increase overall productivity in the country through a gradual upgrading of the labor force, by making them more productive at a higher level of technical competence. It was also expected that by creating a more steady market for processed agricultural products the project would have important side effects in providing an incentive

to introduce multiple cropping, to divert into specialty crops, and to promote the use of better seeds and fertilizer, all of which contribute directly to the national goal of increasing agricultural output both for domestic consumption and for export.

The project assumptions were predicated on the belief that the increased use of credit and -- most important -- possible forward purchases by agricultural processing industry would tend to increase monetization in the rural areas, drawing the peasant away from his less productive subsistance activities.

Once integrated into a more modern agricultural sector, the farmers' need for better seed and fertilizer would strenthen agricultural research and promote the creation of a domestic fertilizer industry which again creates a demand for trained workers.

Further, job generation and lower costs to the consumer would result from the more modern merchandising of processed agricultural products through the creation of better warehousing facilities, improved transportation, etc. Finally, the need to expand the agricultural sector through the construction of additional irrigated areas would boost productive employment in the public sector. Many of these infrastructural investments, if fiscally sound, would tend to produce results in a relatively short time thus neutralizing the threat of increased inflation.

3. Project Contribution to the Development Assistance Program

The Mission's Development Assistance Program is now in the process of revision. However, the DA consultants understand that this revision will be more in the nature of refinement which will take into account some of the recent developments in agrarian reform and similar matters. Consequently, the DA team proceeded on the assumption that the broader objectives of the Development Assistance Program as well as its advocated strategies will remain basically unchanged. Below we summarized the AID/DAP objectives and development strategy:

(a) To accelerate the rate of economic growth in the country

(b) To provide more labor intensive employment opportunities particularly for the target group.

(c) To upgrade the quality of the labor force through additional education, training and improved nutrition.

(d) To reduce the pressure on per capita income by gradually reducing the excessively high rate of population increase.

(e) To seek means to achieve a more equitable distribution of land which is likely to result in a more intense cultivation per hectare cultivated.

(f) To achieve a restructuring of the nation's economy by the introduction of more adequate economic policies notably the areas of tariff reform, which would put a premium on capital intensive technology, fiscal measures to promote a more equitable redistribution of income, sensible import substitution, particularly of agricultural products, and monetary policy, i.e., to guard against an overvaluation of the currency resulting in an excess of luxury imports.

(g) To introduce a greater degree of social justice by diverting more public sector investment to areas which would alleviate the needs of the target group such as irrigation, transportation, and other forms of infrastructural development.

It would seem that by adhering strictly to both the project purpose and the sector goal as stated above, the PID was designed to contribute materially, assuming the project idea proved feasible, to the achievement of these objectives. Had the idea been workable, in time the project's initial impact could have been institutionalized thus creating a selfperpetuating process more or less unrelated to the level or availability of foreign aid.

As such, the proposed project would tend to overcome problems of unemployment and underemployment in the agricultural sector which are high priority in the Development Assistance Program. It would also help to correct some of the structural defects in the economy by the creation of an agro-industry for the export of products to areas outside CACM area.

Investment in agro-industry implies, at the same time, investment in human capital through the creation of a better educated labor force able to tackle more complicated tasks. In the long run this might lead to an upward mobility which is so much needed to create a more egalitarian, modern society.

In sum, the creation of more and better work opportunities in agro-industry would seem to fall directly in line with the Mission's overall strategy of promoting the economic and social development of marginal people in rural areas.

4. Project Contribution to the GOES Five Year Plan

As in the previous section, the consultants were handicapped in reviewing the GOES Five Year Plan inasmuch as a new Plan is now nearing completion. However, here again, we understand the basic objectives and the more important strategies are not likely to differ much from the previous plan which placed most emphasis on the following major areas:

(a) Increasing employment in the rural sector.

(b) Increasing production and productivity in the agricultural sector.

(c) Creating self-sufficiency in the production of basic grains.

(d) Increasing the volume of traditional agricultural exports

(e) Increasing the availability of processed food products in the country; and

(f) Developing the country's natural resources potential through conservation and commercialization measures, proper price and credit policies, irrigation and agricultural research.

From this admittedly somewhat global overview of the basic objectives of the 1978-1982 Five Year Plan, it is clear that the proposed Agro-Industrial Development Project addresses itself in a major way to at least three of these areas, namely objectives a, b, and e.

C. Detailed Project Description

Having shown the Mission's justification for the project, we shall now discuss the various components to be financed under this project.

The proposed project would provide funds to a national level public sector banking institution such as the Central Bank or the Banco Hipotecario. The selected banking institutions would in turn relend to participating intermediate credit institutions (ICI's) such as the Agricultural Developmental Bank, the Instituto de Fomento Industrial (INSAFI) or the Fondo de Financiamiento y Garantia para la Pequena Empresa (FIGAPE) rather than private financial institutions. The government's rationale for this approach is that the public development banks presumably tend to follow a supervised agro-industrial credit approach which, it is claimed, is lacking in most of the commercial banks. Furthermore, some of the private institutions have been accused by the government of making inordinate profits.

As to the general concept, the funds provided to the national banking institution would be transferred to some of the above mentioned intermediate credit institutions for the purpose of making subloans to agro-industries for expansion capital or for initial capital creation. In addition, agro-industrial firms that require technical assistance would receive it from the project sources set-aside for that purpose.

The agro-industrial investment fund to be created, would receive a $10 million AID credit for loans as well as credits of $700,000 and for technical assistance to improve agro-industries and $400,000 to improve the operations of the intermediate credit institutions. These funds would be made available on a loan basis to El Salvador on favorable terms for disbursement process

over a five year period. Approximately five person years of technical assistance would be provided for the intermediate credit institutions (ICI's) and approximately ten person years for the agro-industries themselves.

The implementation of the project is predicated on the assumption that the private sector would participate in the project at the level of some $5 million while another $5 million is expected to be made available by the GOES. As it is now envisaged, the ICI's will make three specific types of subloans:

1. The first type of subloan would provide credit for labor intensive fruit and vegetable production, processing, and marketing, primarily for export. As mentioned earlier, the 1977 Agricultural Sector Assessment shows that fruit and vegetable processing is a low-capital, high-labor requirement industry and it is well known that fruit and vegetable production is both labor and land-intensive. Production of vegetables would be carried out during the dry season under irrigated conditions, and would be aimed at the U.S. fresh produce market during the months of December-February. Surplus production would be canned or frozen for home consumption and export. The processing of these crops would be vertically integrated with production and marketing in order to ensure the agro-industries would receive the supply of products when required. AID funds would be used also for financing technical assistance to both the ICI's and the firms engaged in the production, processing, and marketing operations.

2. The second type of subloan would be for small scale agro-industrial enterprises with emphasis on clothing, panela, food products and leather products. These are highly labor-intensive agro-industries and as such would generate significant employment. AID funds would be used to strengthen the labor-intensive agro-industries through the provision of credit and technical assistance.

3. The third type of subloan would be for integrated production and processing of products primarily for local consumption. An example of this would be vegetable oil which could be substituted for about half of El Salvador's needs for edible oils which are now being imported. Again, AID funds would be used to provide investment capital required by this type of production as well as the required technical assistance.

The project outputs, as stated in the PID, would be:

- The expansion and creation of labor-intensive agro-industrial firms through the provision of credit and technical assistance;
- Improved ICI agro-industry lending departments; and
- Increased agro-industry production/marketing systems management capabilities.

According to the PID, there appear to be two principal assumptions upon which the success of the project rests. They are that:

- The GOES will encourage policies designed to expand labor-intensive crop production and agro-industrial development. The proposed five year development plan

(1977-82) to be implemented by the new government states its commitment to expand agro-industries in general and fruit and vegetable agro-industries in particular.

A sufficient supply of primary products will be available to initiate small scale agro-industrial development.

We would add a third assumption that the increased production can be marketed at prices people can afford and at a profit to the agro-industries.

D. AID and other Relevant Experiences

It is our understanding that AID has implemented a number of projects in other countries which have some bearing on the contents of the present Industrial Development PID 529-0191. To give only a few recent examples, in Uruguay AID has made a $5,000,000 agricultural industry development loan to finance foreign exchange costs for imports of capital goods and essential raw or intermediate processed materials for export oriented agro-industries. The AID Regional Office in Central America and Panama has been engaged in a $5,000,000 ROCAP-LAAD project to promote agro-business systems and enterprises which lack capital necessary for promotion, development and expansion in Central America.

In Panama a somewhat unsuccessful project was aimed at improving the capability of Panama to increase the investment of the private sector in accelerated growth of developmental industry such as commercial agriculture, livestock production, forestry and fisheries. In Honduras there is a $1.5 million project in the area of agro-industrial export development aimed at increasing the country's capacity to administer agro-business

export projects. It is hoped that this project will increase the demand for agricultural products while resulting in greater productivity and income for the small farmer/rural laborer.

In Colombia, a $5,000,000 project was instituted to amplify earlier urban and regional loans supporting innovative organizations having a dynamic effect on employment with high social payoff in improved income distribution.

Some years ago in Afghanistan, AID financed a private enterprise project (TA only) which had a strong agro-business component and which resulted in the creation of some hundred small industrial establishments, many of which were export oriented with their final product directly related to agro-industry.

Currently, throughout Central America, the Central American Bank for Economic Integration (CABEI) is implementing a program to stimulate agro-industries in rural areas. The objectives of the program are:

1. To finance agro-industry projects capable of having a significant impact on the earnings of the low income farmer.

2. To improve the management of rural agro-industries through technical systems in management and operation, in order to increase their production and productivity.

3. To facilitate the processing of agricultural products to increase their value added through the creation of agro-industries located in the rural areas.

4. To promote the commercialization of the production of farmers in order to obtain fair prices which will enable them to improve their standard of living.

The total established for this project comes to approximately $30 million and the DA consultants were informed by the Bank that some $2.5 million of this total will be available for El Salvador. Further details on this project are provided in Part III.

The proposed AID agro-industrial project would be closely integrated with a number of other Mission programs. It would be supported by the Mission's Intensive Small Farm Management Project (0174) which has as its purpose the increase in production of labor-intensive crops. It is also related to the Small Farm Irrigation Project because fruits and vegetables, grown in the dry season, require irrigation; to the Agricultural Credit Loan as farmers need credit to grow labor-intensive crops for processing and marketing through the agro-industries; and to the CENTA Loan which established an extension and research capability to address, multi cropping problems, among others. Finally, the project relates to the Mission's proposed Small Farmer Development Loan which will improve small farm agricultural delivery systems, and to the proposed Small Enterprise Export Promotion project, which will minimize marketing constraints through market development.

PART III - PROJECT ANALYSIS

The Project Identification Document (PID) presents an almost classic approach to some of the development problems of El Salvador in as much as it consists of an export promotion component - - the fruit and vegetable subproject; an import substitution component -- integrated agricultural production and processing of food products for local consumption (a vegetable oil subproject); and an industrial development component -- the small scale agro-business subproject, combined with an attack on unemployment through the expansion of labor intensive industry. In pursuing these major goals, the PID places most of its emphasis on capital inputs, i.e., low interest loans coupled with a relatively small amount of technical assistance.

From a conceptual point of view, the PID also presents interesting aspects since it advocates, either directly or by implication, the use of intermediate technology over the capital intensive approach which is followed so often en El Salvador by many of the larger concerns, particularly those operating under foreign auspices. In further developing its conceptual frame work, the PID by implication also incorporates a number of modern ideas on social and economic development which have surfaced during the past decade and which have been given wide publicity through the writings of E. F. Schumacher, the recently deceased author of the world's best seller "Small is Beautiful."

Combining all these elements, the PID obviously has a lot going for it. The one point which we would question, however, is whether large capital inputs in the form of AID loans is the right remedy in this particular case. For reasons explained below, we have serious doubts whether AID loans for the subprojects in question would be needed or desired by some potential recipients. Instead, we believe that priority attention should be given to overcoming the serious constraints in the availability of adequate supplies of raw materials and the local use of surplus or substandard raw materials, as well as the need for technical assistance of a type much broader than that envisioned in the PID.

To be more specific, we shall analyze each of the three subprojects in more detail from a point of view of technical and financing feasibility, in particular their need for credit. Because of their particular nature, two of the subprojects will be discussed largely in terms of case studies while the third subproject lends itself to a more of a statistical economic analysis. Since the PID allocates the largest part of the available loan funds to Fruit and Vegetable Exports, we shall begin our review with this project.

A. <u>The Vegetable and Fruit Export Subproject</u>

The major constraints in the area of intensive fruit and vegetable production processing and marketing, primarily for export, do not seem to be based on a lack of credit or insufficient access to capital resources. On the contrary, while sufficient capital appears to have been available to the private sector engaged in this type of operation in El Salvador, the repeated failures resulting in a total or partial loss of investment were largely based on the lack of technical know-how, deficiencies in management, and unfamiliarity with a foreign market, particularly the manner in which the Salvadoran product

would have to be introduced and presented. Thus, it is no coincidence that the three firms engaged in the export of agricultural produce such as fresh melons, canned baby corn, and fresh or frozen vegetables all failed in their initial attempt to enter the foreign market.

At first glance, this subproject seems to present us with a paradox since the normal problem in most countries is to export primarily those products which it has both a surplus and a comparative advantage. In the case of El Salvador, however, there is very little domestic production or consumption of fresh fruits and vegetables. In fact, the country imports large quantities from Guatemala. Thus, in order to put this problem into proper prospective, it is necessary to discuss some of the reasons for this apparent paradox.

The explanation commonly given in El Salvador for the continued fruit and vegetable imports from Guatemala is that climatic conditions are unfavorable to local production. This may well be the case, but the history of agricultural research revolves precisely around overcoming such natural soil and climate problems. The real issue is not whether Guatemala has some advantage in some products at certain times of the year due to its wider variety of micro-climates, but why most of El Salvador's fruits and vegetables are supplied most of the time by Guatemala.

1. Lack of Plant Research

One reason seems to be El Salvador's lack of effective plant reasearch on varities for domestic and export markets. Some nominal research in these fields has been going on for many years at the Centro Nacional de Technologia Agropecuaria (CENTA) near the capital city of San Salvador, but the practical results are few. Mr. Frank Calhoun, Chief of the

University of Florida/CENTA Party, believes that the priority need of CENTA studies in fruits and vegetables for the next several years is varietal testing. Whatever the basic cause -- we have heard it attributed to lack of properly trained professionals, to poor CENTA professional salaries, to GOES priorities in basic grains -- the fact is that the farmer in the fields sees little effective help.

Mr. Daniel Chen, plant specialist with Quality Foods, a private company interested in vegetable exports, stated that his company is forced to do a lot of research in varieties and cultural practices because of the lack of well-founded recommendations from CENTA. His firm is not the proper agent to do such research. They have neither the land, the technical personnel, the budget, nor the years of time needed for this work. Finally, if they should discover something, they must treat such information as proprietary because of their investment in the project and because of the obvious advantage it will give them over their present and potential competitors. But these secrets cannot be held for very long and the external economies of agricultural research are such that only government can economically undertake it.

The Salvadoran domestic market for most fruits and vegetables is obviously quite limited and the great variety of products demanded further reduces the demand for any one of them. This variety also presents problems for plant research if CENTA resorces must be spread over all of them. Clearly, however, the answer is to establish some priorities favoring those more basic fruits and vegetables that seem to offer the greatest payoff in the short term.

Mr. Dwaine D. Gull, horticulturist and chief of party of the University of Florida/CENTA contract from 1973 to 1975, reported several short-term successes in experiments with different vegetable varieties. However he also reported that with the proper scientific reserve and qualifications, the results from such limited experiments were very tentative and that much work was still lacking in varietal testing, cultural practices, and seasonal timing. Mr. Frank Calhoun, the present University of F orida chief of party, repeated essentially this same view in a conversation with Development Associates in November 1977.

It is apparent that the GOES research priorities for fruits and vegetables have been quite low for some years and no evidence was found that this policy is likely to change in the near future. Occasionally a gesture is made, as in the formation of a National Vegetables Committee and a National Extension Vegetable Program in 1974, but after an initial flurry, little is heard thereafter.

CENTA s 1977 Work Plan provides for 7 experiments with tomatoes, 7 with potatoes, 9 with sweet pepper, 8 with cabbage, 4 with yucca (cassava), 5 with carrots, 6 with onions, 5 with chili pepper, and 1 each for squash and sweet potatoes. The 53 experiments programmed deal with different aspects, i.e., one of the 7 tomato trials is for several varieties with 4 different plant densities with irrigation.

2 are fertilizer trials, 2 are for testing new varieties and 2 for the use of different pesticides. There are 36 experiments programmed for fruits in 1977. Eleven of these were with bananas, 12 for control of fruit flies and other pests, and the remaining 13 covered temperate fruits such as citrus, avocados, grapes, papaya, and pineapple.

2. Lack of Domestic Base for Export Market

As we mentioned earlier a successful effort in the export of agro-industrial products, especially to the United States, usually requires a substantial market to absorb surpluses and commodities not of export quality. El Salvador does not currently provide that base.

From 1973 to 1975 USAIDES sponsored indepth studies by Albert G. Madsen, USDA-PASA, of the major aspects of fruit and vegetable marketing in El Salvador. A number of detailed publications were produced, both in English and in Spanish. Much of the following discussion is based on these studies. According to MAG data, since 1970 El Salvador has been importing about 60-90 percent of fruits and vegetables for national consumption. Dominant wholesalers and transporters rely on the availability of a consistent year round supply from Guatemala whichproduces an assured supply for its domestic market and export. In contrast, the current level of farming technology in El Salvador does not lend itself to year round production and the wholesaler/transporters do not choose to disrupt their year-round supply by purchase of the local seasonal product. Over the years, traditional relationships between producers and intermediaries have developed, intitutionalizing the Guatemalan-based supply of fruits and vegetables to the El Salvador market.

The following table shows the recent importation of fruits and vegetables by El Salvador, principally from Guatemala.

TABLE 2
El Salvador: Imports of Fruits and Vegetables by Value, 1972-76 in ¢000 of Colones

Year	Fruits	Vegetables	Total
1972	2,064	1,811	3,875
1973	2,127	2,205	4,332
1974	3,349	3,184	6,533
1975	2,850	4,863	7,713
1976	4,354	4,893	9,247
TOTAL	14.744	16,956	31,700

Source: Ministerio de Planificacion, Indicadores Economicos y Sociales, Enero-Junio 1977, pp. 134-135.

The principal fruit imports have been plantains and bananas as follows.

TABLE 3

El Salvador: Imports of Plaintains and Bananas, by Value, 1972-1976 in ¢000 Colones

Year	Plaintains	Bananas	Total	%of all Fruit Imports
1972	806	492	1,298	63
1973	743	538	1,281	60
1974	1,572	631	2,203	66
1975	818	442	1,260	44
1976	1,441	707	2,148	49
TOTAL	5,380	2,810	8,190	56

Source: Ibid

Apples are the third largest fruit import, followed by oranges and grapes. These three items usually account for 25-30 percent of the total value. The remaining fruits are quite varied and no single one accounts for more

than 5 percent of the total imported.

In terms of vegetable imports, as Table 4 indicates, the potato is far and away the major import, followed by cabbage, tomatoes, and onions.

TABLE 4

El Salvador: Major Vegetable Imports by Value, 1972-1976 in ¢000 of Colones

Year	Onions	Tomatoes	Cabbage	Potatoes	Potatoes % of Total
1972	163	182	379	648	36
1973	200	166	447	885	40
1974	218	277	445	1,401	49
1975	266	377	1,358	1,420	29
1976	443	455	807	2,009	41
	1,290	1,457	6,363	6,363	38

Source: Ibid.

It should be noted that many of the major fruit and vegetable imports are crops which are presently grown in El Salvador and have been known for centuries. These are not exotic plants brought in from far countries, such as Quality Foods' okra and broccoli, and would seem to be logical products in which to start expanding domestic output. 1974 marked the begining of significant coordinated efforts by CENTA and the Salvadoran Ministry of Agriculture (MAG) in the areas of fruit and vegetable production and marketing. CENTA has concentrated on varietal testing and general production research, especially in the new applications of multiple cropping, while MAF has emphasized the economic and marketing aspects of fruits and vegetables.

Although several years ago there was some research in El Salvador on varietal trials and cultural practices for fruits and vegetables, the findings were not well publicized and distributed and few producers became interested. There was no crisis in supplying the national consumer demand, as the scores of established transporters and wholesalers regularly brought in Guatemalan produce. Thus, there has been little recognition of a "problem" in replacing the heavy fruit and vegetable importations with domestic produce.

Even if problems of year round production and the institutionalized relationships of the wholesalers/transporters can be resolved, there remains a limited domestic market for fruits and vegetables because of the nature of the Salvadoran economy.

The purchasing power of most Salvadoran families is very limited. Madsen's surveys in 1974-75 found only 21 percent of San Salvador families had a weekly income of US$80.00 or more, and only 7 percent of the families in other cities earned this much. In fact, only 27 percent of all families earned more than US $40.00 per week. Rural families earn far less. About 10 percent of the San Salvador families and 15 percent of the families in other cities had weekly income of less than US$10.00. Obviously, the buying power of most consumers in El Salvador is not great and non-basic food markets can easily become saturated. With low incomes, it is necessary to consume survival diets of basic grains with little or no margin for fresh fruits or vegetables.

After this diversion into the problems of the domestic market which we believe is necessary in order to better understand some of the difficulties involved in the fruit and vegetable export project, we now turn more specifically to the latter.

3. Export Experience and Problems

a. Case Study 1

The exports of fruit and vegetables from El Salvador to the United States was started by a financially powerful concern, the Quinonez interests, an organization well established in the importation of motor vehicles, agricultural machinery and equipment as well as in various aspects of agro-business. To pursue their interest in this area, they set up a subsidiary named Quality Foods, Inc., for the specific purpose of exporting frozen okra, broccoli, coconut, fresh onions, and a product called chocobanana which is mainly distributed in Disneyland.

Quality Foods began operations with a large modern refrigeration plant located some 27 miles from the city of San Salvador as well as with adequate access to transportation facilities, such as refrigerated trucks, to take their products to shipping points in Guatemala. The packing plant, which contains the latest equipment, has a processing capability of some 3,000 pounds of frozen vegetables per hour. As it turned out, obtaining financing was only a minor problem compared to the many other difficulties which faced Quality Foods in getting this operation uder way.

To begin with, there were difficulties at the growers' level. In growing okra, there were problems in cultivation and the use of the proper growing techniques. There also were problems with fungus and nematodes. Likewise, in the growing of broccoli there were problems of finding the right variety for export which could be adapted to Salvadoran growing conditions. There were also difficulties in the area of agricultural extension, i.e., in providing guidance to the farmers to use the proper methods and techniques.

All of these problems may be summed up in one sentence as a lack of technical assistance to improve production at the lowest level which is typically in the province of CENTA and MAG. This problem was further compounded by the fact that CENTA's research staff gave low priority to research on vegetables since the government is placing its emphasis on the production of basic grains. Hence, there are no kudos to be gained for the individual research scientists from research on vegetables.

Quinonez, according to various sources, initially tried to work with small farmers, providing seeds, pesticides, and extension services. Contracts were drawn up, providing for a fixed price throughout the season, specifying the acceptable qualities, and detailing the responsibilities of both parties. But Quinonez gave up on this idea after two or three seasons because of the difficulties of getting numerous small farmers to carry out the technical instructions down to the last little detail, to deliver on time, and to keep up the quality standards. He turned to larger growers and now has no grower with fewer than ten manzanas.

Needless to say, Quality Foods' major problem turned out to be in the area of marketing their products in the United States. Initially they were smart enough to associate themselves with a sizeable American distributor of frozen vegetables. According to Mr. Ricardo Quinonez, one of the Quinonez brothers, their association with this firm (Southland Foods) was quite satisfactory until the Latin American Agri-business Development Corporation(LAAD) approached him with an offer to take over the marketing aspect in the United States under more favorable conditions for Quality Foods. At the same time, they offered the firm a $400,000 loan for the expansion of their operations- an offer which Quality Foods felt it could not refuse. With hindsight Mr. Quininez now admits that accepting this offer from LAAD was the most serious mistake he made. Shortly after entering into the LAAD deal. according to Quinonex. LAAD's marketing subsidiary, registered in Panama, was closed by court order and Quality Foods was left holding the bag with no outlet for its goods. In the next phase the Quinonez family raised some $400,000 from their own resources to pay back LAAD while starting a $600,000 lawsuit against LAAD in Miami.

In spite of these serous difficulties, there is no indication that the basic premise of Quality Foods was unsound. With proper management and technical assistance in the areas of vegetable growing, processing and packaging, they should be able to make a satisfactory profit. To mention only one item, broccoli can be bought from the farmers at 20 centavos (colones) per head which leaves ample margin even considering the high cost of transportation in refrigerated facilities all the way to the U.S. market. Quality Foods' exports of okra and broccoli are shown in the following table.

TABLE 5

El Salvador: Exports of Okra and Broccoli, 1975-76

	KG	
	1975	1976
Okra	247,097	788,922
Broccoli	14,618	18,032

Note: Quality Foods is the only exporter of okra and broccoli

Source: MAG, Anuario de Estadisticas Agropecuarias, p. 49 and 1976/1977, p. 62

Although Quality Foods has now been approaching the Central American Bank for Economic Integration (CABEI) there was no problem for this well established organization in obtaining credit in the first instance.

b. Case Study 2

The export of melons (cantaloupes) constituted one of the first attempts of the Salvadorans to enter the U.S. market during the months when cantaloupes are not available from California or other parts of the United States and Mexico. In order to do this, a small number of Salvadorans organized a cooperative named COPEX specifically designed for the purpose of exporting melons to the U.S. The first shipment consisting of some 10,000 boxes of cantaloupes was sent to Miami and New York in the crop year 1969-1970. Because of typical start-up problems, lag time, lack of knowledge of the appropriate marketing vehicles in the U.S. as well as the difficulties with maintaining a

standard grading for the product, the operation immediately lost money and some members dropped out from the cooperative. The 1970-71 season turned out to be worse for the remaining members since they lost even more money than in the previous year. As a result, the cooperative was disbanded although one of its members, Mr. Alfaro Castillo, decided to go it alone. He took over the COPEX packing plant and started growing melons on rented lands in the Usulutan area.

Since Mr. Alfaro Castillo had been in agriculture for many years, he had few problems in the actual growing of melons, except for pollination problems where AID technicians provided some help. He also had little difficulty in training people to pick the melons at the right time, to collect them, and to prepare them for export which involved waxing and treating them with fungicide. There was, however, a problem in refrigeration and volume production. There were also problems in the area of transportation due to freezing damage caused by improper temperature control in the refrigerated trucks which caused the melons to arrive in poor condition in Miami.

However, one of Mr. Alfaro Castillo's biggest problems turned out to be finding proper channels to market his melons abroad. Not being familiar with this aspect, Mr. Castillo had to rely on brokers in the United States who took advantage of his unfamiliarity with conditions in the U.S. market. As a result, he initially also lost

money in his melon venture. It was only after he became more familiar with the intricacies of the U.S. market that he finally started to break even and subsequently was able to stop his losses and start making a small profit.

Currently, Mr. Alfaro Castillo, who now runs an integrated operation, growing, processing and exporting melons for his own account, is making a sizeable profit by selling his melons to western European markets and to a lesser extent in the U.S. He has expanded his exports from 60,000 cases to some 130,000 cases a year and expects a sizeable increase in the near future. At this point, we would like to underline again that in developing this business both COPEX and Mr. Alfaro Castillo had no difficulty in finding financing for their initial venture although in 1970 COPEX was faced with unexpected delays in receiving their loan from the Administracion de Beinestar Campesino (ABC) which resulted in late planting. Mr. Alfaro Castillo, on the other hand, used his own funds plus credit from his bank, keeping all his purchases on a cash basis.

It is important to note here that a common element in at least two of the three projects already mentioned is the underestimation of the difficulties of entering into the market for agricultural products. In other words, what the investors tended to overlook is that agroindustry as well as the marketing of agricultural products is no longer a simple matter of growing and disposing of crops as such. Instead we are faced with a systems approach

to the marketing of agricultural products which emphasizes the interrelated nature of all aspects of agri-business from farm supply to the growing, assembling, storing, processing, distribution, and ultimate consumption of the crop. To put it another way, we are dealing with an interdisciplinary approach which utilizes the managerial concepts of business, finance, marketing, production, control, human behavior, and labor analysis and which combines them with the disciplines of agricultural economics, technical agriculture, and the economics of development.

c. Mexico's Experience

In order to illustrate the difficulties for outsiders in entering the highly complex U.S. agri-business system, we might take a look at Mexico which over a period of some 30 years gradually grew into the U.S. system for fresh vegetables, particularly tomatoes. Mexican experience is also instructive in showing how the successful entry of a developing country into the vast agriculture margeting system of the United States can effect changes in its own domestic crop production.

Although Mexico had been exporting some fruits and vegetables to the United States since the 1930's, large scale exports did not develop until the 1950's when Mexico created the proper infrastructure facilities through large scale irrigation and highway investments in Sinaloa and Sonora. This made possible the rapid transfer of agricultural commodities by refrigerated

truck to the U.S. market. Because of the flexibility of truck transport, the Mexican growers were also able to take advantage of seasonal gaps in U.S. domestic production. As a result, Mexican fruits and vegetables, fresh, frozen and canned, have now replaced cotton as Mexico's leading agricultural export earner. If current rates of growth continue, Mexico may in time well cover the entire U.S. winter market for fruits and vegetables. The only negative factor has been the recent labor unrest and invasion and takeover of large agricultural properties which started during the Echeverria government.

During the past 14 years, Nogales, Arizona, has developed as the major entry point for Mexican produce. Transfer by truck has become the predominant means of transportation on both sides of the border. The trade is largely handled by distributors who provide credit and warehouse facilities, brokers who coordinate the market, and chain buyers. While apparently easy on the surface, this trade is faced with many intangible obstacles of a political and trade union nature which at times become so complicated as to require intervention by either the USDA or the Department of State. These difficulties have in turn led to the emergence of a strong and active grower association.

Insofar as the implications of the Mexican system for Central America is concerned, the following conclusions can be drawn:

- The development of proper infrastructural facilities such as extensive roads and irrigation projects was crucial in paving the way for this trade.

- Mexico's emphasis was on "commodity" types-- tomatoes, peppers, melons, okra, cucumbers -- rather than "speciality" products such as mangoes, avocadoes, papayas, guayabas, etc. In other words, Mexico's strategy was to concentrate on large crops requiring simple production technology and a high labor input.

- Although Central American producers currently have a $0.01 to $0.04 per pound potential advantage over West Mexican suppliers to East Coast markets in the U.S. for fresh vegetables, Yucatan is rapidly emerging as a threat to this advantage.

- Mexico's rapidly growing local market in cities like Mexico City, Torreon, Guadalajara and Monterrey provides a ready outlet for about 40 percent of Mexico's second class tomatoes not suitable for export. By contrast in Central America the local market could presently not absorb more than 10 percent of local production. Since Central American producers have been realizing only about 35 percent export quality, much of the remainder has to be dumped.

- A most important lesson to be learned from West Mexican operations is their joint venture arrangements with Mexican owned Nogales distributors. If El Salvador is

to be successful in this trade, it would seem essential that either private concerns or the government establish a Salvadoran representation in the U.S. to handle this trade and to defend their interests against potentially hostile U.S. groups, whether they are unions, lobbying large producers or trade associations. It would seem that the individual local producer sitting in El Salvador is not up to this game.

d. Other Possibilities

In the course of our discussions with various people, we came across some other products with possible export potential such as vegetable colorings -- achiote (red), indigo (blue) and tumeric (yellow) -- which are currently in demand because of recent drastic increases in the price of chemical colorings. There appear to be other possibilities in essential oils, castor oil, products desired from sesame and some spices, all of which would first have to be studied in depth.

4. Summary

What these projects have in common is the fact that the activities involved require a high degree of managerial skill combined with a strong involvement by the private sector. Whether one likes it or not, this tends to steer this type of operation in the direction of financially strong entities. Conversely, if the private sector is willing and able to do the job one wonders whether AID should provide financial support to an activity which is typically in the realm of the private sector.

Another common element among these projects is that lack of credit did not constitute the principal problem. These cases provide clear illustrations that technical know-how and managerial sophistication at various levels from the primary forms of agriculture research, production, and extension to the highest level of international agricultural marketing were crucial in achieving success. After the prospective participants learned their lessons the hard way, they began to prosper. Even the case of Quality Foods can be considered as a success since its present setbacks appear to be temporary due to one or two managerial mistakes of a major nature.

Finally, another lesson to be learned from this experience -- as we already saw in the case of Mexico -- is that in order to properly organize the international marketing of fresh fruits and vegetables, it is important for the country to support these efforts on a government-to-government basis in close coordination with the government where the products in question are to be marketed. As was shown in the case of Mexico, there is a frequent need for consultation by the U.S. Department of Agriculture in case things tend to go wrong. As a matter of fact, Mr. Alfaro Castillo has on several occasions expressed the opinion that his government should help the exporters by having someone in El Salvador's Consular office in the United States who is an expert in the handling and marketing of these products, and who could possibly even supervise their handling when they reach the United States.

B. Integrated Production and Processing of Products for Local Consumption (Vegetable Oil)

The case study approach will be used in the analysis of this subproject which proposes use of credit for the increased production of basic agricultural commodities, edible oils, for domestic consumption. The PID refers to the production of vegetable oils, specifically African palm oil, and this will be given particular attention in this discussion.

To set the stage, it may be helpful to examine two tables. Table 6 below, shows an increase of almost 350 percent in the importation of fats and oils between 1972 and 1976. Even after taking into account the inflation of prices during this period, the increase in imports is substantial.

Table 6

El Salvador: Imports of Fats and Oils 1972-1976

In Thousands of Colones

	1972	1973	1974	1975	1976
Animal Fats and Oils	5,714	3,086	11,235	12,743	12,868
Others	1,299	2,338	2,565	675	11,640
Total	7,013	5,423	13,800	13,418	24,508

Source: Banco Central de Reserva, Revista Mensual, Sept. 1977, p. 814

On the other hand, Table 7 shows a comparatively small production and sale of fats and oils for export duing the same period. Cotton seed oil, once an important export commodity, has now dropped out of the market, while the export of "others" has remained remarkably stable albeit at a low level compared with imports.

Table 7

El Salvador: Exports of Fats and Oils, 1972-1976

In Thousands of Colones

	1972	1973	1974	1975	1976
Cotton Seed Oil	1,416	536	19	-	-
Others	1,502	1,465	1,437	1,462	1,461
Total	2,018	2,001	1,456	1,462	1,461

Source: Banco Central de Reserve, Revista Mensual, Sept. 1977 p. 812

Hence, it is understandable that the PID attempts to reduce these imports by increasing domestic production of vegetable oils. In choosing African palm as a potential source of supply, the PID aimed at killing two birds with one stone, i.e., increasing the local supply by using land resources which are presently unused while at the same time producing a crop which is fairly labor intensive. Because of the attention given in the PID to African oil palm we shall examine its feasibility in the section below and then discuss soybeans as a possible alternative.

1. African Oil Palm

The African oil palm (*Elaesis quineensis*), often called simply African palm or oil palm, is rapidly becoming one of the major oils in international trade. While West Africa was formerly the principal source, most of the new production is coming from the area around Malaysia and Indonesia where huge new plantings have not yet reached maturity and maximum production. There are some plantations in the Western Hemisphere, but most of the plantings

are old and the total production is low. Additional plantings are found in Honduras, Costa Rica, Ecuador, and Mexico.

The main problem with the African oil palm is that is is not adapted to the Salvadoran weather. Although African palm does well on volcanic soil up to 500 meters above sea level and within some ten degrees of the equator, in order to flourish it needs at least 80 inches (200 cms.) of well-distributed rainfall annually. The tree can grow with lesser amounts of rainfall but the yield suffers. Prolonged dry periods are very harmful. Thus, the main obstacle to successful oil palm production in El Salvador is the long annual dry spell which effectively makes it impossible to have economic production.

Another drawback is that even if cultivation were feasible, palm oil extraction is now a standard commerical process which requires relatively large scale operations for boiling, pressing, and separation of oil and waste products. CENTA has never experimented with the oil palm because of lack of adequate rainfall. Even if the African palm had a fighting chance in El Salvador, the long range outlook would be disastrous because of the ever increasing quanitities of palm oil which are scheduled to reach the world market in the near future. For these reasons, CENTA has turned its attention to soybeans.

2. Soybeans

CENTA carried out its first soybean tests in 1946 and 1947. Further tests have been undertaken off and on over the past three decades. Unfortunately, the studies have lacked continuity and have usually been carried out in the artificial "experiment station" setting, i.e., small carefully tended, irrigated plots.

Some field trials have been made by CENTA, but few practical recommendations have resulted from these 30 years of intermittent work.

There do not appear to be any major agronomic problems in eventually achieving efficient soybean production in El Salvador. It is a problem of testing varieties and determining the cultural practices that will make soybean production competitive with cottonseed, its main cash crop alternative; and corn, its main alternative for small farmers. Soybeans, in general terms, can be substituted almost everywhere corn is grown, but since soybeans are not usually used for food, even after suitable varieties are developed for El Salvador, they will not be a serious candidate to replace corn grown by small holders which can keep the family alive but they may find a place in a multiple crop or rotation system.

CENTA has had occasional contact with the International Soybean Program of the University of Illinois, which has provided some varieties for testing. The University of Florida/CENTA team does not currently have anyone engaged in soybean or other oil seed testing. A recent (November, 1974) report for AID by Knell Hinson*, Professor of Agronomy, University of Florida, based on a brief ten day visid, said, "Observations indicate that El Salvador can produce high yields of soybeans with relatively low production costs." Hinson continued, "Variety improvement research

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*Hinson is the author, with E. E. Hartwig of the 1977 FAO Plant Production and Protection Paper No. 4, Soybean Production in the Tropics

now underway should soon result in higher yielding varieties that are better adapted to local farming practices." The DA consultants can only observe that this predicted "breakthrough" in variety trials has been a long time coming and unless the GOES gives some priority to oilseeds other than cottonseed, large scale production may still be decades away. Hinson says further that the major obstacle to rapid expansion of soybean production is the lack of available land during the optimum soybean growing season, which is July to early November. In order to plant soybeans at this time on the limited land available, another crop must be displaced, i.e., corn and/or cotton.

Hinson says that commercial, large scale soybean production, with well adapted varieties should produce well in the coastal areas now largely devoted to cotton: In somewhat similar areas in Mexico, he notes, soybeans have replaced cotton as the primary crop. It would cost less per manzana to produce soybeans, in part because insecticide and fertilizer costs would be less. Thus, while gross returns probably would be less, net returns might well be more.

Rotating soybeans with cotton on a trial basis would be a logical first step. Since rotation is a proven method of disease control, this could well improve the productivity of both crops by reducing the incidence of soil-borne diseases. It also might reduce the need for nitorgen fertilizer for the cotton crop, since well Modulated soybean roots frequently leave measurable amounts of nitrogen in the soil.

Soybeans would provide some needed diversification for the Salvadoran economy in general and for the cotton producers in particular. It would give some cushion against drastic changes in the world cotton fiber market, which has experienced sharp fluctuations in recent years, as has the soybean market. The point is simply that diversification permits some hedging and provides an alternative to an all-or-nothing situation based on a single fluctuating product. Soybeans would reduce the current flagrant environmental contamination caused by very heavy cotton spraying and would provide an alternative crop in case the cotton pest problem should reach such levels in the future as to create unacceptable environmental and health problems or simply become uneconomical to control.

Concurrent and double cropping hold some prospects for soybean production without displacing existing crops in many cases. There is a possibility of planting soybeans in corn fields after the ears have been doubled over to dry in about 80 days. Another possibility is the planting of soybeans following an early planted, short-season crop, as there is usually ample time for the short season crop to mature between the start of the rains in May and the mid-July planting date for soybeans. At present common edible beans are frequently planted in corn fields, but there are coastal areas where virus infections make this impossible and this would make a logical place to try soybeans. These latter methods would be largely restricted to relatively small scale farms, but they could add to the national crop production with a minimal disruption of existing farming methods and a minimum reduction in the current production of basic crops. Hinson believes there is considerable promise in these various alternatives.

El Salvador currently has ample oilseed processing capacity already installed. H. de Sola e Hijos, Sucesores, has a 13-year old solvent processing plant with a capacity of 450 short-tons per day. This is about the minimum economic capacity today. This plant was set up to handle the locally produced cottonseed and this has been almost its only use. It could, however, easily shift to soybean processing. In addition to the de Sola installation, there is another solvent plant in El Salvador, but details were not investigated. De Sola also has a hydraulic press which is used for castor beans and other minor oil seeds. There are two or three other small firms with presses, too.

In summary, it does not appear that El Salvador needs additional investments in oilseed processing capacity at present, or in the near future. The problem is clearly not a lack of credit but a shortage of raw materials. Even by replacing one crop with another we are merely shifting resources within well determined limits of land availabilities.

3. General Observations

While local production and processing of edible fat oils would meet a growing need in El Salvador, the device of credit for agro-industrial production in this subproject would not meet the need. African palm oil, as proposed in the PID, does not appear feasible because El Salvador's long dry season precludes effective cultivation for high yields. Even if cultivation problems could be resolved, palm oil production would place El Salvador in competition with major new plantings which will soon be in full production for the world

market. Furthermore, there appears to be adequate processing capacity available in El Salvador for use whenever an adequate supply of raw materials is available.

Soybean production might help meet the needs discussed in the PID but El Salvador is not at the stage where agro-industrial credit would solve the problem. El Salvador needs further research to determine the varieties most suitable for local production. Once these determinations are made, then El Salvador might examine the feasiblility of substituting soybeans for cotton and/or corn or encourage some methods of of rotation or multicropping which would help meet the needs for increasing local production of edible oils. There is no evidence that the availability of agro-industrial credit would speed this process.

B. Small-Scale Agro-Industrial Enterprises

The third subproject discussed in the PID proposes the use of credit as the device to encourage small-scale agro-industrial enterprises with emphasis on clothing, panela, food products and leather products for domestic use.

In analyzing the feasibility of the use of credit for these small scale enterprises we shall first treat the general nature of agro-industries and their place in meeting some of the economic problems of El Salvador. We shall then analyze the availability of credit based particularly on the experience of FIGAPE.

1. General Considerations

The problem of agro-industry development is complex because in dealing with this subject we are faced with the fact that there

are various levels of agro-industries, all of which may have different requirements insofar as organization, manpower, marketing, and the need for credit is concerned. In broad terms we can distinguish four major classifications, namely.

- Agriculture processing industry which provide the staples for the largest part of the population as exemplified by sugar factories, rice and flour milling, etc.;
- A more specialized type of food and beverage industries catering to a more sophisticated clientele providing types of commodities found in supermarkets and similar establishments;
- A conglomerate of agriculturally-linked activities of various sizes ranging from textile mills, leather processing, shoe manufacturing, tobacco, wood products, furniture, etc. to small shops; and
- Small-scale establishments or shops producing footwear, clothing, or simple food items such as panela.

Another way to classify agro-industry in El Salvador would be on the basis of employment, as was done in the industrial census of 1972 which draws a broad distinction between small-scale industry employing four persons and the larger establishments employing five or more people.

In advocating the need for credit coupled with a small amount of technical assistance, it seems to us that the PID is more production rather than market-oriented. In other words, the PID assumes that by providing loans to the various

agro-industries either existing or to be established, one automatically would increase the number of industrial jobs and thus make an impact on El Salvador's tremendous problem of unemployment and underemployment in both the rural and urban areas. While this approach might well be effective in a number of countries where a large degree of unemployment is the problem, it would seem that insofar as El Salvador is concerned, this assumption overlooks the fact that the unemployment in the country is, to a large extent, caused by structural defects in the economy rather than a lack of productive facilities. To be more specific, El Salvador's economy presents a vicious circle of relatively rapid growth without a proper income distribution, which in turn leads to unemployment, poverty, and a highly restricted market for all kinds of industrial goods including those normally produced by the food industries.

According to a recent ILO report* more than 30 percent of the families in the metropolitan area had a weekly income of less than U.S. $20.00 which represents a level of extreme poverty. In the rural areas this situation is obviously worse except perhaps during harvest time when landless peasants may be able to earn some extra money.

It would seem that to attack this problem effectively, one would have to rely less on credit for the expansion of specific agro-industries and more on drastic policy changes to restructure the country's economy. This could be done by the introduction

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*See" ILO 1975 Report (PREALC/80) entitled: "Situacion y Perspectivas del Empleo en El Salvador"

of a number of measures advocated in the Development Assistance Program. Such changes involve fiscal measures to promote a more equitable redistribution of income, tariff reform to stimulate the introduction of a less capital intensive technology, monetary policy to guard among other things against an over evaluation of the currency, contributing to an excess of luxury imports, and last but not least, the introduction of a meaningful land reform to provide a basis for the development of a broadly based agriculture sector without which there cannot be much diversified agro-industrial development.

To elaborate a little more on the social aspect, because of the deficiencies in income distribution, El Salvador is now faced with a growing duality between the urban and the rural society. To put it differently, El Salvador presents the problem of a modern urban sector which continuously draws away resources from the rural areas through the production of export crops by absentee landlords while returning almost nothing of the proceeds to rural people. By continuously pumping money and power into the urban system at the expense of the rural sector, coupled with the income multiplier of conspicuous urban consumption, the investment pattern creates a bias in favor of more urban investment and further neglect of the rural poor whose needs AID's efforts try to address. This in turn tends to promote internal migration from rural areas to the city which ultimately will result in slums and social stress.

To make matters worse, as per capita income in the urban areas

increases, a progressively smaller portion is spent on food and more on imported luxuries which again has a negative impact on the rural sector. The effect of these money factors opens up a distribution gap between the participants in the urban economic system and those in the rural system almost as if they were separate countries engaged in an international trade relationship. As government, money, trade, financial institutions, and power concentrate more and more in the capital city, the plight of the rural area grows progressively worse unless something is done about it.

In this picture, agro-industry can be visualized as an intermediary between supply and demand or producers and final consumers. It is an outgrowth of the "Farmer's Market" brought about by the rudimentary forms of specializtion better to satisfy urban demands as it develops. Unfortunately, in this process traditional agro-industry also tends to locate near the city, adding transportation, storage, processing, wholesale, and retail costs to the consumer price level. Of these the rural area likewise receives little or nothing in return. Gradually, this leads to a situation where the farmer is struggling for higher prices against a more powerful urban consumer who is fighting for lower prices.

The obvious answer to this problem is to locate more agro-industry near the agricultural production centers or to stimulate other labor intensive activities in the rural areas such as advocated in the PID. While we have no problem with the general concept of the PID in this respect, we would question the PID's conclusion that the availability of easy credit is an essential

factor in achieving this goal. We believe that the historic record shows that a lack of credit has not been a significant factor in holding back agro-industrial development in El Salvador insofar as at least the three major categories mentioned above are concerned. As to the fourth category, i.e., the smallest type of agro-industrial operations, lack of credit may well have been a factor, a problem which we shall discuss in more detail.

2. Financing of the Three Major Categories of Agro-Industries

Below, we discuss the financing of the three major categories representing the more substantial type of agro-industrial operations. According to the statistics of the Central Bank, commercial bank credit to the food industry sector has been expanding substantially during the past five years, going from $16.7 million in 1972 to $43.3 million in 1976, as may be noted from the following table. The food products industries received from 21 percent to 35 percent of the commercial bank credit going to the manufacturing sector.

Table 8

Commercial Bank Credit Balances to Manufacturing Industries, 1972-1976*

Millions $

	1972	1973	1974	1975	1976
Food Products	16.7	24.6	27.7	24.9	43.3
Drinks and tobacco	1.4	1.8	2.5	5.1	7.1
Textiles and clothing	13.1	14.7	26.7	30.8	32.8
Other	17.0	33.6	40.2	55.1	74.6
Total	48.2	74.7	97.1	115.9	157.8

*Balances on December 31
Source: Banco Central de Reserva

This would seem to confirm our conclusion that lack of credit has not been a factor in holding back agro-industry development in El Salvador.

The agro-industrial profile of El Salvador as attached to the Agriculture Sector Assessment* states that the rate of return on capital invested in agro-industry is about 35 percent a year which would seem to indicate that at least the larger concerns covered under the first three categories mentioned above would have no problems in financing their expansion from internally generated resources. Whether this figure is actually a little higher or lower seems inmaterial since we were consistently told by knowledgeable people that returns in the agro-industries were very high. It appears then, that the basic agriculture processing industries, the more specialized food industries catering to supermarkets and similar establishments as well as the more substantial concerns engaged in textiles, clothing manufacturing, leather, and shoes would have no difficulty in either financing their expansion from retained resources or through credit from traditional sources.

To give a few examples of the larger types of agro-industrial development which have been financed by private financial institutions, we might mention a few projects handled by Financiera de Desarrollo e Inversion, S.A., such as a one million colones loan for working capital and machinery for a sugar mill ("Compania Azucarera Salvadorena"), a 250,000 colones loan to import machinery and equipment for a poultry operation ("El Granjero, S.A.), a 200,000 colones loan to buy boats for

* Daines and D. Steen. El Salvador. Agro-Industrial Profile. 1977

a shrimp fishing venture, 40,000 colones to finance a honey processing operation ("Lasally, S.A."), 680,000 colones to finance a cottonseed oil plant ("Produccion Nacional, S.A."), 132,000 colones to finance a plant to manufacture pasturized milk and cheese processing ("Cremera Diadema"), a one million colones loan to finance a plant making sisal ("Henequen") bags ("Cordelera Salvadorena"), a 150,000 colones loan to finance a rice mill and 380,000 colones loan to finance the planting of coconuts on the coast for the purpose of exporting copra.

In discussions with some of the larger banking institutions, which admittedly do not deal to a great extent with the smallest agro-industrial establishments, we found very little evidence of any major unsatisfied demand for additional credit in the agro-industrial sector of El Salvador. The record from the principal lending institutions show loans to a variety of large and small firms engaged in many different activities. These institutions, both official and commercial, have unanimously affirmed to the DA consultants that they have not had to turn down acceptable loan requests because of a shortage of funds. On the contrary, they say there is a shortage of sound requests and bankable projects. Other firms engaged in technical assistance in El Salvador such as Technoserve, which by definition are directly involved in the execution of development projects, confirmed that in El Salvador very few worthwhile agro-business ventures are passed up because of a lack of credit availability.

Another indication that lack of credit does not appear to be a

serious constraint is the fact that the $2.5 million Salvadoran tranche of the $30 million agro-industrial development loan project carried out under the auspices of the Central American Bank for Economic Integration mentioned above so far has had few applicants for credit, even though interest rates and period of repayment should be attractive by Salvadoran standards. However, this may well be due to the fact that this program is relatively recent since it started only in June 1977.

The record of the two major public sector lending institutions, namely the Instituto Salvadoreno de Fomento Industrial (INSAFI) as well as Fondo de Financiamiento y Garantia para la Pequena Empresa (FIGAPE) reflect the same story. FIGAPE, which makes loans up to 100,000 colones, has a reasonably flexible security policy -- which recently has been tightened somewhat -- and INSAFI, which covers loans over 100,000 colones, both confirm that they have had no difficulty in catering to firms which do not meet the private commercial bank's security standards. As part of their official commitment they are more willing to consider innovative firms such as Quality Foods than are the commercial banks. Thus, it would seem that even for the more risky projects which the commercial banks tend to turn down, credit is available from public sector institutions.

Rather than blaming a lack of credit, the most knowledgeable people in El Salvador seem to feel that a lack of entrepeneurist experience, managerial skills, technical assistance, quick and efficient maintenance services, up-to-date market information as well as reliable market contacts,

especially in foreign markets, and a sound research base for many agricultural products are more serious constraints to the development of agro-industries than a lack of credit availability. Some people also point to the fact that in a number of cases, family-run concerns tend to be inbred and are lacking in a desire for innovation or to try other industrial avenues. Of course, as mentioned before, and as was stressed by the general manager of the largest supermarket in San Salvador, the limited demand in the domestic market for most manufactured goods produced in the rural areas constitutes a serious obstacle to the expansion of existing small-scale enterprises.

One further point might be mentioned concerning the connection between agro-industry and the agricultural sector. The PID seems to imply that a stimulation of agro-industry will ipso facto result in additional income to the farmer as the ultimate producer of the raw materials in question. While, generally true, this broad assumption may not be realistic in a number of industries such as textiles and shoe manufacturing in El Salvador where there is an increasing tendency towards the use of synthetics which obviously have to be imported. There are other possibilities as well. For instance, in one case, we asked a small shoe manufacturer what he would do if he were able to obtain an AID-sponsored loan to expand his operation. He immediately answered that if such a possibility existed, he would apply for working capital to finance imports of fine quality leather from abroad for the purpose of exporting shoes. In other words, even in this case, a linkage between a traditional agro-industry and the Salvadoran agriculture sector was not assured. While these cases may still be somewhat exceptional at the present time, there may well be more of this as time goes on. Table 9 on page 57 showing the relationship between locally produced and imported raw materials as used in the various agro-industries of El Salvador would seem to be highly instructive in this respect. For comparison purposes Table 9 also gives the total for the entire manufacturing sector, which also includes those industries and not related to agriculture.

As noted before, so far we have only discussed the availability of credit in relation to the first three categories of agro-industrial activities mentioned above. The conclusion seems amply justified that in the case of these industries a lack of credit has not been a constraint to their development. Hence, it would seem that there would be little justification for AID loans on easy terms to support any of these three categories. Insofar as the near term is concerned, the case is even more persuasive since El Salvador has been faced with a windfall in foreign exchange earnings due to high coffee prices, which leaves ample funds available for development (unfortunately not being used to the fullest extent for this purpose).

Coming now to the fourth category mentioned above, i.e., the very small establishments or shops producing footwear, clothing, or simple food items such as panela, the situation may well be different, since the opinion of the traditional banking institutions is not a good yardstick as to what goes on in this sector. However, in analyzing this problem one would first have to make a distinction between (1) the actual availability of funds and (2) problems of access for these small operations (because of bureaucratic obstacles such as excess paper work, long delays, and the need to put up a reasonable amount of guarantees, etc.).

Table 9

Domestic and Imported Raw Materials Used by Manufacturing Sector, 1974

Millions $

CIIU Code [1]	Activity	Raw Materials Total	Domestic	Imported
20	Food Products (Total)	322.7	276.5	46.1
201	Livestock slaughter and sub-products	63.5	63.0	0.5
202	Milk Products	25.8	25.5	0.3
203	Juice and Vegetable canning	1.2	0.3	0.8
205	Mill products	31.8	8.6	23.2
206	Bakery products	53.3	51.4	1.9
207	Sugar mills and refineries	59.0	58.3	0.7
208	Cocoa, chocolate, and candy manufacture	1.2	0.7	0.5
209	Diverse industries	86.9	68.7	18.2
21	Drinks (Total)	14.0	7.8	6.2
211	Alcoholic Drinks	3.9	3.7	0.3
212	Wine Industry	0.1	0.1	-
213	Beer and malt production	4.5	0.8	3.7
214	Non-alcoholic and soft drinks	5.5	3.3	2.2
22	Tobacco (Total)	8.3	7.2	1.0
23	Textile Industry (Total)	113.0	68.0	45.0
24	Shoe and Clothing Manufacture (Total)	77.7	44.7	32.9
241	Shoe manufacture	24.4	19.8	4.5
242	Shoe repair	0.5	0.4	0.1
243	Clothing manufacture	52.1	24.2	27.9
244	Textile products, except clothing	0.6	0.3	0.4
	Total Manufacturing Sector (Total)	1,013.9	484.9	529.0

[1] Clasificacion Industrial Internacional Uniforme

Note: Totals may not add due to rounding, to the nearest 10th

Source: Data prepared by the Banco Central de Reserva.

3. Credit for Small-Scale Agro-Industrial Enterprises

In analyzing the need for credit for the third category of subloans identified in the PID -- small-scale agro-industrial enterprises for domestic production -- the starting point must obviously be FIGAPE. The Small Business Credit and Loan Guarantee Fund (Fondo de Financiamento y Guarantia para la Pequena Industria-FIGAPE) was set up by the government of El Salvador to make loans to the same types of enterprises contemplated in the PID. While it is authorized to make loans up to ¢100,000, actual loans have averaged ¢17,610. FIGAPE, however, cannot make loans to finance new small businesses, but given the mortality rates of new small businesses in the U.S. as well as abroad this limitation may not be an unreasonable public policy.

As will be demonstrated later, some of FIGAPE's loans are for the categories of activities contemplated by the PID. FIGAPE does not lack funds for loans and there is no evidence that FIGAPE has turned down applications for loans to small agro-industrial enterprise because of lack of funds. Furthermore, FIGAPE has just opened an office in Santa Ana to encourage loans from the rural western sector of the country.

FIGAPE began operations on September 26, 1973. It was the successor to the Small Industry Credit Guarantee Fund (Fondo de Garantia para la Pequena Industria, FOGAPE), founded in October 1970. FIGAPE greatly expanded its predecessor's activities by covering all kinds of small firms -- not just industrial ones -- and by granting loans itself. From its inception in 1973 through December 31, 1976, FIGAPE approved a total number of 3,911 requests and extended ¢68.8 million in credits. The number of individual firms served is somewhat fewer than 3,911 because some firms had more than one loan approved, i.e., three separate bakery loans were found registered in the name of the same person. On December 31, 1976, FIGAPE had ¢47,560,709 in total loans outstanding.

FIGAPE, as mentioned above, is limited to individual loans which do not exceed ¢100,000. A further limitation is that it is not authorized to finance new firms. This last limitation has been interpreted to mean that FIGAPE cannot help a new firm to get started, but can step in at some point to aid the firm in consolidating and/or expanding its activities. As a rule of thumb, the new firm must still be in business six months after its inception before FIGAPE will consider providing assistance.

The following tables illustrate various aspects of FIGAPE's credit role. Table 10, showing the geographical location of loans, makes very clear the absolute dominance of the Department of San Salvador in every year's activities. This applies both to the number and to the value of loans. In 1973, San Salvador received 87 percent of the number of loans as well as 87 percent of the loan value. In 1976, 65 percent of the number of loans and 68 percent of their value went to enterprises in San Salvador. This concentration in urban activities becomes even higher if the next ranking two or three departments are added, i.e., La Libertad and Santa Ana. FIGAPE maintains that this concentration of loans in urban areas is a factor of the locations of qualified applicants rather than lack of credit for small agro-industrial enterprises. The recent opening of a branch in Santa Ana to encourage more loans in the rural western part of the country would tend to bear out this observation. Most of the loans are for sums below ¢10,000 as shown in Table 11. This reflects the characteristics of the small firms seeking credit from FIGAPE. This table further shows that in 1974 and 1975 more than 85 percent of the loans made were for ¢20,000 or less and in 1976, when the volume had decreased, 57 percent of the loans were for ¢20,000 or less. This table tends to support the view that there is an existing Salvadoran institution already making credit available to enterprises of somewhat the same scale as proposed in this part of the PID.

TABLE 10

FIGAPE: LOANS BY DEPARTMENTS, 1973 - 1976

(THOUSANDS OF COLONES)

Departments	1973		1974		1975		1976	
	No. Loans	Value ¢000	No. Loans	Value ¢000	No. Loans	Value ¢000	No. Loans	Value ¢000
San Salvador	950	17,452	1,534	27,531	290	5,402	188	3,644
La Libertad	20	880	115	1,130	23	262	9	122
Santa Ana	44	695	116	1,698	32	1,953	30	485
Usulután	13	215	107	1,751	9	91	10	169
Sonsonate	13	196	64	712	11	137	14	218
San Miguel	10	188	57	787	18	237	14	149
Cuscatlán	12	119	28	272	7	42	2	16
La Unión	4	103	13	123	4	23	2	20
La Paz	7	45	39	573	11	216	8	228
Ahuachapán	5	34	9	85	--	--	1	8
Chalatenango	3	30	7	46	3	29	1	4
San Vicente	6	29	23	319	4	31	6	199
Morazán	1	7	--	--	1	15	1	8
Cabañas	1	7	7	73	2	10	2	52
Total	1,089	20,000	2,119	35,100	415	8,448	288	5,323

Source: FIGAPE records.

Table II

FIGAPE: LOANS[a] BY SIZE, 1973-1976

	1973		1974		1975		1976	
	No.	%	No.	%	No.	%	No.	%
Up to ¢5,000	296	39	785	37	140	34	98	34
5,000.01 - 10,000	193	26	581	28	136	33	65	23
10,000.01 - 15,000	72	10	-	-	-	-	44	15
15,000.01 - 20,000	47	6	522[c]	25	80[c]	20	22	8
20,000.01 - 25,000	35	5	-	-	-	-	6	2
25,000.01 - 50,000	89	11	176	8	35	9	37	13
50,000.01 - 100,000	23[b]	3	32	1	9	2	10	3
Over 100,000[d]	-	-	23	1	9	2	6	2
	755	100	2,105	100	409	100	288	100

[a] Excluding transportation loans

[b] Over ¢50,000

[c] From 10,000.01 to ¢25,000

[d] Occasionally makes loans over ¢100,000

Source: FIGAPE records

Most of these loans go to firms engaging in traditional industries and in retail trade.

FIGAPE loans, as shown by Table 12, are used principally for working capital and refinancing of existing debt, the same categories where most of the AID loans would be going in this subproject. In 1973, for example, except for the transport sector, only 25 percent of the FIGAPE credits were used for capital goods, with 51 percent going into working capital and 25 percent into refinancing existing debts. This same general pattern holds for the subsequent years. FIGAPE explains that these small firms, except transport, are still heavily labor intensive and their financing needs are more for materials, labor, and inventory, rather than for new equipment.

Table 13 reveals the broad economic sectors served by FIGAPE loans. While transport initially took a major part of the funds, its proportion has fallen and that of commerce (wholesale and retail trade, restaurants, and hotels) has risen. Non-transport services, as repair services, entertainment, medical, laundry, education, etc., have maintained a farily low share of credits. Manufacturing has held an important position every year.

Table 14 breaks down the manufacturing category in some detail. All of the manufacturing categories are not shown here, but only those which depend principally on agricultural inputs or which provide inputs to agriculture. Within these selected lines, clothing manufacturing has generally stood out, both in the number and the value of its loans. The manufacture of food products has been a consistently important category, along with the manufacture of non-machinery metal products, non-metallic furniture, and shoes. Unfortunately, there are no data available to indicate the cross-classification

Table 12

FIGAPE: LOANS BY PURPOSE, 1973 - 1976

	1973		1974		1975		1976	
	Millions ₡	%	Millions ₡	%	Millions ₡	%	Millions ₡	%
Preferential Line								
Working capital	6.4	51	15.1	54	3.0	49	1.2	35
Investment	3.1	25	6.9	25	2.0	31	.5	14
Refinancing	2.9	24	6.0	21	1.3	20	1.7	51
Total	12.4	100	28.0	100	6.3	100	3.4	100
Transport Line								
Working capital	1.6	21	1.7	24	0.5	24	0.2	38
Investment	6.0	79	4.8	68	1.6	76	0.3	58
Refinancing	--	--	0.6	8	--	--	--*	4
Total	7.6	100	7.1	100	2.1	100	0.5**	100
Bonds Line								
Working capital	--	--	--	--	--	--	0.8	56
Investment	--	--	--	--	--	--	0.6	42
Refinancing	--	--	--	--	--	--	*	2
Total	--	--	--	--	--	--	1.4	100
TOTAL	20.0		35.1		8.4		5.3	

*Less than 0.1.

**This category was broadened in 1976 to include the Economic Development Fund Line.

Source: FIGAPE, Memorias

Table 13

FIGAPE: LOANS BY ECONOMIC SECTOR, 1973 - 1976

	1973			1974			1975			1976		
		Amount			Amount			Amount			Amount	
	Firms	Millions ¢	%	Firms	Millions ¢	%	Firms	Millions ¢	%	Firms	Millions ¢	%
Manufacturing	420	7.7	39	875	12.7	37	180	3.7	45	135	2.0	38
Commerce	249	3.4	17	1,002	11.9	33	177	1.6	19	125	2.2	42
Services (Non-transport)	86	1.3	6	228	3.4	10	52	1.0	11	24	.5	9
Transport	334	7.6	38	14	7.1	20	6	2.1	25	4	.6	11
	1,089	20.0	100	2,119	35.1	100	415	8.4	100	288	5.3	100

Source: FIGAPE, Memorias

Table 14

FIGAPE: LOANS BY ECONOMIC ACTIVITY, 1973 - 1976

CIIU Code*		1973		1974		1975		1976	
			Thousands		Thousands		Thousands		Thousands
		No.	₡	No.	₡	No.	₡	No.	₡
130	Fishing	--	--	2	30	1	5	3	55
311	Mfg. food products, except drinks	39	573	92	1,117	19	313	12	224
312	Mfg. diverse food products**	10	118	24	454	13	82	9	167
321	Mfg. of textiles	13	193	29	301	4	193	6	71
322	Mfg. Clothing, except shoes	162	3,419	299	3,047	44	878	41	530
323	Leather industry and leather products, except shoes & other clothing	14	83	17	189	5	22	5	30
324	Mfg. of shoes, except those of rubber, vulcanized, molded, or of plastic	27	215	70	588	13	97	9	302
331	Wood industry & wood and cork products, except furniture	7	76	12	363	2	20	1	3
332	Mfg. of furniture and accessories, except those principally metalic	37	545	96	1,672	16	149	14	141
361	Mfg. of pottery and porcelaine products	2	19	4	46	2	14	1	18
381	Mfg. of metal products, except machinery and equipment	26	426	65	1,271	15	708	9	186
382	Construction of non-electric machinery	3	57	3	57	3	52	--	--
	Others	80	1,976	160	3,583	43	1,206	25	322
	Total	420	7,700	875	12,718	180	3,739	135	2,049

* Clasificacion Industrial Internacional Uniforme (Uniform International Industrial Classification)
**This was formerly called "Livestock slaughter and meat preparation and preservation".

Source: FIGAPE, Memorias

of the use of FIGAPE loans by economic activities, e.g., food processing, and by purpose, i.e., working capital, refinancing, and new equipment.

FIGAPE has been quite active in the food (and feed) processing industry credit field, with 192 loans for ¢3,013,219 through October 31, 1977. Although the data presented in Table 15 are not completely consistent with some of the data given above, the differences are not substantial and the added detail permits some additional analysis as well as providing a more recent cut-off date.

Table 15

FIGAPE: Total Food Processing Industry Loans, by Four digit CIIU Category, 1973-1977*

CIIU		No. Loans Approved	Loan Amount
3110	Food products manufacture, except drinks	2	¢ 100,000
3111	Livestock slaughter and meat preparation and conservation	2	30,000
3112	M' products manufacture	7	109,630
3113	Canning and conservation of fruits and vegetables	3	39,000
3116	Mill products	14	267,600
3117	Bakeries	104	1,638,352
3119	Manufacture of cacao, chocolate, and candy	6	77,600
3121	Preparation of various food products	40	550,165
3122	Preparation of animal feeds	13	153,000
3134	Non-alcoholic and soda drinks	1	47,872
		192	3,013,219

*Through Oct.31, 1977.

Source: FIGAPE computer print out, with further D.A. calculations.

FIGAPE loans to the food processing industry by year are shown in Table 16

Table 16

FIGAPE: Annual Food Processing Industry Loans,

by Four Digit CIIU Category, 1973-1977

CIIU	1973	1974	1975	1976	1977*	Total
3110	-	100,000	-	-	-	100,000
3111	-	5,000	25,000	-	-	30,000
3112	53,000	56,630	-	-	-	109,630
3113	14,000	25,000	-	-	-	39,000
3116	13,000	199,600	40,000	15,000	-	267,600
3117	396,633	780,600	92,825	121,300	246,993	1,638,352
3119	71,600	1,000	-	-	5,000	77,600
3121	120,500	247,500	28,500	139,165	14,500	550,165
3122	-	109,500	34,500	9,000	-	153,000
3134	47,872	-	-	-	-	47,872
TOTAL	716,605	1,524,830	220,825	284,465	266,493	3,013,218

*Through Oct. 31, 1977

Source: FIGAPE records

The loan periods range from one to 15 years, with the majority for four years or over. Most of the loans given in 1973, the first year of operations, are still within their original loan period.

The following Table 17 indicates the quarterly variations in FIGAPE loans by sector. Some of the fluctuations are extreme, especially in the transport sector, but all of the others frequently change by factors of two and three and sometimes by five, as the services sector throughout 1975 and 1976. The fluctuations show no consistent pattern and are said to be reflections of general economic conditions. FIGAPE does not attempt to analyze the basic factors which might cause the fluctuations, although this would be very useful in projecting capital needs. The different sector loans shift in importance over time, but with the exception of the special short-term transportation loan program intended to update and expand the urban passenger bus and taxi system, the industry category usually leads the other two.

FIGAPE's loan volume has gone down drastically in the last three years. After a very quick start up in late 1973, when ¢20 million were approved, the loan total for 1974 was ¢35.1 million, and fell precipitiously in 1975 to ¢8.4 million, and continued downward in 1976 to ¢5.3 million. There are various reasons given for this pattern. FIGAPE officials say the relatively large totals for 1973 and 1974 show the very high need which existed then for the kind of loans FIGAPE was able to offer. To some extent the backlog of demand for these loans was quickly satisfied. Part of the subsequent falloff is seen as a natural reaction with only a few new entrepreneurs appearing each year. With that initial 1973-1974 backlog satisfied, future loan requests will likely show only a modest rising trend.

Table 17

FIGAPE: Approved Loans, by Sector, Quarterly 1975-1977*

Period / Sector \ Year	1975 Amount	1975 No.	1976 Amount	1976 No.	1977* Amount	1977* No.	1977/1975 Variation Amount	1977/1975 Variation No.	1977/1976 Variation Amount	1977/1976 Variation No.
FIRST QUARTER	1,508,025	86	1,146,464	75	1,453,843	74	(54,181)	(12)	307,379	(1)
Industry	624,322	50	436,609	32	935,194	47	310,872	(3)	498,585	15
Commerce	594,614	24	452,067	33	375,148	18	(219,465)	(6)	(76,918)	(15)
Services	289,088	12	219,817	9	110,500	6	(178,588)	(6)	(109,317)	(3)
Transport	-.-	-	37,970	1	33,000	3	33,000	3	(4,970)	2
SECOND QUARTER	2,772,079	106	1,480.735	61	1,669,177	67	(1,102,902)	(39)	188,441	6
Industry	668,583	52	607,620	29	509,630	23	(158,952)	(29)	(97,989)	(6)
Commerce	474,593	50	431,331	28	915,931	35	441,337	(15)	484,600	7
Services	49,869	3	45,300	1	161,615	7	111,745	4	116,315	6
Transport	1,579,033	1	396,483	3	82,000	2	(1,497,033)	1	(314,483)	(1)
THIRD QUARTER	2,075,234	125	990,800	53	1,344,376	86	(730,858)	(39)	353,576	33
Industry	916,351	55	316,914	19	651,893	40	(264,457)	(15)	334,979	21
Commerce	540,551	44	537,343	24	594,098	38	53,547	(6)	56,755	14
Services	232,847	24	136,542	10	53,384	7	(179,463)	(17)	(83,158)	(3)
Transport	385,483	2	-.-	-	45,000	1	(340,483)	(1)	45,000	1
FOURTH QUARTER	2,070,595	101	1,704,920	99	2,020,929	95	(49,665)	(6)	316,008	(4)
Industry	830,308	47	683,723	47	979,948	44	149,639	(3)	296,225	(3)
Commerce	814,365	45	670,428	40	892,846	42	78,481	(3)	222,417	2
Services	425,921	9	350,768	12	80,837	8	(345,084)	(1)	(269,931)	(4)
Transport	-.-	-	-.-	-	67,296	1	67,296	1	67,296	1
TOTAL	8,425,934	418	5,322,920	288	6,488,327	322	(1,937,607)	(96)	1,165,405	(34)

*The figures for the 1977 fourth quarter are estimates as of November 21, 1977.

SOURCE: FIGAPE records.

TC/1b

Another reason for the drop in loans is the changing attitude of FIGAPE. The first loans were handled by a relatively inexperienced organization and were given on a rather easy going basis. A high overdue rate forced FIGAPE to review their procedures and to tighten their loan requirements. This has been a prime cause of the very restricted activity of recent years.

Loan volume has not fallen because of a lack of funds available to FIGAPE. They have never had a limit on total loans to be given nor have they had to refuse good loan requests because they had insufficient funds to cover them. On the contrary, the more they can lend, the better.

Table 18

FIGAPE: Financial Sources on December 31, 1973

Source	Class	¢000 Amount*	%
Central Bank	Special line for small business	10,000	82
Central Bank	Special transportation line for buses and taxis	409	3
Treasury	Government loans	1,000	9
Central Government	Capital contribution	500	4
Own resources	Surplus	258	2
		12,167	100

*In thousands of colones.

Source: FIGAPE Memoria 1973, p. 27

FIGAPE's funds come from various sources. In 1973, the initial year of operations, FIGAPE obtained 85 percent of its funds from the Central Bank, through the two special lines set for small business loans and for the purchase of urban buses and taxis. Most of the remainder came from the Treasury and the Central Government.

Table 19

FIGAPE: Financial Sources, 1974

Source	Class	¢000 Amount	%
Central Bank	Special line for small business	23,000	54
Central Bank	Special line for buses and taxis	11,330	26
Treasury	Government loans	5,500	13
Central Government	Capital contribution	2,000	5
Own resources	Surplus	997	2
		42,827	100

Source: FIGAPE Memoria 1974, p. 25

In 1974 the sums provided were greatly increased and there were variations in the relative proportions of the different funds, as seen in Table 19. All of the source totals rose significantly, but the tranport line from the Central Bank stands out.

Table 20 shows the decreasing loan activity reflected in the funds acquired. The reductions are dramatic in the Central Bank lines for small business and for buses and taxis. One new line was added for financing the tourist industry. The total fell to barely 25 percent of the funding for 1974. It is important to repeat that FIGAPE officials insist that this reduction was not due to a lack of available funds, but to FIGAPE's smaller requests for funds, derived both from the lower general economic activity in the country and from FIGAPE's decision to tighten up their loan requirements.

Table 20

FIGAPE: Financial Sources, 1975

Source	Class	¢000 Amount	%
Central Bank	Special line for small business	3,410	31
Central Bank	Special line for buses and taxis	3,289	30
Central Bank	Financing for the tourist industry	245	2
Treasury	Government loan	2,000	18
Central Government	Capital contribution	1,000	9
Own resources	Surplus	1,030	10
		10,974	100

Source: FIGAPE Memoria 1975, p.35.

Table 21

FIGAPE: Financial Sources, 1976

Source	Class	¢000 Amount	%
Central Bank	Preferential line	314	2.8
Central Bank	Transport credit line	385	3.5
Central Bank	FIGAPE bonds line	885	8.0
Public	Direct sales FIGAPE bonds	5,056	45.8
Central Government	Capital contribution	4,000	36.3
Own resources	Increase in reserves and surplus	393	3.6
		11,033	100.0

Source: FIGAPE Memoria 1976, p.17.

Table 21 indicates still further changes, both in source of funds and in their absolute and relative amounts. Although the total amount is slightly higher than in 1975, the composition is completely different. The two Central Bank lines from previous years (with name changes, but the same purposes) have fallen to small percents, while a very significant new source from the sale of FIGAPE bonds was added. The Central Bank bought some of these bonds, but most were sold to private investors and totalled 45.8 percent of FIGAPE's funds for the year. A large Central Government capital contribution to FIGAPE's non-reimbursable capital (patrimonio) raised this total for 1973-1976 to ¢7.5 million. These funds are important to FIGAPE because they are available to be used as FIGAPE determines and are not restricted to the terms and restrictions laid down by the Central Bank for their special credit lines.

In summary, FIGAPE seems to have ample funds available to meet the credit needs of much of small-scale agro-industry. The trend of loans has been downward, due in some measure to the meeting of a backlog of demand and possibly to FIGAPE's stricter loan requirements which were based on earlier experience with easy credit. FIGAPE's charter does not permit it to make loans to new enterprises. Although FIGAPE may not fully meet the needs of the very smallest agro-industries, more than one third of its loans since 1973 have been in amounts of ¢5,000 or less, the size of loans commonly needed by very small businesses. The evidence seems persuasive to these consultants that FIGAPE provides an existing Salvadoran institution with adequate capital to meet most of the needs for credit for small-scale agro-industrial enterprises contemplated in the PID.

PART IV - CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

The foregoing discussion and analysis have led us to the following conclusions:

1. Both the development of the fruit and vegetable export subproject and the integrated production and processing of products primarily for local consumption, such as vegetable oil, are beset by problems far more crucial than a lack of credit. Thus, the making available of credit in the manner suggested in the PID would not necessarily address the major problems.

   Easier credit -- while obviously always desirable to the industrialist -- would not make up for a lack of raw materials, deficiencies in basic agricultural research, and adequate domestic market to absorb surpluses and substandard products or short comings in management skills or the lack of experience in the development of markets abroad.

2. This being the case, an allocation of some $12 million of loan funds for credit purposes and incidental technical assistance, as proposed in the PID, would not be likely to achieve AID's objectives.

3. As regards loans for small-scale agro-industrial enterprises for domestic consumption, there is evidence that at least a substantial part of this category is adequately covered through the financial resources of Salvadoran public sector financial institutions such as FIGAPE. Furthermore, FIGAPE is practically the only institution which would qualify as an

ICI under the sublending scheme proposed in the PID. Others, such as INSAFI (larger industrial credit), FEDECREDITO (primarily small commercial loans), and the Banco de Fomento Agropecuario (too new in agro-industry) would not seem the best choice to channel AID funds to the smaller, high risk agro-industries. Thus, even in the case of small-scale agro-industrial development, any type of justification would have to be highly qualified.

To put it differently, most of existing small agro-industry appear adequately served by FIGAPE. There may well be a category of the smallest of the small agro-industrial enterprises which no presently existing public sector banking institution would cover because they simply would not have any contacts with these people. However, in this case, their loans would be small and almost impossible to handle by an existing financial institution because of the high cost of serving such loans and high risk in making such loans.

4. To address the needs of this category, one would have to draw up an entirely new project (see below) which would follow a concept quite different from the PID as currently conceived.

5. We are also inclined to a more cautious appraisal of the merits of labor intensive activities as advocated in the PID. While we have no quarrel with the general concept that in El Salvador it is important to stress labor rather than capital intensive technology, this does seem to imply that

we must look for labor intensive technology at all costs. To give one example, in stessing panela, we may be promoting a labor intensive activity, but we are also dealing with an already outdated technology which in a way is similar to advocating the continuation of subsistence agriculture.

While it is true that in the short run this may create some jobs, ultimately it will result in more unemployment as the jobs are phased out in competition with more modern technology. Furthermore, we should not lose sight of the fact that labor costs in El Salvador could well increase substantially in the near future. Some of Salvador's recent industrial gains for export have been based on very low wage scales. This could change rapidly; there is already some social unrest and agitation against substandard wages.

6. What is somewhat underemphasized in the PID is that one of the most effective ways to create more rural jobs is to bring about the existence of a stronger agriculture sector. In virtually every industrial country, industry in its early stages was built on the backs of the farmers since in almost every case agriculture has been the one big paying activity from which industrial development could be financed as well as one of the largest consuming sectors of the economy which provides a market for the new industrial goods.

To put this in further prospective, we might also turn to India's experience under its third five-year plan which shows beyond doubt how many additional jobs were created by strengthening the agriculture sector and how few of these employments could be classified as agro-industrial jobs.

B. Recommendations

Concern with the strengthening of the smallest of the sma agro-industrial enterprises would be wholly consistent wi AID's emphasis on the poorest of the poor and the social economic develoment emphasis given the AID program by the 1973 amendments to the Foreign Assistance Act. While we d not believe the credit mechanism proposed in the PID will achieve this goal, AID may wish to consider several alternative approaches.

1. Technical Assistance and Loan Guarantees

Given the complexity of agro-industries, any AID assistance would have to have a sizeable component of technical assistance in production, marketing and management. Much of this would have to be very low level, for example, how to set up and maintain a bookkeeping system. Such assistance would require a heavy manpower input, possibly from Salvadoran sources, the Peace Corps, AID contractors, or by a non-profit organization such as Techno-Serve or VITA. Such technical assistance should be tied to loans in the form of supervised agro-industrial credit through Salvadoran private or public sector financial institutions. Such loans might be guaranteed up to, say, 90 percent by AID (and the GOES).

FIGAPE and its new regional centers might be considered as the vehicle for this program. There would need to be agreement, of course, on the

program and, if advisable, modification of the FIGAPE charter to provide loans to new enterprises. Arrangements would also have to be worked out for expanded technical assistance and for the development of organized programs of supervised agro-industrial credit.

Such an arrangement would make credit available to the smallest agro-industries, would involve Salvadoran financial institutions in moving into an area not now served, and would tend to avoid the cumbersome bureaucratic procedures of governmental operations and AID loans. This type of program would involve AID in new types of activities. AID would have to accept the risks of a high failure rate but the program would, if successful, help materially in carrying out the Congressional mandate.

2. <u>List of Potential Projects for Agro-Industrial Investors</u>

Since we were repeatedly told by the banking community that there was a dearth of bankable projects in El Salvador and since even the 1978-82 agro-industrial development plan shows almost no concern with specific projects or feasibility studies, a point can be made for the preparation of a list of industrial opportunities which could be distributed to potential investors. As already mentioned, many of the large industries in El Salvador are run by closely knit family groups which often lack inflow of outside and/or new ideas. Making them aware of the possibilities of entering new

ventures could well result in the establishment of some new industries.

For example, without any reference to actual feasibility, we might mention a few projects like the making of mother of pearl buttons from sea shells, making surgical or absorbent cotton for use in surgery requiring application of "surgically clean" sterile dressings; the processing of peanuts from the raw unshelled to packages of salted shelled nuts; the better utilization of byproducts from meat packing and fish processing operations; the production of tomato paste and tomato sauce; the conversion of wood waste into marketable byproducts; the better preparation of cashew nuts for exports; the processing of coir fibre and other products derived from coconuts.

3. Expansion of Grain Bin Program

CENTA (Centro Nacional de Tecnologia Agropecuaria) has been operating a small loan program for on-farm grain bins since 1967. The grain bins are made of galvanized corrugated metal sheets and have a capacity of 2,500 pounds. Their cost at present is approximately ¢55 (US $22). Local extension agents approve grain bin loan requests, on their own authority, right in the field and without delay. The farmer signs two simple forms and makes an immediate down payment equal to the labor cost of making the bin (from ¢13 to ¢15). He pays the ¢40 remaining in five equal monthly payments. The

program started in 1967 with US $1,200 raised to US $5,000 in 1974. This money is used to buy the metal sheets. CENTA has lent from other funds as much as US $12,000 to the grain bin fund to meet the demand for bins. Somewhat over 4,000 bins have been built and distributed during the period 1967-1977, with 922 of these credited to 1976 and approximately 950 to 1977. After initial problems, the administrative procedures have been greatly improved and the present system functions quite well. Agents must have a 100% repayment record or further loans are halted. Agents cannot be transferred from a district without a clearance from the grain bin accounting section in CENTA. The director and assistant director of CENTA, as well as the head of the agricultural engineering division, expressed great interest in expanding the grain bin program concept to include other farm equipment, labor intensive farm improvements and land conservation, and home equipment and improvement.

It is suggested that the present grain bin program features be retained, i.e., on-the-spot approval by the local extension agent and a minimum of paper work. The loan limit per applicant might be set about ¢250, and gradually changed in accord with experience.

New Technology

Another area in which some improvements could be made is the matter of introducing a more appropriate technology.

Considering the primitive drying of basic grains in El Salvador, a good case can be made for the application of solar energy in this area. For instance, Australia has developed a quite acceptable technology for the solar drying of basic grains. The system relies on the use of conventional solar collectors such as are used in solar water heaters with the difference that water is being replaced by hot air. If the Rural Development Division is interested in this, additional information can be obtained from such sources as ERDA's Solar Energy Division; the Brace Institute at McGill University in Montreal, Canada; Colorado State University's Solar Energy Institute at Fort Collins, Colorado; the University of Florida at Gainesville; and the University of Arizona.

5. Beyond Agro-Industry

If AID's concern with rural unemployment or under-employment is as strong as it appears to be, one might consider one other alternative. As several international agencies have pointed out, if El Salvador's economy is to meet the demands which will be made upon it, public sector investments in hydro and geothermal power, transportation, farm to market roads, irrigation, port improvement, health facilities, education and telecommunications and other forms of infrastructural development will have to increase substantially. Fortunately, El Salvador's external debt servicing capacity is

excellent so that a substantial amount of funds could be borrowed for this purpose.

A well conceived public works program with a strong focus on the problems of the agricultural sector and the rural areas might well create far more immediate job opportunities than some of the agro-industry activities discussed in this report.

C. Final Comments

As a final remark, we would like to mention that in evaluating this project, we have not gone into great depth in analyzing environmental considerations as now required by AID/Washington inasmuch as we understand that the Mission is studying the environmental aspects of the use of pesticides in agriculture as a separate project. We would merely mention that this matter is of no small concern in any agriculturally linked activity since presently in El Salvador an estimated 5,000 to 6,000 people are affected and between 10 and 12 killed annually by the aerial spraying of pesticides.

Obviously the foregoing recommendations would require careful analysis, development of appropriate PID's and careful examination of their feasibility. They are presented solely to assist AID in achieving its goals through means that may be more appropriate than the credit mechanism proposed in the PID that Development Associates were asked to examine.

ANNEX 1

PERSONS INTERVIEWED IN STUDY OF PROPOSED AGRO-INDUSTRIAL PROJECT

AGENCY FOR INTERNATIONAL DEVELOPMENT

Armstrong, Larry
Loan Officer

Chang M., John C.
Economist

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General Development Officer

Haladay, Robert
Health and Fopulation

Handler, H. R.
Program Officer

Moffett, Robert
Rural Development Officer

Steen, Dwight
Agricultural Economist

Alfaro Castillo, Ricardo
Melon grower and exporter

ALIANZA ALIMENTOS DE ANIMALES, S. A. (CARGILL, INC.)

William Armstrong,
Resident Director

AMERICAN CHAMBER OF COMMERCE

Parada R., Salvador I.
Manager

ASSOCIACION BANCARIA SALVADOREÑA

Rochac, Alfonso
Senior Adviser

ASSOCIACION NACIONAL DE LA EMPRESA PRIVADA

Martinez, Mauricio Ernesto

AUTOMERCADOS DE CENTRO AMERICA, S. A.

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Director and General Manager

BANCO CENTRAL DE RESERVA

Rodriguez Loucel H., Lic. Rafael
Chief, Economic Investigations Dept.

BANCO CENTROAMERICANO DE INTEGRACION ECONOMICA

Canas Montalvo, Carlos
Loan Officer

Daura, Lic. Haydee Ahues
Loan Officer

BANCO DE FOMENTO AGROPECUARIO

Alvarenga, Ing. Rafael Antonio
Chief, Solidarity Groups Program

Bennett Duque, Ricardo
Operations Manager

Rivera, Dr. Armando Baltazar
Planning

BANCO DE LONDRES Y AMERICA DEL SUR LTD

Fairhurst, Roberto A.
Manager

BANCO SALVADOREÑO

Field, Eric C.
General Manager

Serrano, Lic. Julio Cesar

BAUM & CIA

Baum, Jose
Owner

CALZADO DANILO

Tenorio, Danilo
Owner

CAMARA DE COMERCIO E INDUSTRIA

Arrieta Peralta, Ernesto
Manager

CENTRO NACIONAL DE PRODUCTIVIDAD

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Industrial Consulting Unit

CENTRO NATIONAL DE TECNOLOGIA AGROPECUARIA

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Head, Dept, of Agricultural Economics

Aponte, Ing. Mario
Assistant Director

Bieber, Dr. John
University of Florida

Calhoun, Dr. Frank
University of Florida

Cristales A., Ing. Agr. Felix Rodolfo
General Director

Espinoza, Ing. Humberto
Oil Seeds Program

Garcia, Ing. Agr. Francisco
Head, Dept. of Agricultural Engineering

Garcia, Ing. Jose Maria
Head, Fruit Program

Perez, Jose Rene, Accountant in charge of the grain bin program

Rubio, Ing. Enrique
Chief, Seed Division

Segura Lemus, Dr. Victor Manuel
Chief, Agricultural Chemistry Dept.

Walker, Dr. Tom
University of Florida

Zamora, Jose Ernesto
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FEDERACION DE CAJAS DE CREDITO

Morales Colocho, Lic.
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FINANCIERA DE DESARROLO E INVERSION, S. A.

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MADERAS TROPICALES

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Assistant Director General of Livestock

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Livestock Specialist

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Quarles, David
Zabel, Douglas

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Technical Adviser

Novoa Yudice, Ing., Gulliermo
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Quinonez Avila, Ricardo
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Tobar, Ing. Ignacio
Production Chief

REPRESENTACIONES GAUSEM, S. A.

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RURAL COOPERATIVE

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San Lorenzo

Salinas, Erasmo Antonio
Secretary

SEED EXPORTS

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ANNEX 2

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BIBLIOGRAPHY

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